



AWS Cloud Migration



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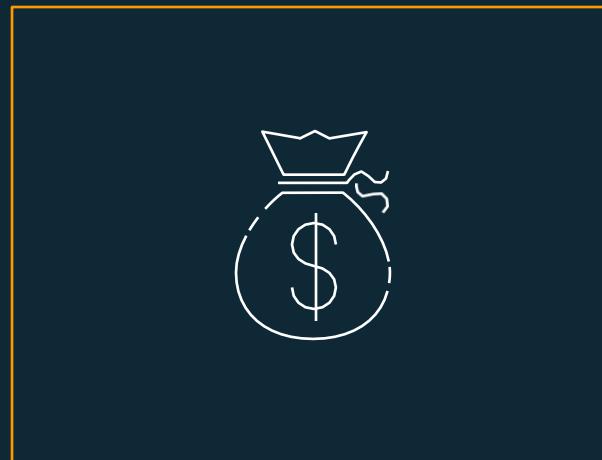
AWS | Middle East



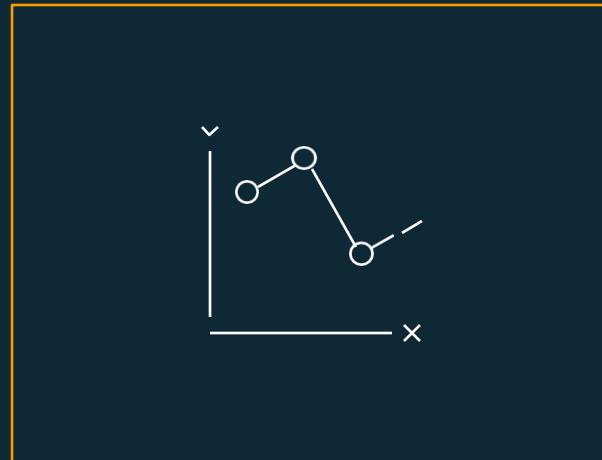
What are your business goals?



Grow new revenue streams
Innovation (new ideas & new products)
Reduce your time to market



Improve operational and financial efficiency
infrastructure cost saving
Agility
Data Analytics



Lower business risk

What is AWS?

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over **165** fully featured services from data centers globally.

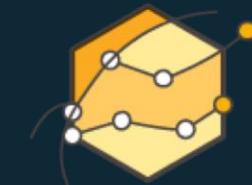
Millions of customers —including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs.



Trade CapEx for OpEx



Economies of sale



Stop guessing capacity



Increase speed & agility



Focus on your business



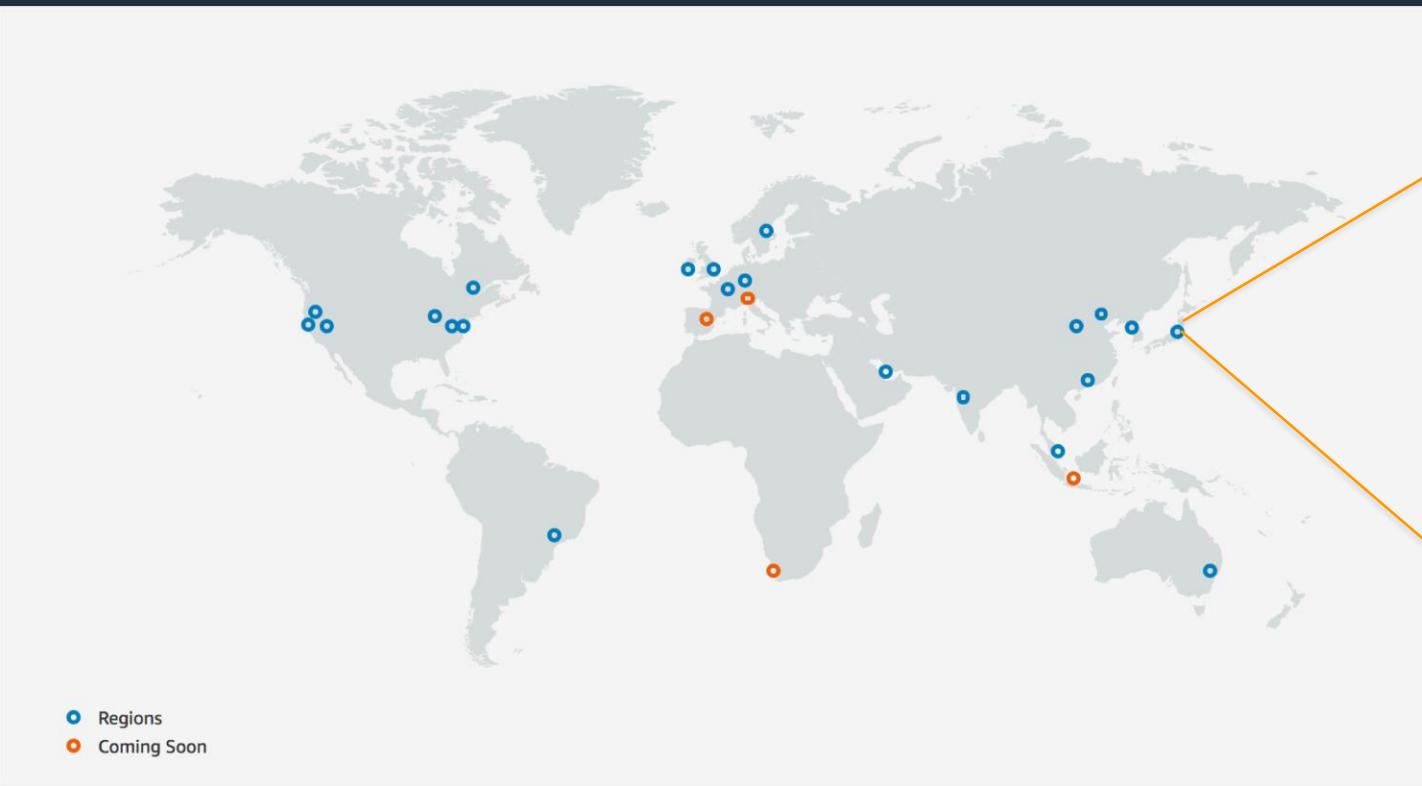
Go global in minutes

Industry leaders are building on AWS



Scale globally with resilience in every region

The AWS Cloud spans 69 Availability Zones within 22 geographic Regions around the world, with announced plans for 13 more Availability Zones and 4 more Regions Indonesia, Italy, South Africa, and Spain

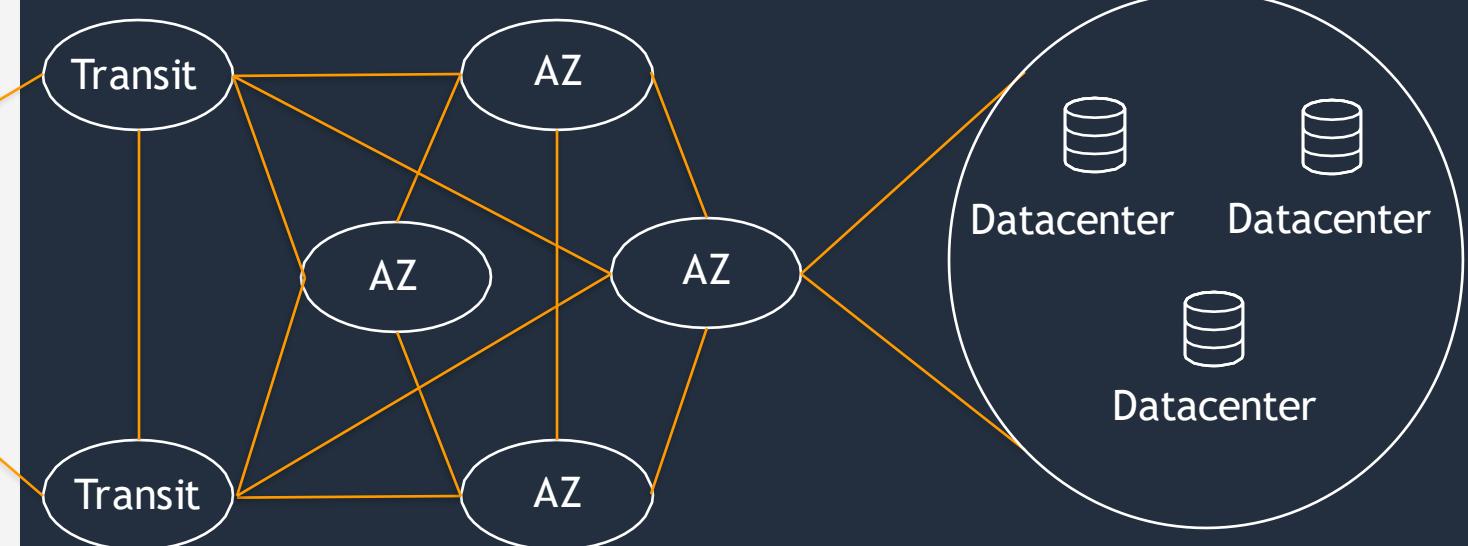


Region & Number of Availability Zones

Announced Regions
Indonesia, Italy, South Africa, and Spain

AWS Region

AWS Availability Zone (AZ)



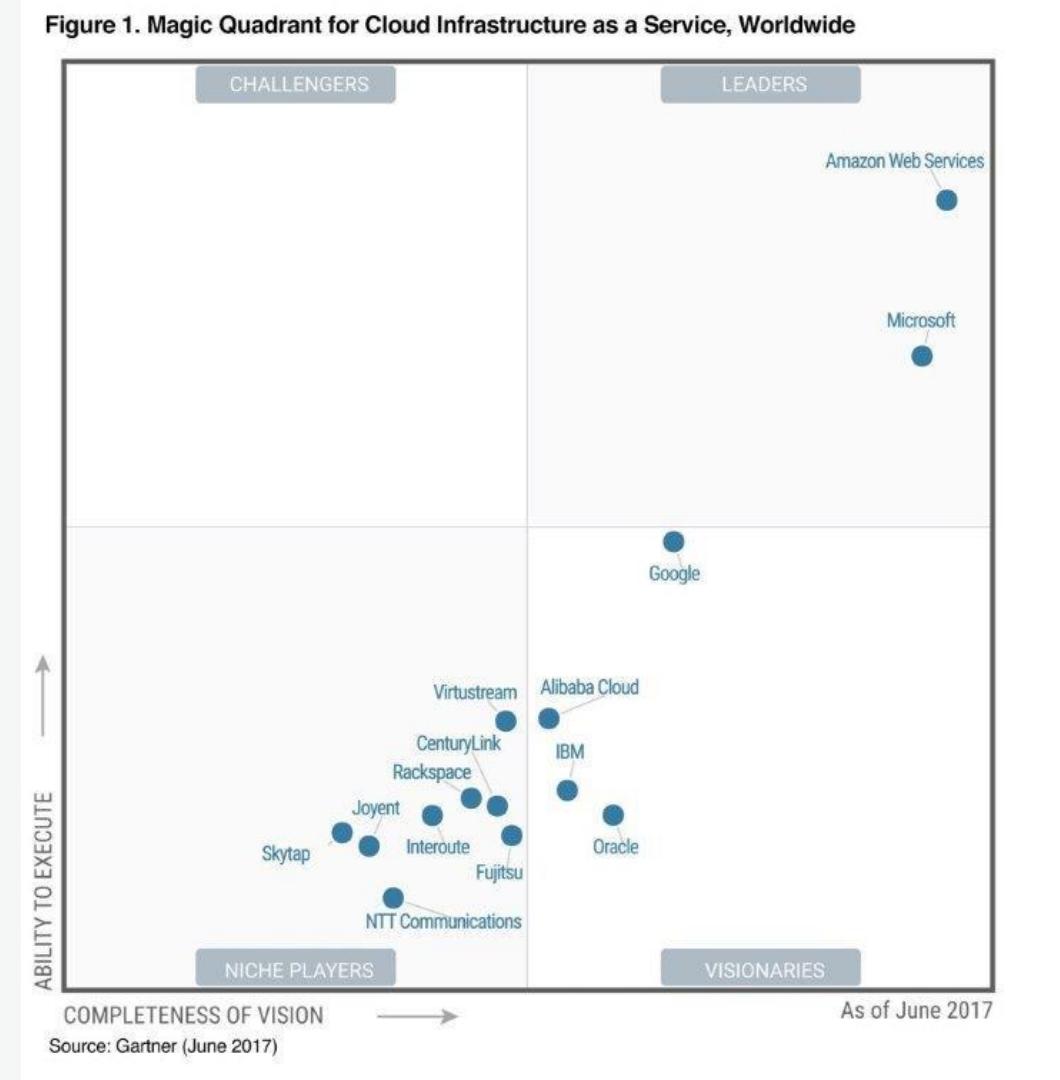
A **Region** is a physical location in the world where we have multiple **Availability Zones**.

Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.

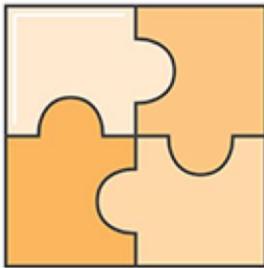
AWS Positioned as a Leader in the Gartner Magic Quadrant for Cloud Infrastructure as a Service, Worldwide*

AWS is positioned highest in execution and furthest in vision within the Leaders Quadrant

- “AWS is the most mature, enterprise-ready provider.”
- “AWS is the provider most commonly chosen for strategic adoption; many enterprise customers now spend over \$5 million annually, and some spend over \$100 million.”
- [AWS] has become the ‘safe choice’



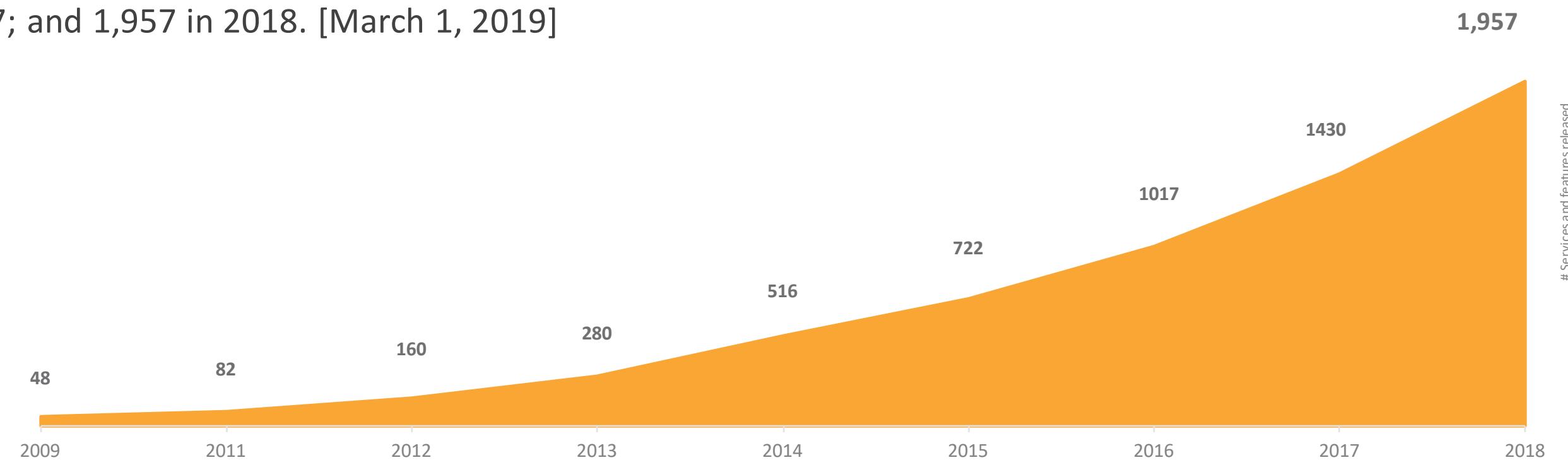
AWS' History of Innovation



Customer-driven services and features

AWS has been continually expanding its services to support virtually any cloud workload, and it now has more than 165 services that range from compute, storage, networking, database, analytics, application services, deployment, management, developer, mobile, Internet of Things (IoT), Artificial Intelligence (AI), security, hybrid and enterprise applications.

In 2011, we released over 80 new significant services and features, followed by nearly 160 in 2012; 280 in 2013; 516 in 2014; 722 in 2015; 1,017 in 2016; 1,430 in 2017; and 1,957 in 2018. [March 1, 2019]



AWS Pricing Philosophy



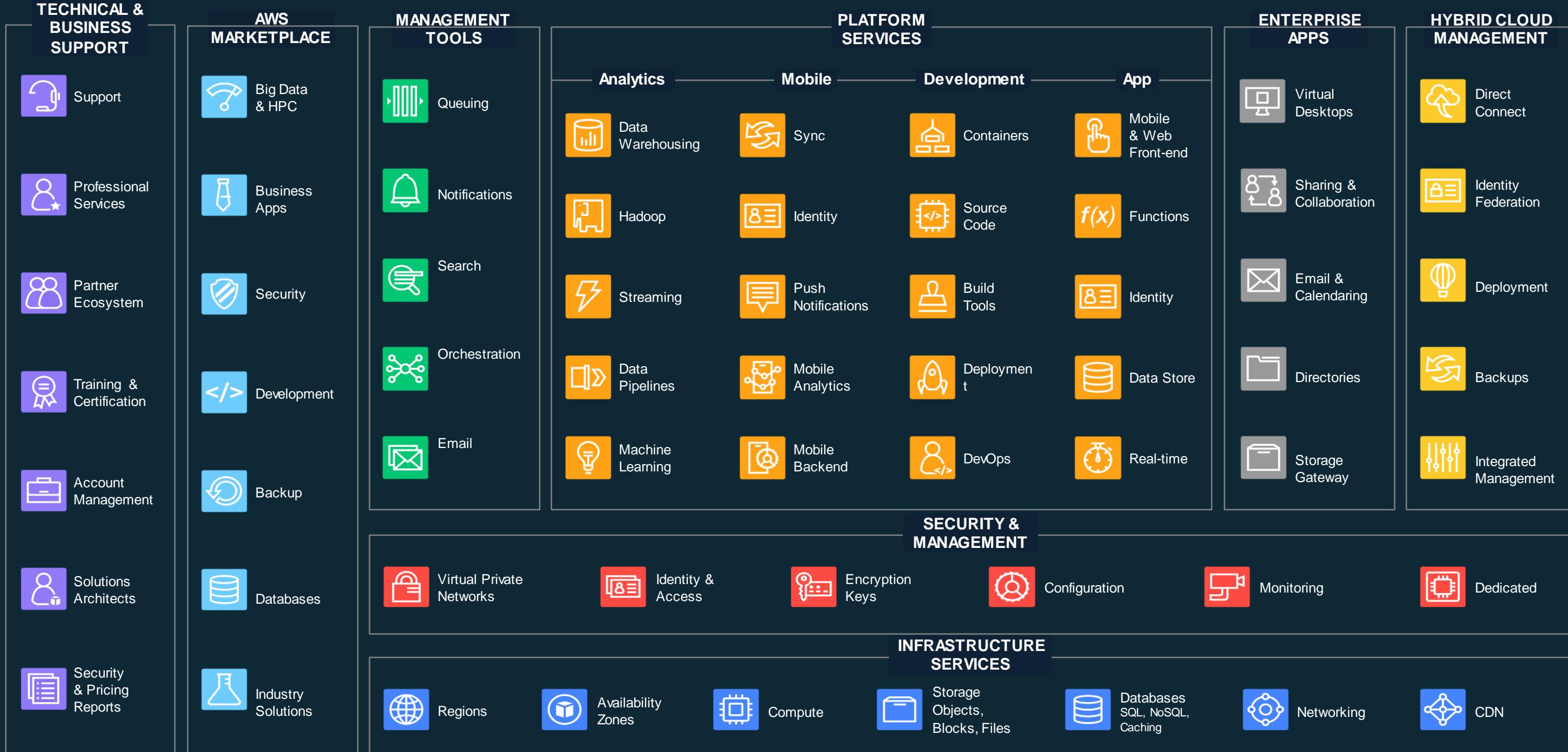
Last two price reductions up to 10-15%

Tools to help customers save cost:

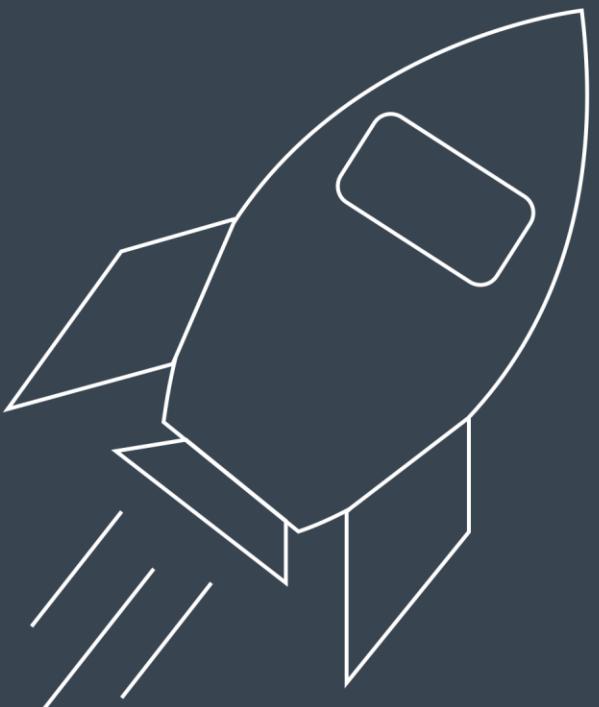
- Cost Explorer
- Trusted Advisor

We pass the savings along to our customers in the form of low prices and continuous reductions

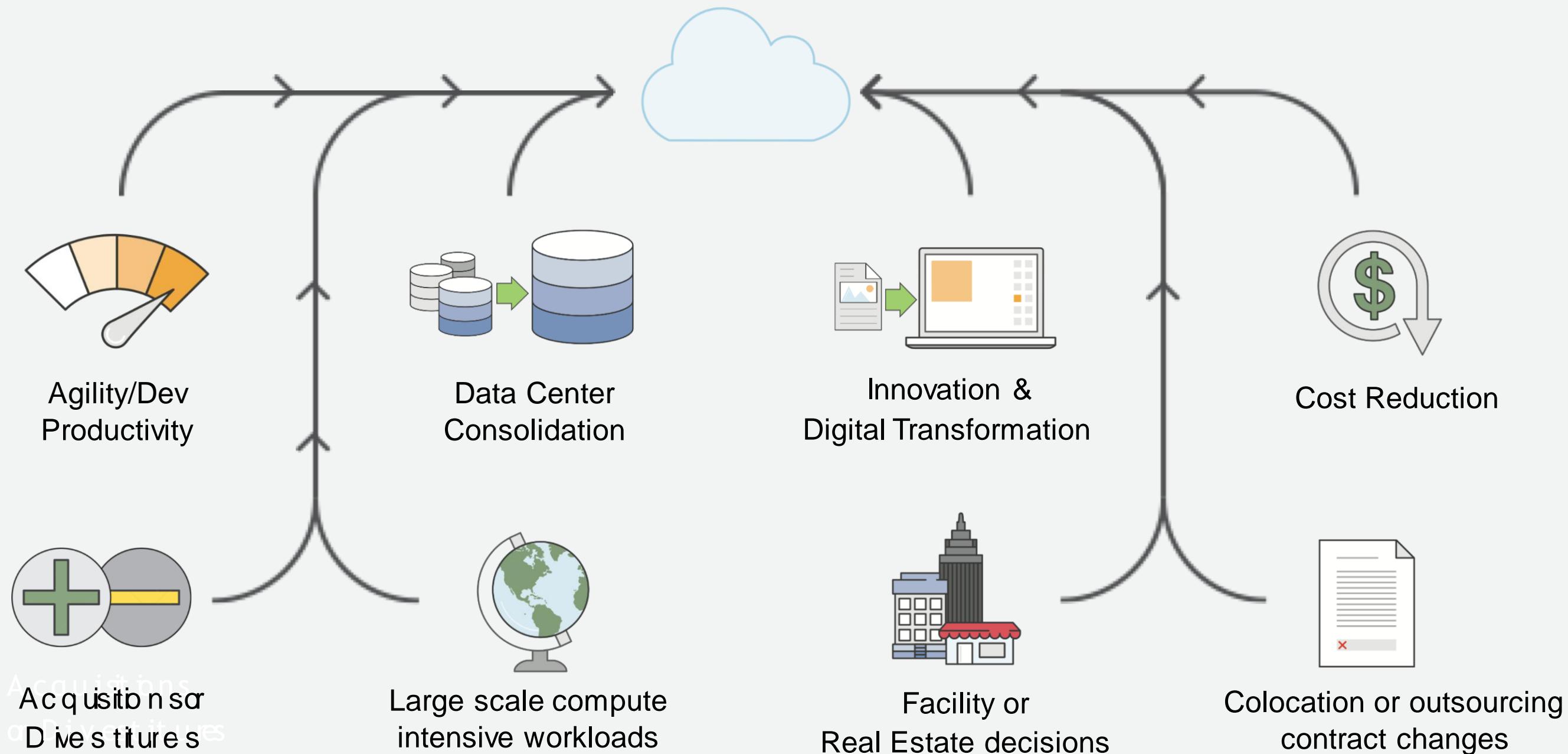
Service Breadth & Depth



Migrate and free-up resources



Common migration drivers



Customer experiences



Migrated over 1,200 instances (90+ apps) in 18 months, introduced an automated build and deployment pipeline, and sped up provisioning from weeks to 1-2 days for an entire application stack.



Transforming culture to be a great place for developers to work by investing in new skills (thousands of AWS certifications and counting) and migrating data centers to the cloud.



Migrated over ~5,500 instances in 9 months, reduced storage costs by 50% and compute costs by 20%, and sped up provisioning 10X from 4 weeks to 2 days.



Consolidating 56 datacenters down to 6, moving 75% of infrastructure to cloud, and re-allocating more than \$100M to key business drivers.



Migrated over 600 workloads to AWS in under 14 months, including some Unix to Linux conversions, driving year over year cost reduction.

Migrate and free-up IT resources



Reduce infrastructure costs ($\approx 30\%$)



Use existing staff for higher-value work



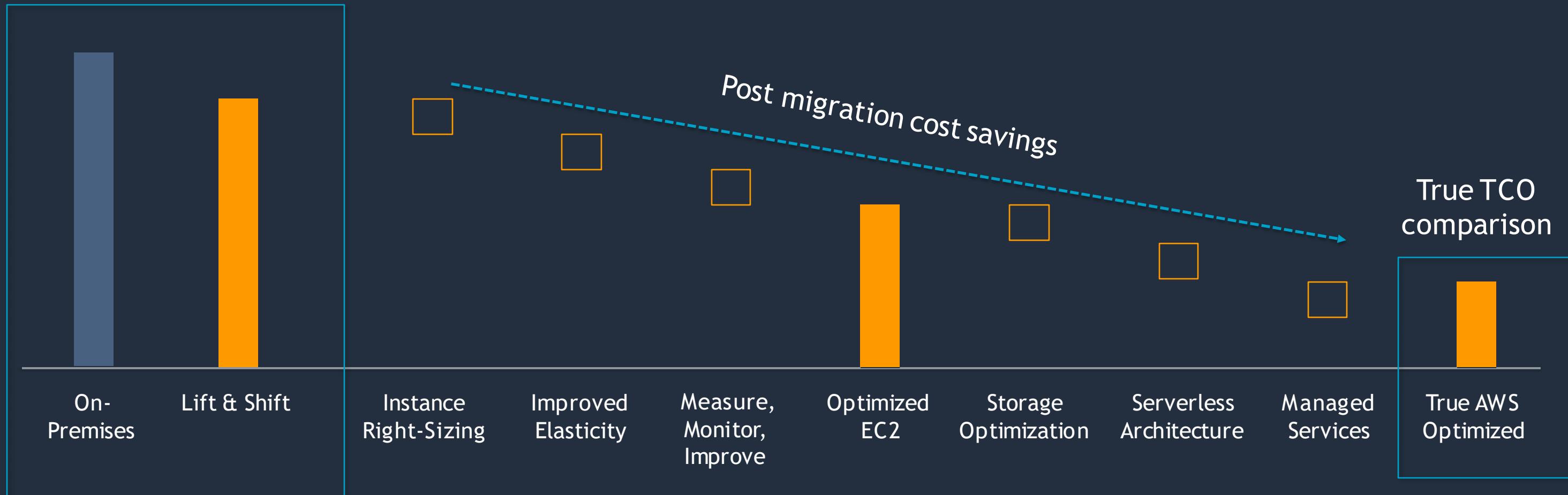
Create momentum to grow new skills and processes



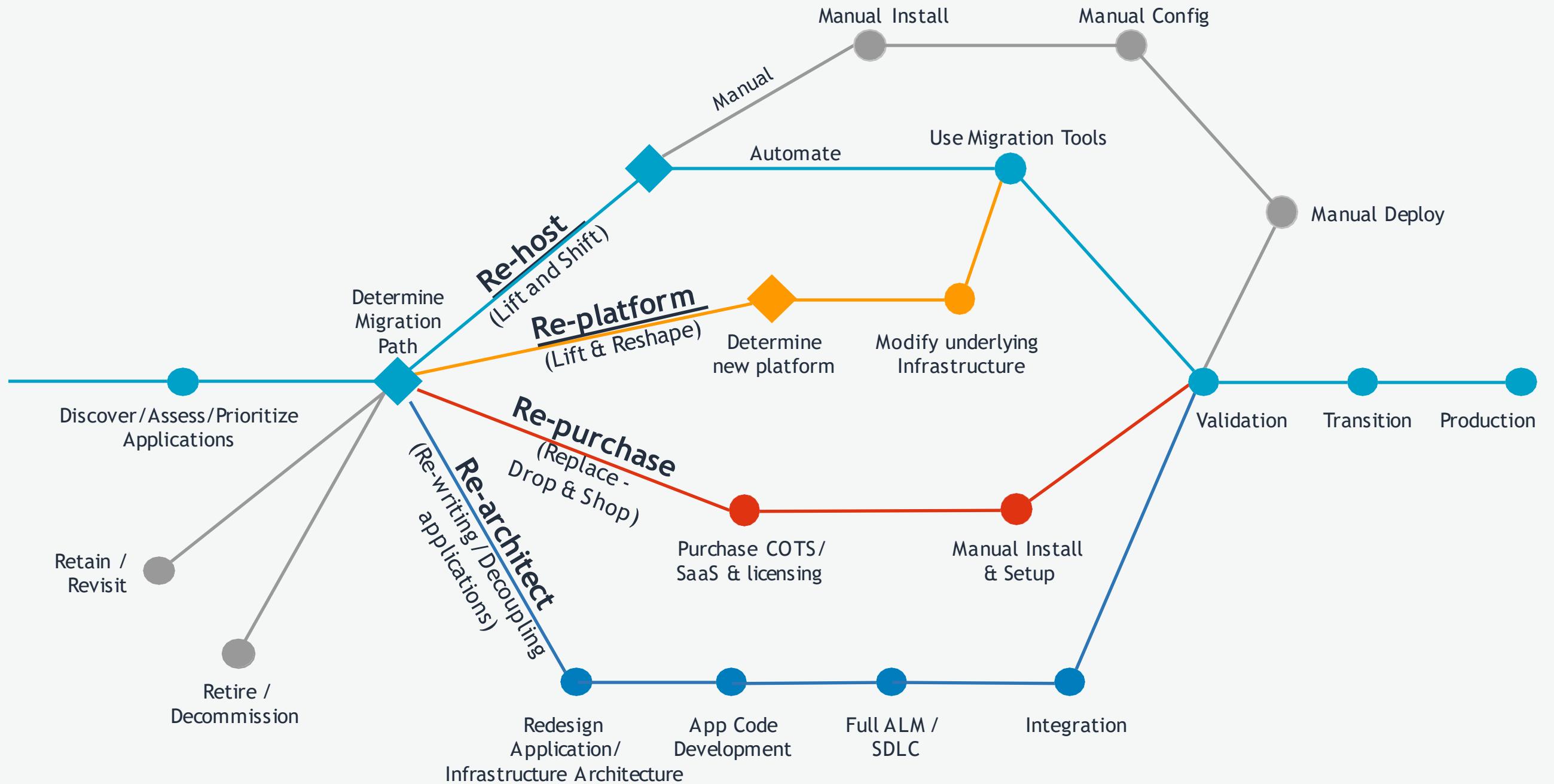
Invent and iterate with flexible resources

Cost savings improve through optimizations

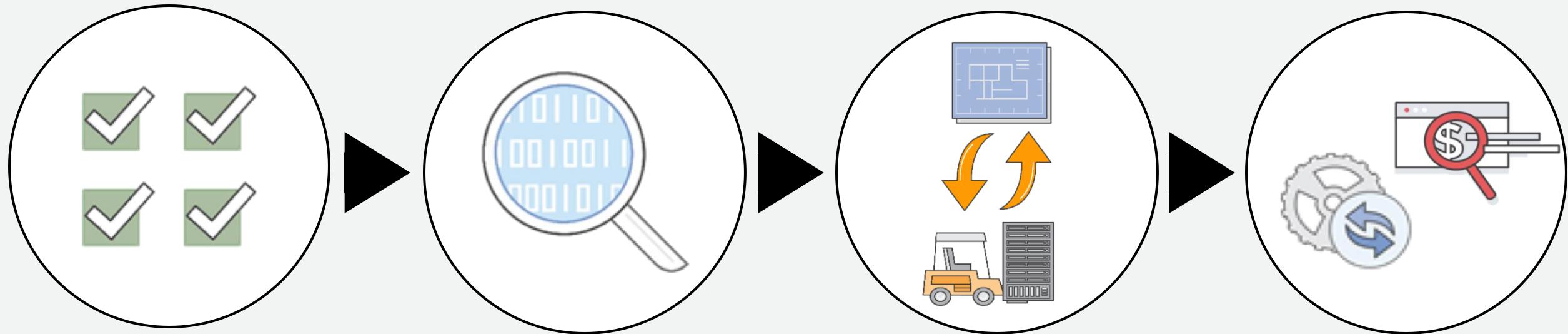
Typical TCO comparison



Application migration patterns



Migration process



**Migration
Preparation &
Business Case**

**Portfolio
Discovery &
Planning**

**Application
Design,
Migration &
Validation**

**Operate &
Optimize**

Migration execution challenges



Migration Preparation & Business Case

What are my current on-premise costs?

How do I compare costs to AWS?

What is my cost to migrate?

How do I select AWS EC2 instances?



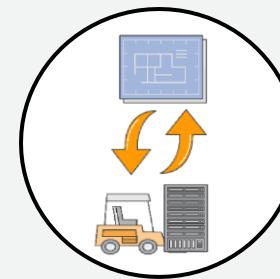
Portfolio Discovery & Planning

My CMDB is out-of-date

What's my actual utilization?

What software is running on each server?

What are my application dependencies?



Application Design, Migration & Validation

Different workloads require different tools

How do I know an app migration is complete?

How do I track progress without slowing down?

AWS migration tools overview

AWS Migration Hub
AWS Application Discovery Service

AWS Server Migration Service
AWS Database Migration Service
AWS Data Transfer Services

APN Partner Tools

Discover



Plan



Migrate

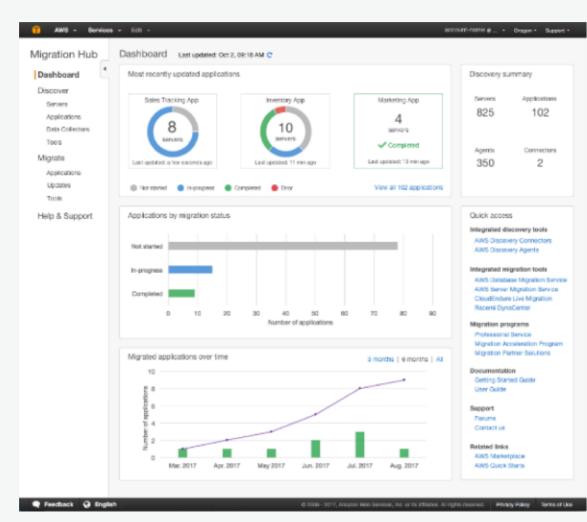


Tools to accelerate migration

AWS MIGRATION HUB



A single location to track the progress of application migrations across AWS and partner solutions



AWS MIGRATION SERVICES

- AWS Application Discovery Service
- AWS Server Migration Service
- AWS Database Migration Service
- AWS Schema Conversion Tool
- VMware Cloud on AWS

AWS DATA TRANSFER

- S3 Transfer Acceleration
- AWS Storage & File Gateway
- AWS Snowball & Snowmobile
- AWS Direct Connect
- Amazon Kinesis Firehose

Inventory

- RISC Networks™
- Cloudamize
- ATA DATA™ Deloitte
- CloudHealth TECHNOLOGIES
- TSO Logic
- turbonomic

Business Case

- TSO Logic
- Cloudamize

Deep Discovery & Planning

- RISC Networks™
- Cloudamize
- ATA DATA™ Deloitte
- turbonomic

App Dependency Mapping

- RISC Networks™
- ATA DATA™ Deloitte
- New Relic®
- dynatrace
- AppDynamics

Workload & Data Migration

- ATA DATA™ Deloitte
- CloudEndure™
- ATTUNITY
- rivermeadow
- CLOUDVELOX

Validation

- New Relic®
- dynatrace
- AppDynamics

Partner migrations tools found on aws marketplace

Discovery is critical to migration success...



Business Case Preparation

Collect the data you need to determine the cost of operating in the AWS cloud vs on-premises

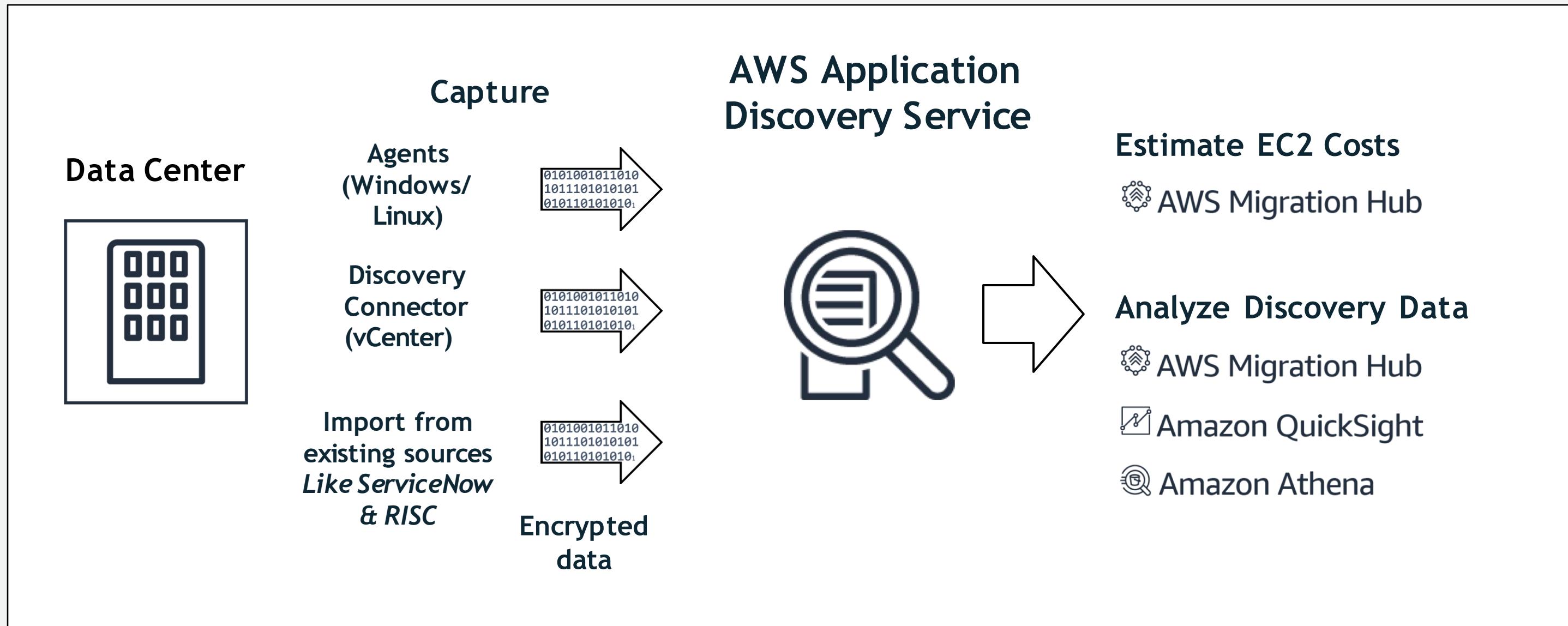


Application Migration Planning

Understand your hardware & software inventory, dependencies, and performance metrics to determine your migration strategy

AWS Application Discovery Service (AWS ADS)

Capture and visualize system inventory, performance, and dependencies



AWS ADS Benefits & Features



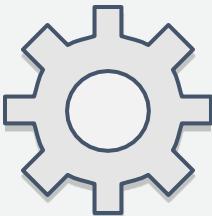
Discovery Flexibility

- Agent deployed on source hosts (Windows & Linux)
 - Agentless Discovery Connector (OVA file for VMware vCenter)
-



Plan your Migration

- View discovered assets in AWS Migration Hub, Amazon Athena, Amazon QuickSight, or via API
 - Use data to perform a detailed TCO analysis
-



Integrated with Migration Hub

- Use Migration Hub to track the status of migrations across your application portfolio
-



Available Globally / No Charge

- Perform discovery on resources regardless of their location (service is hosted in US West (Oregon))
 - No additional charge for AWS Application Discovery Service
-

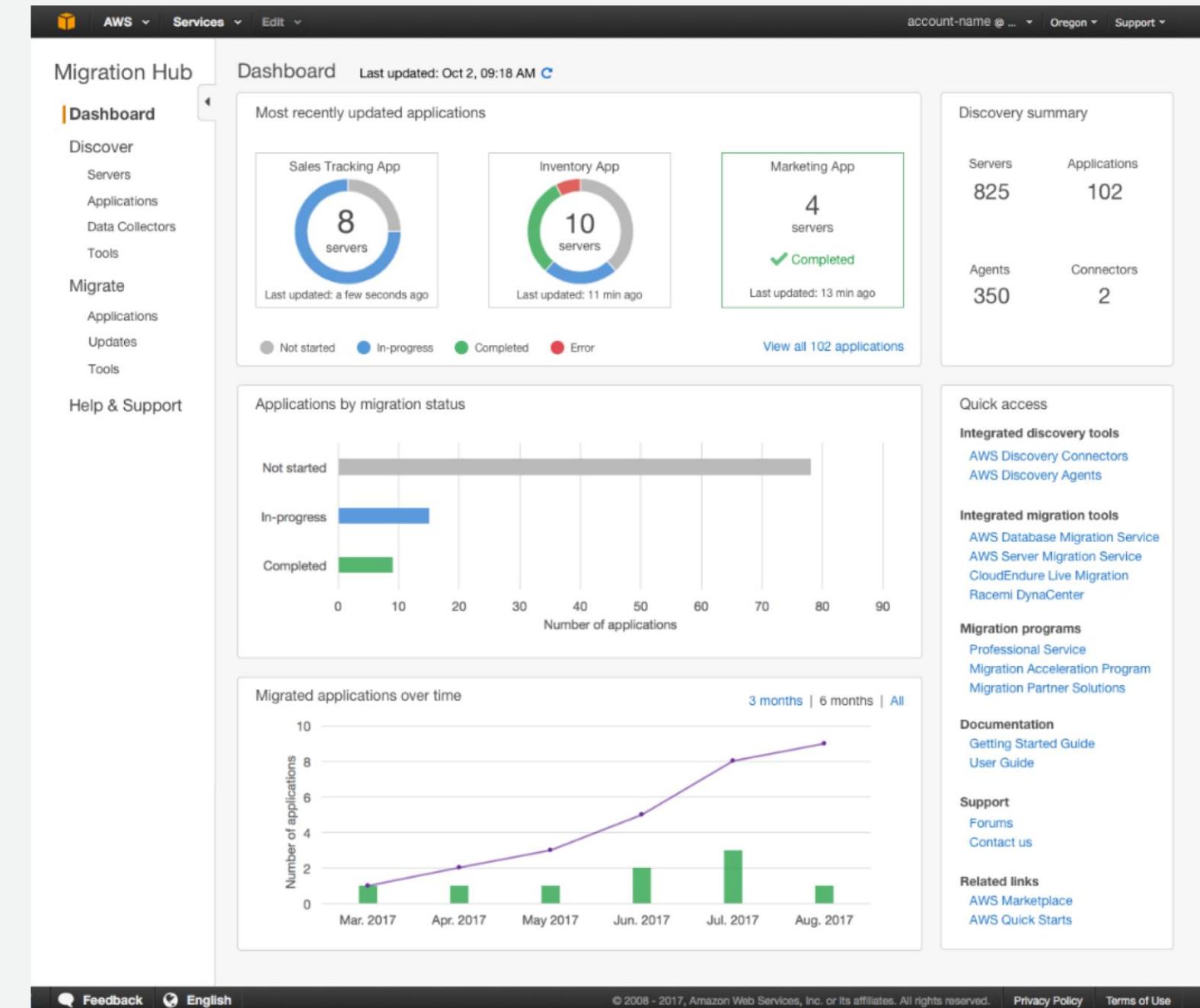
AWS Migration Hub

Track the migration status of your applications across multiple tools in one place

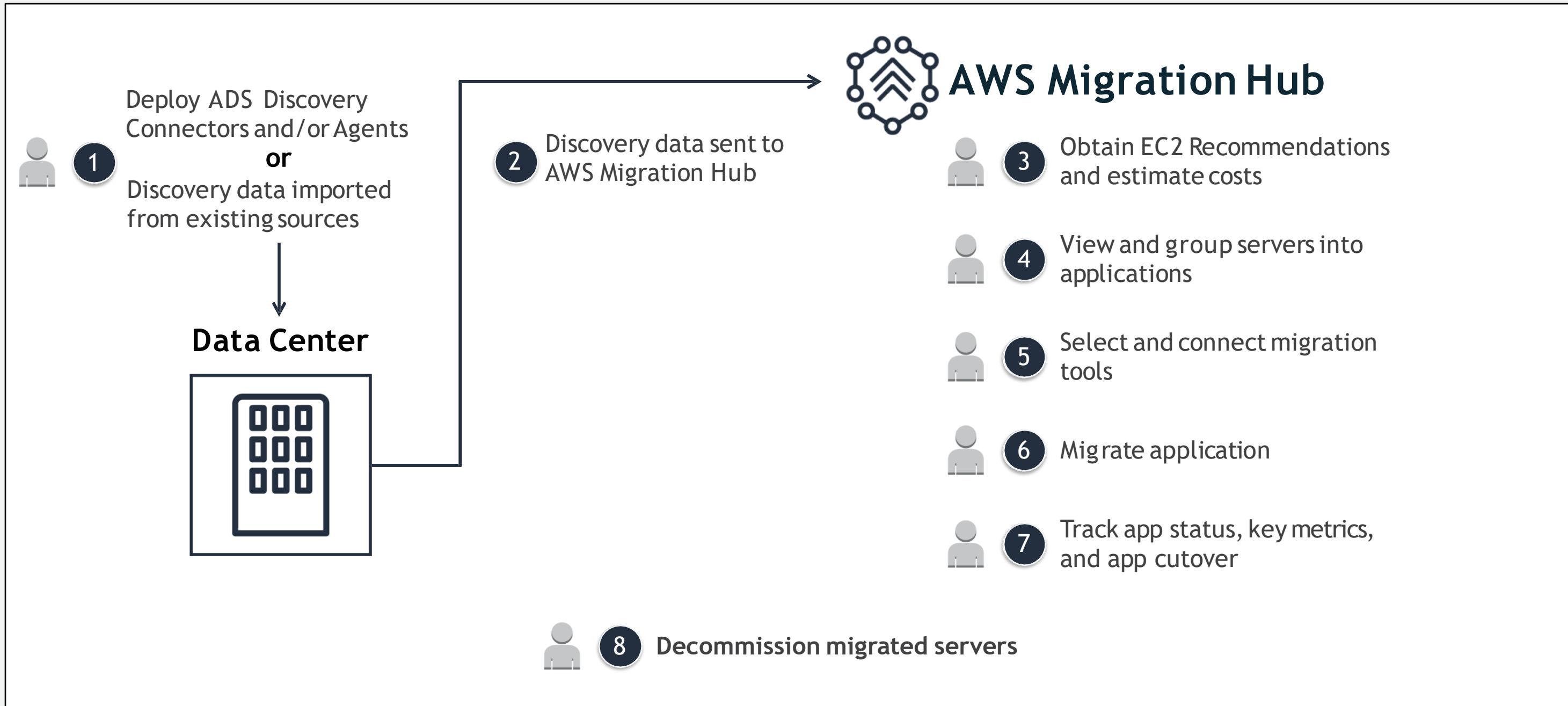
Discover using AWS ADS or Import discovery data from existing sources

Use the migration tools that best fit your needs - AWS or Partner tools integrated

Available to all AWS customers at no additional charge



Discovery and Migration using AWS Migration Hub

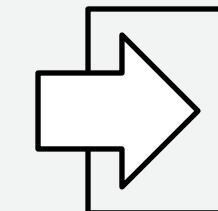


Migration Hub Integrated Tools

Discovery Data



AWS Application
Discovery Service



Import from existing
data sources

Migration Tools



AWS Server
Migration Service



AWS Database
Migration Service



Next Steps / Resources

AWS Application
Discovery Service:

<https://aws.amazon.com/application-discovery/>

Data Exploration in Amazon
Athena / QuickSight:

<https://docs.aws.amazon.com/application-discovery/latest/userguide/explore-data.html>

AWS Migration Hub:

<https://aws.amazon.com/migration-hub/>

AWS Migration Hub Deep Dive:

<https://www.youtube.com/watch?v=QSdhrjaFZel>

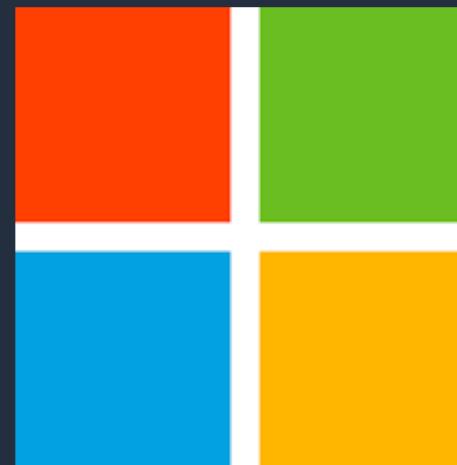
AWS Migration Hub Blog:

<https://aws.amazon.com/blogs/aws/aws-migration-hub-plan-track-enterprise-application-migration/>

AWS Free Tier:

<https://aws.amazon.com/free>

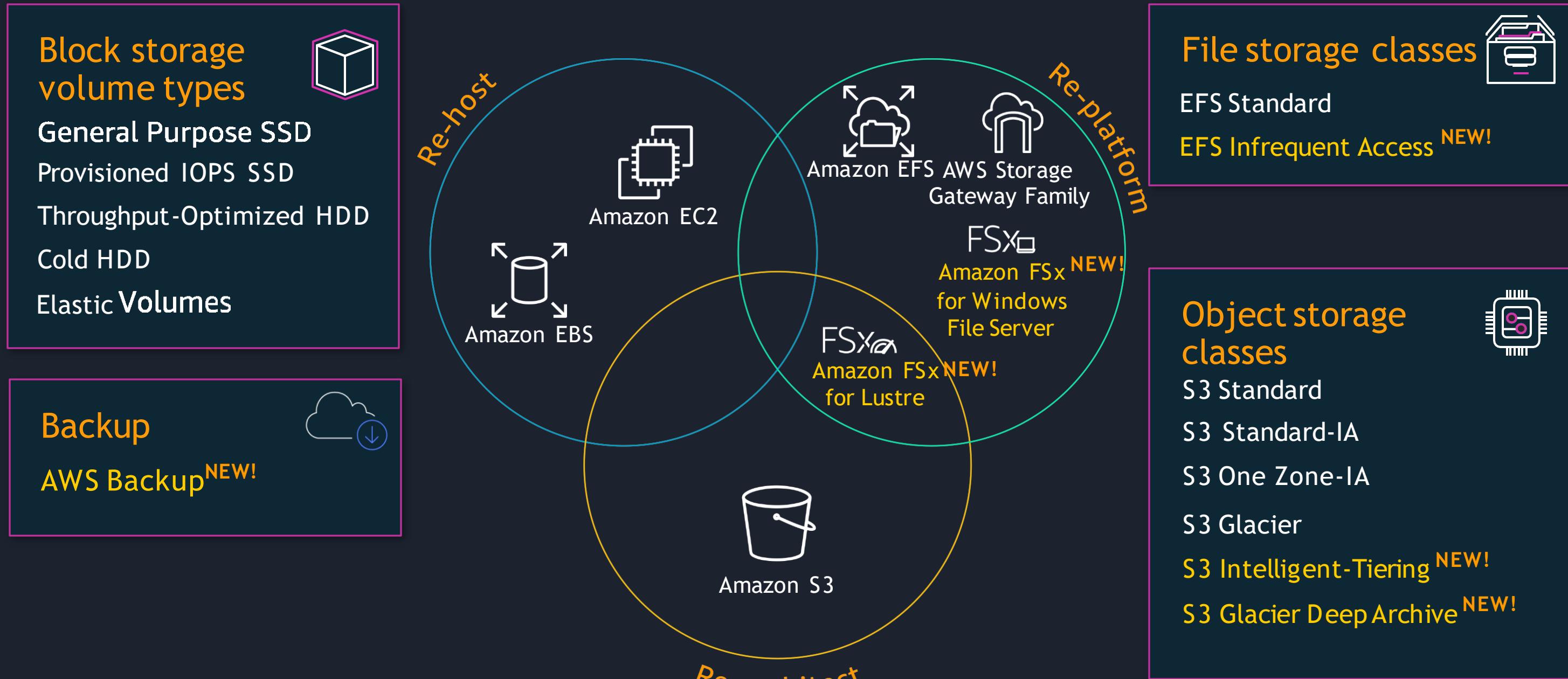
AWS Migration workloads





AWS Storage Migration

More choice for more applications



What are customers building?



Backup & Restore

Non-disruptive

Easy place to start

Integrated with all major vendors



Archive & Compliance

Media workflows

Tape replacement

Public Sector,
FinServ,
Healthcare/Life Sciences



Home Directories

Simple to move

Less latency sensitive

Significant cost savings



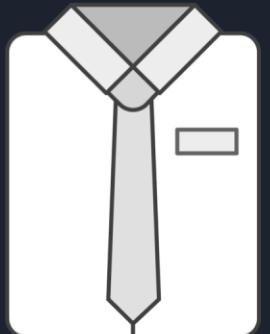
Data Lakes

Variety of analytics tools

Foundation for AI/ML

Built for streaming data

Data visualization



Business-Critical Applications

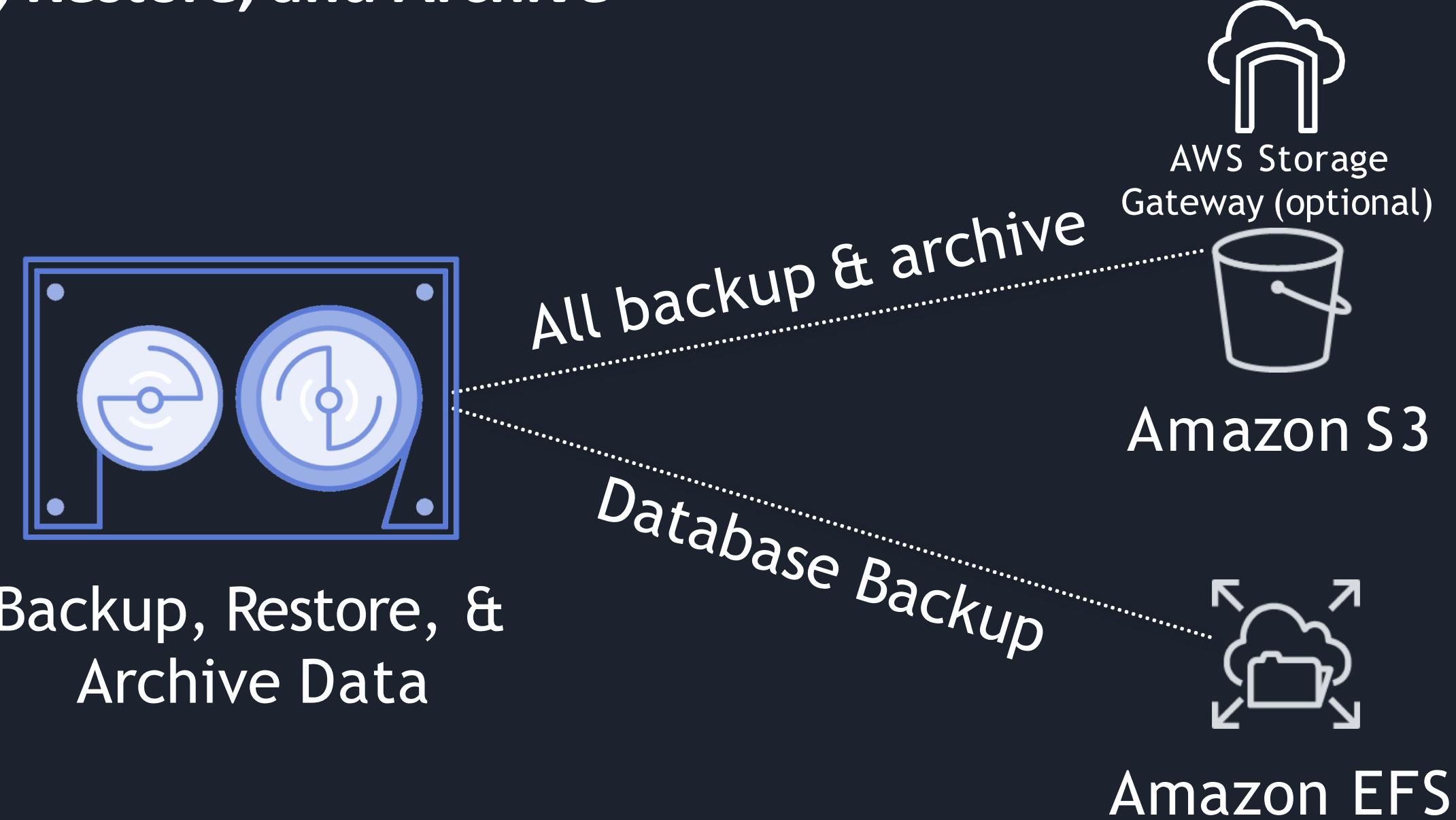
Integrated with major vendors

Fully managed infrastructure

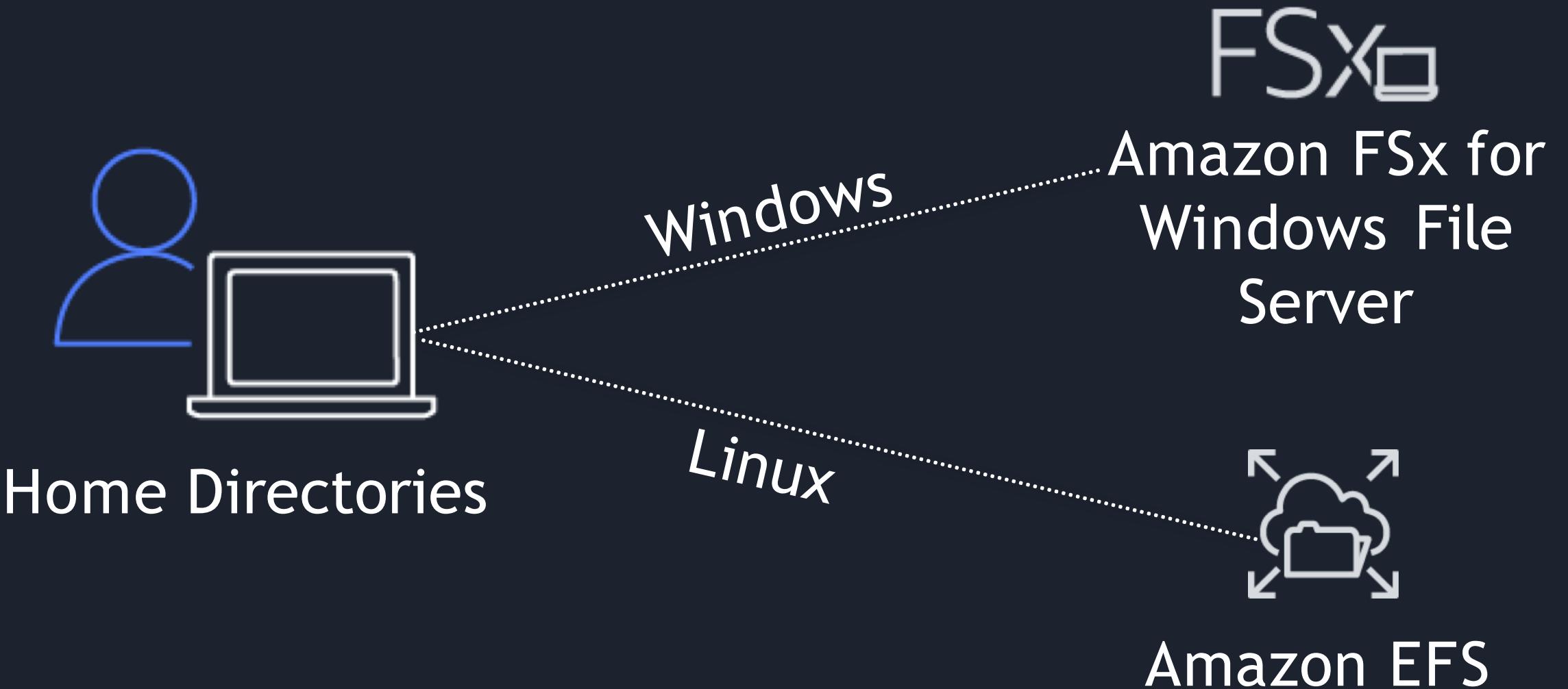
Lift-and-shift migrations

aws storage

Backup, Restore, and Archive



Home Directories

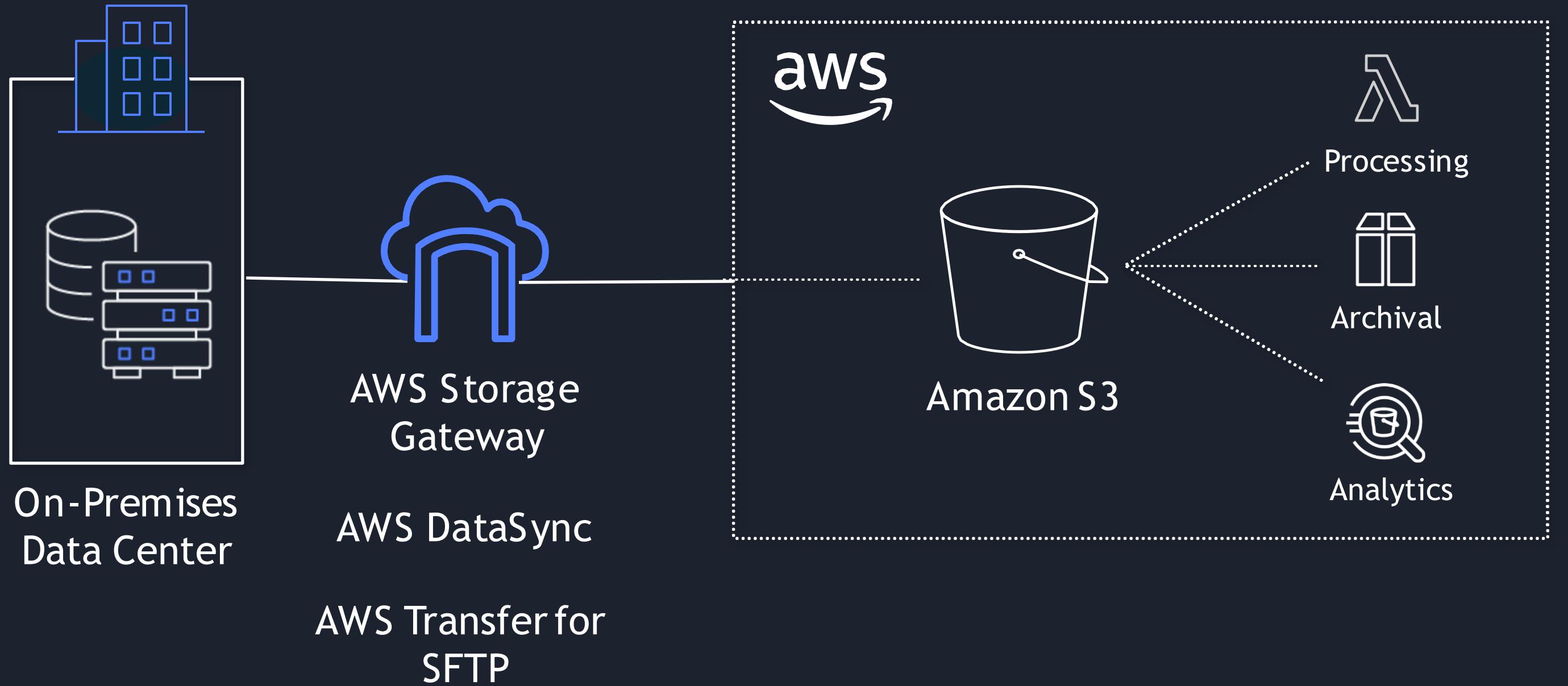


Business-Critical Applications



Block Storage	Linux/NFS File Storage	Windows File Storage
Amazon EBS	Amazon EFS	Amazon FSx for Windows File Server

Hybrid Cloud Storage



Data Lakes



Consolidate
all your
data



Process and
analyze



Simplified data
lake formation



Machine
Learning

S3 is the best place for data lakes



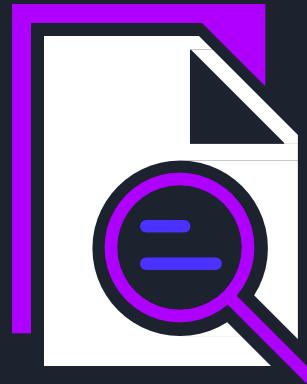
Unmatched durability, availability, and scalability



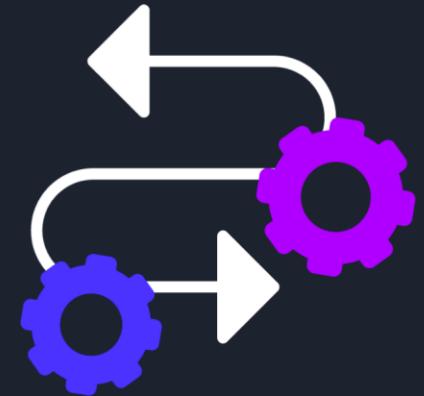
Best security, compliance, and audit capabilities



Object-level controls



Query and process data in place



Most ways to bring data in

aws storage

More Options for Data Transfer



AWS
Direct Connect



Amazon
Kinesis
Firehose



Amazon Kinesis
Data Streams



Amazon Kinesis
Video Streams



Amazon S3
Transfer
Acceleration



AWS
Storage
Gateway



AWS
Snowball



AWS
Snowball Edge



AWS
Snowmobile



AWS
DataSync



AWS
Transfer
for SFTP

aws storage



Microsoft Workloads on Amazon Web Services

Business Value of Running Windows Workloads on AWS

Study participants realize strong value by running various Windows workloads on AWS. IDC's analysis shows that they benefit from making their IT organizations more effective and meeting business demand with greater agility and improved performance. In total, IDC projects that these organizations will achieve an average **five-year ROI of 442%**.

Key Results



56%

Lower 5-year cost
of operations



442%

5-year ROI



9%

Reduction in
unplanned downtime

Customer Quote:



"We chose AWS for our Windows workloads because it has a more robust infrastructure, and as far as the cloud space, it's the outright leader. Using security groups was a big benefit for us and segmentation is huge for us."

Why Customers Choose AWS for their Microsoft Workloads

Most Experience

11

Years running Windows
workloads

Global Reach & High Availability

69

Availability zones spanning 21
geographic regions

Security & Compliance

89

Compliance Certifications
HIPAA, FISMA, ITAR, EU Model Clauses
SOC-1,2,3 FIPS, ISO

Customer Obsession &
Innovation

165+

Service offerings

Improve TCO

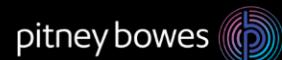
72

Price reductions since 2006

Capable of delivering up to
**80,000 IOPS/
instance**

With consistency

AWS hosts nearly two times as many Windows Server instances in the cloud as Microsoft



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Source: IDC, Windows Server Operating Environment Market Update, Doc # US44217118, Aug 2018

Most experience and a growing customer base

11

Years

Helping customers run and scale
Windows Workloads in the cloud

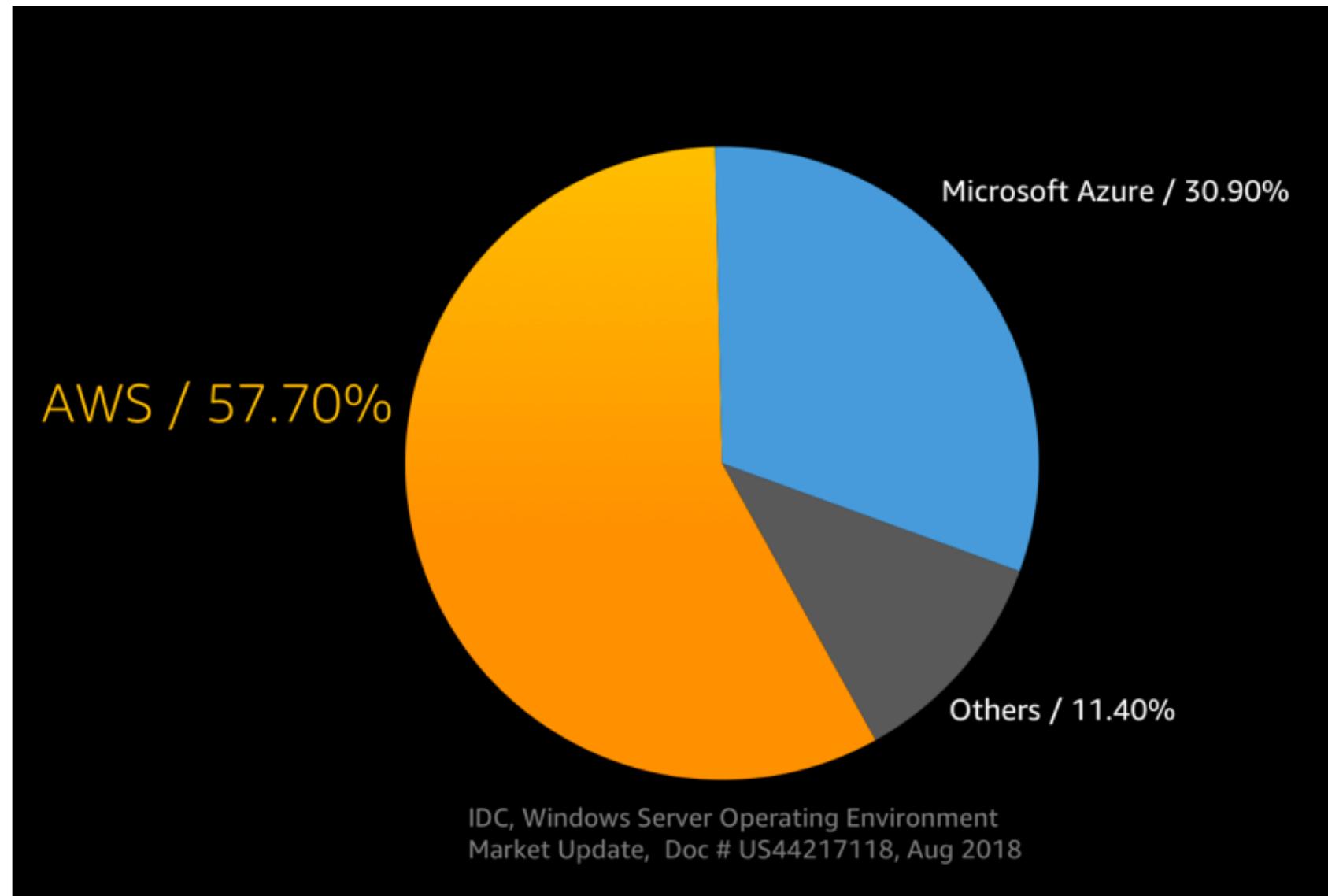
400%

Growth

Between 2015 and 2018 of AWS
enterprise customers using Amazon
Elastic Compute Cloud (Amazon EC2)
for Windows Server

Worldwide Windows Public Cloud IaaS Instances by Cloud Provider

new server deployments are now predominantly Linux. Windows has gone from 45.7% of server OS market in 2014 down to just 31.7% in 2017.



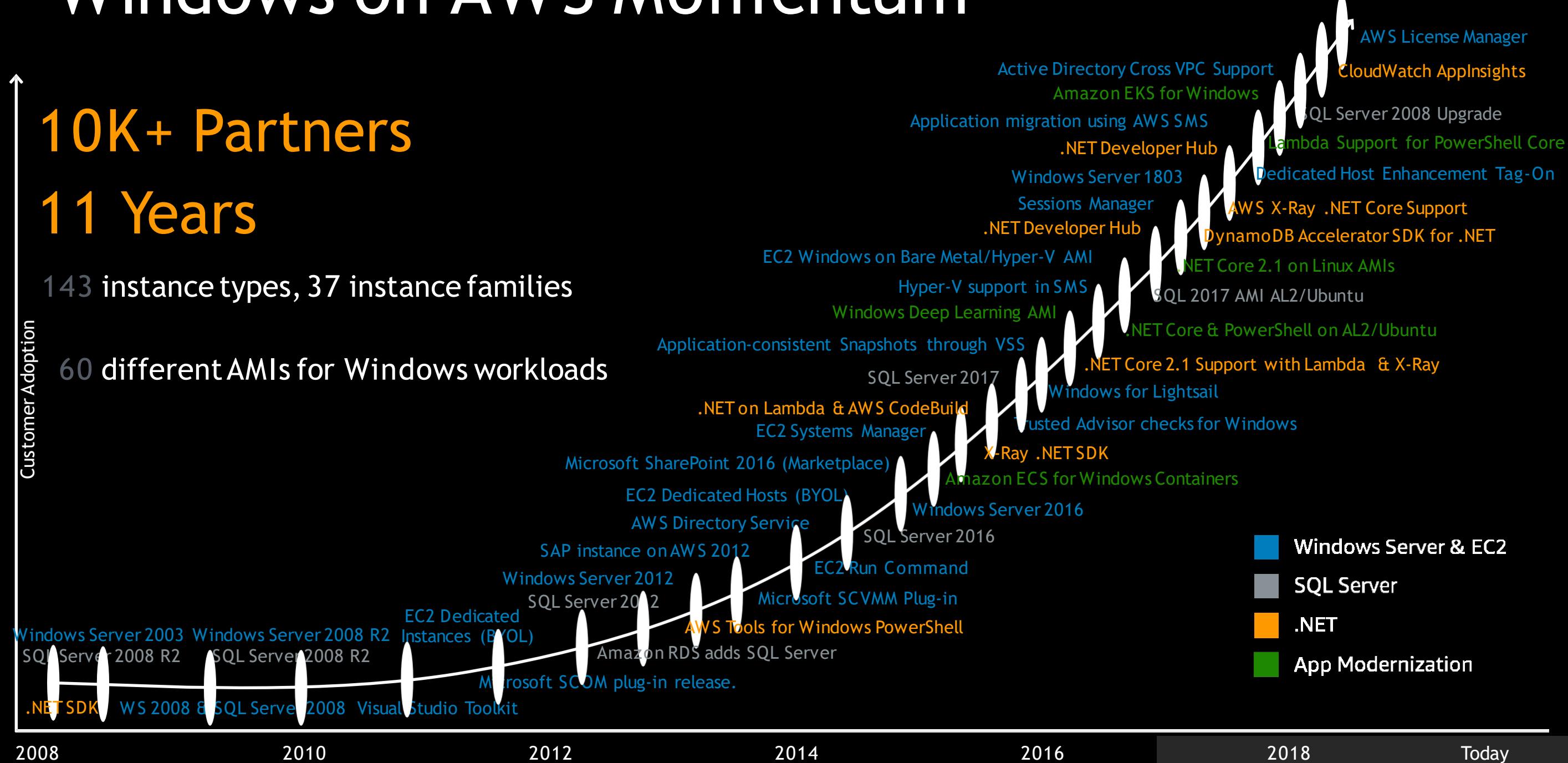
Windows on AWS Momentum

10K+ Partners

11 Years

143 instance types, 37 instance families

60 different AMIs for Windows workloads



Reduce costs by leveraging existing Microsoft investments

- Minimize risk with your digital transformation
- Improve your security posture with end-of-support workloads (EOS)
- Extend your existing Microsoft investments with bring-your-own-licenses (BYOL)



Most experience delivering Active Directory as a service



High compatibility



Only cloud to use actual Active Directory

Set up directory in under 2 min



Managed AD preserves SSO experience on-premises and in the cloud



Only cloud that preserves SSO

Users don't have to sign in separately



Richest set of features



Most features of all managed Active Directory

Broadest range of Active Directory aware apps

Running Microsoft Applications on AWS



Self-managed using Amazon EC2

- BYOL Windows & SQL Server
- Purchase EC2 Windows + BYOL SQL
- Purchase EC2 Windows + SQL Server



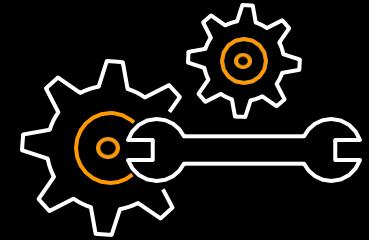
As a managed service using Amazon RDS

- RDS for SQL Server

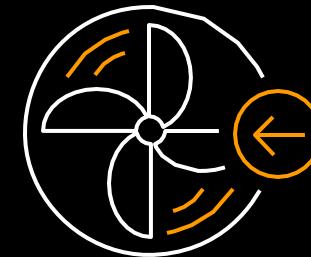
SQL Server Upgrade Tool (2008 to 2016)



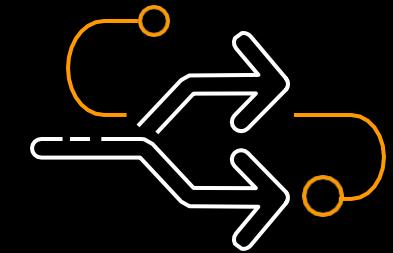
Announcing SQL
Server Upgrade Tool



Automated



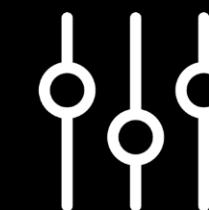
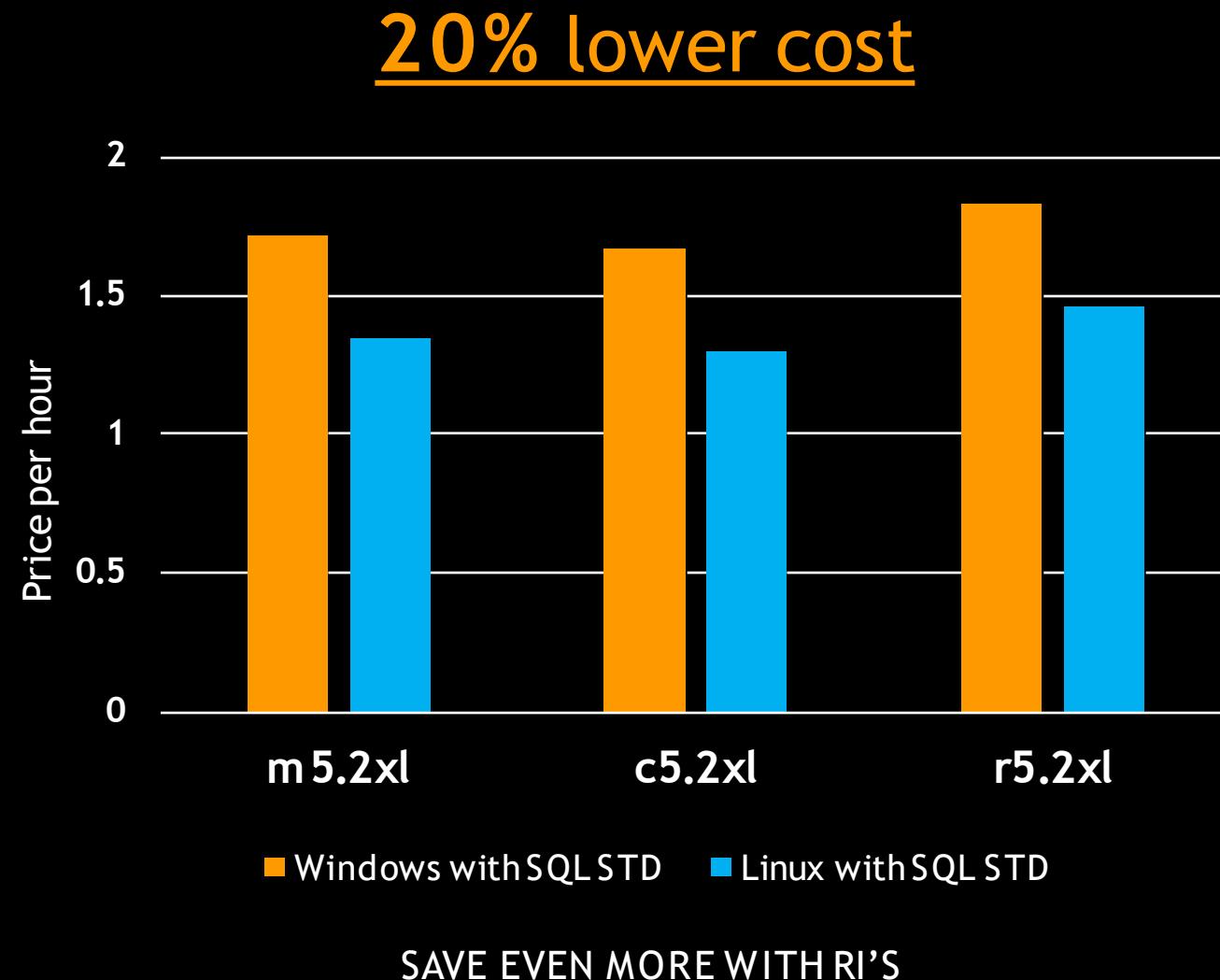
Side by Side



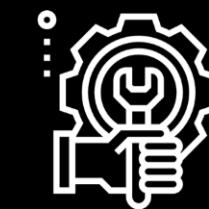
Streamlined

<https://tinyurl.com/sqlserverupgrade>

SQL Server on Linux

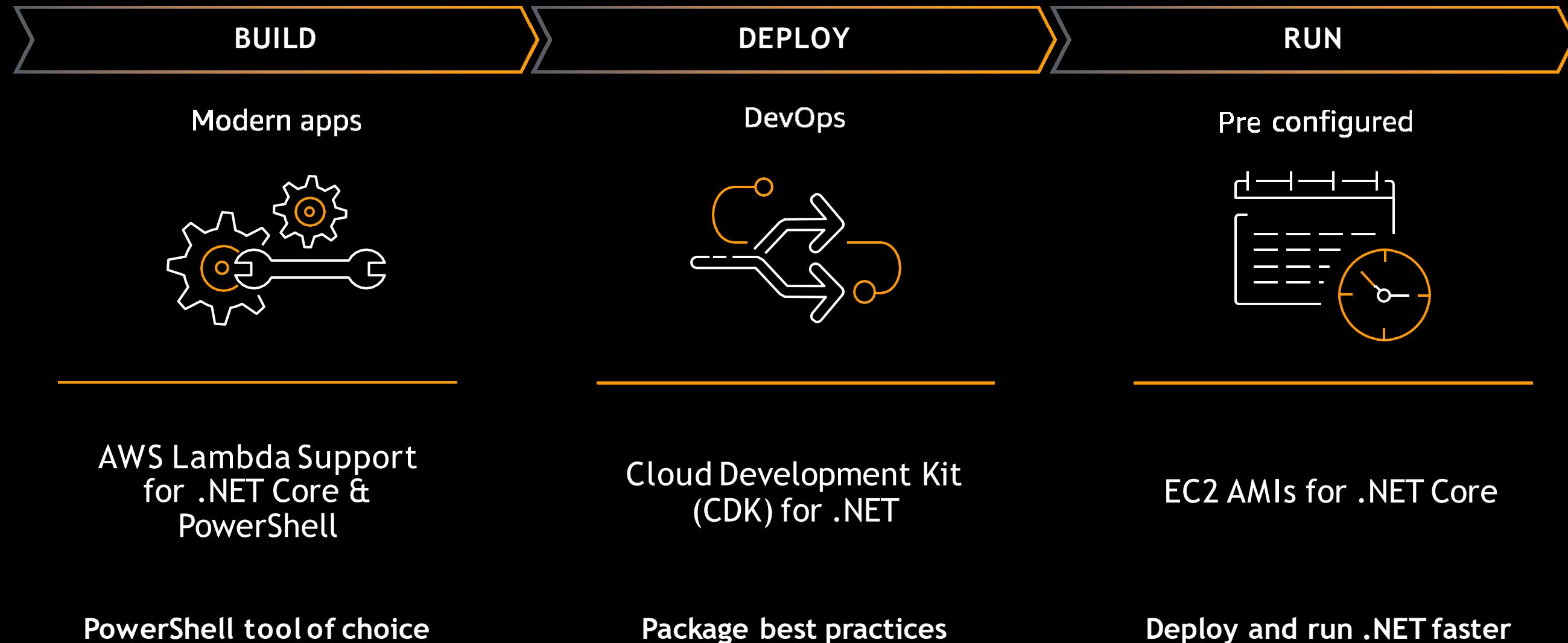


Choice: Ubuntu,
RHEL, Amazon
Linux 2



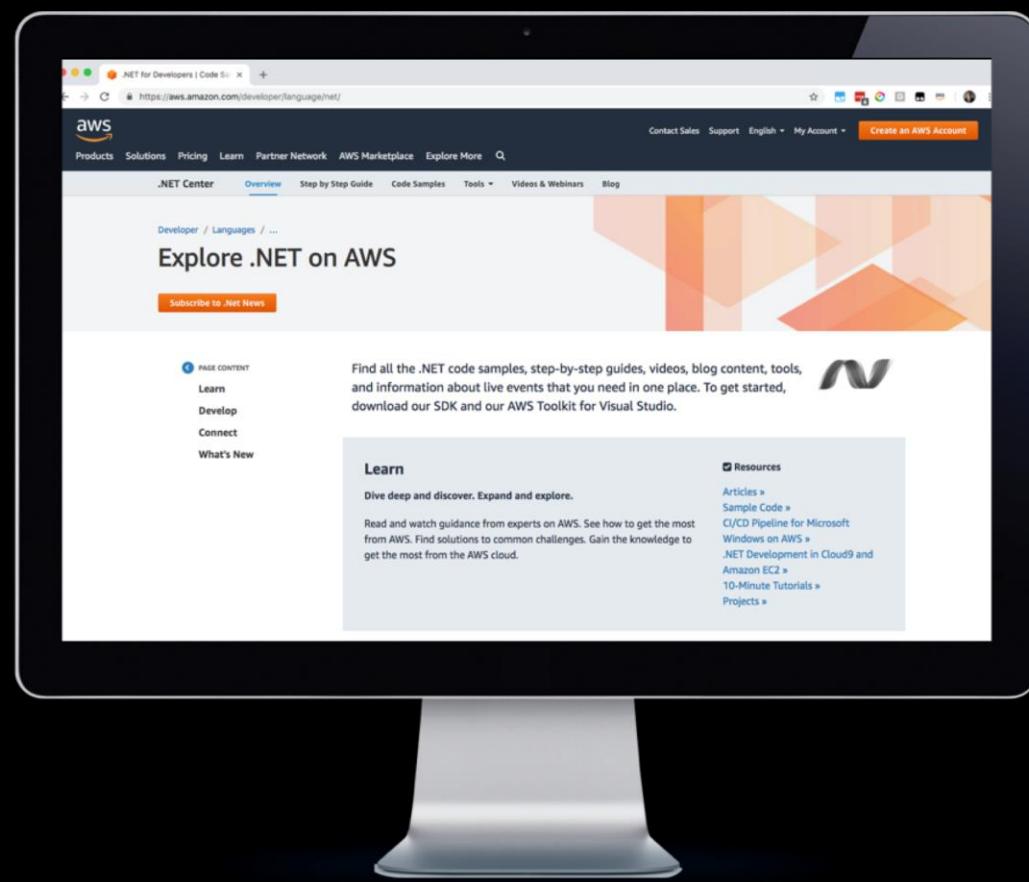
Standardization across
one operating system

.NET developer experience

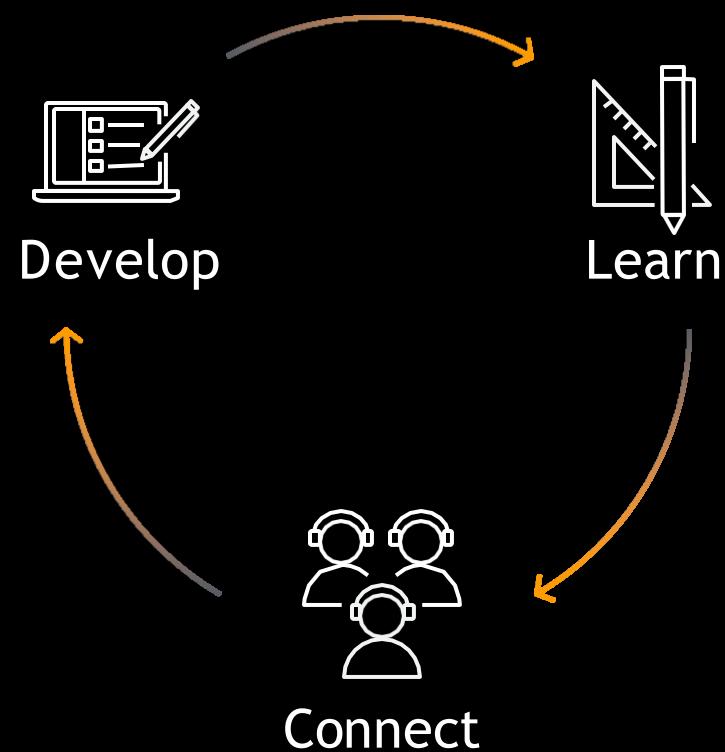


Enabling developers at every step

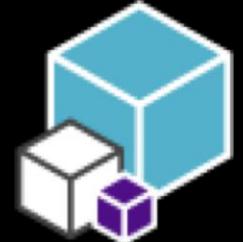
.NET Developer Center



aws.amazon.com/net



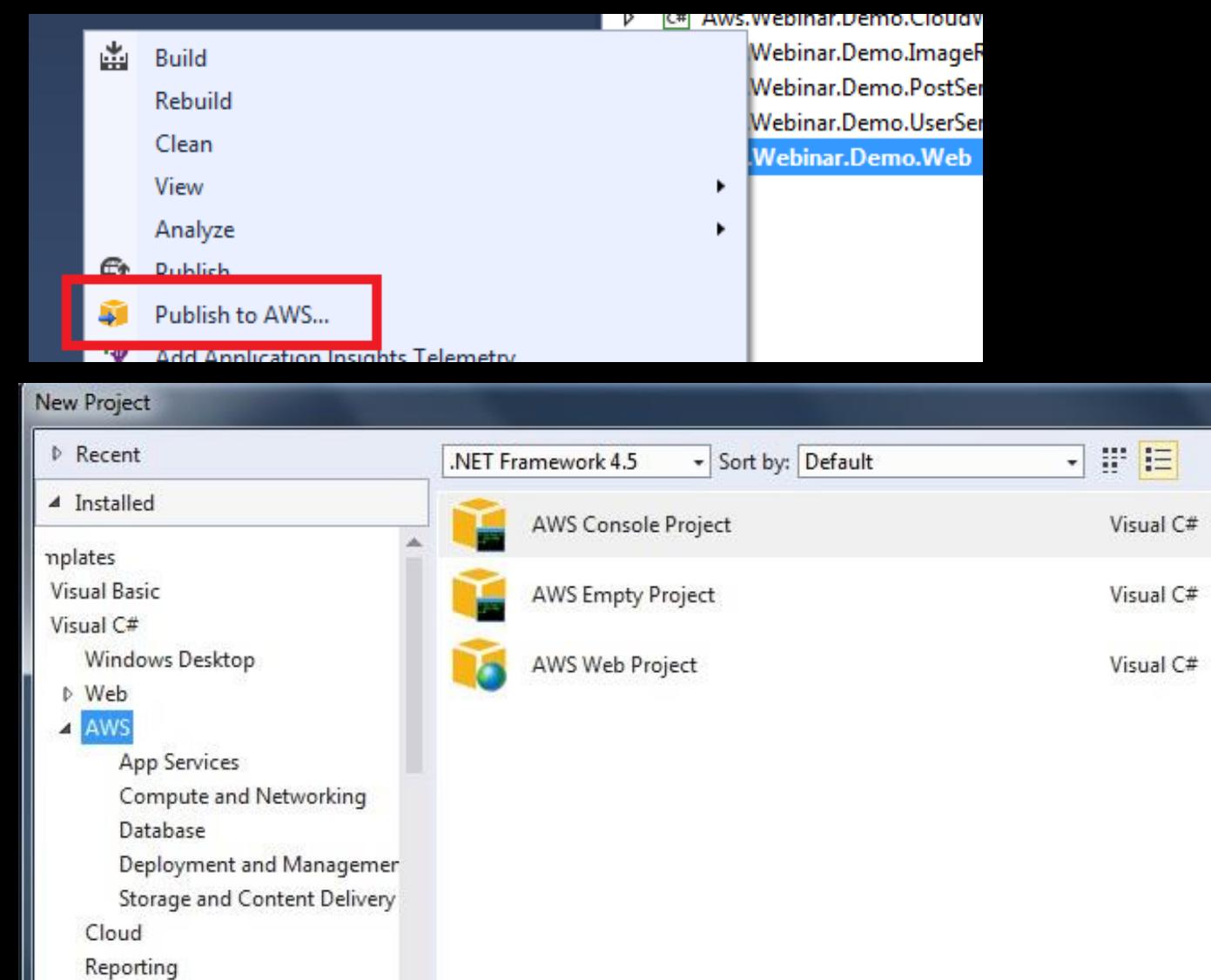
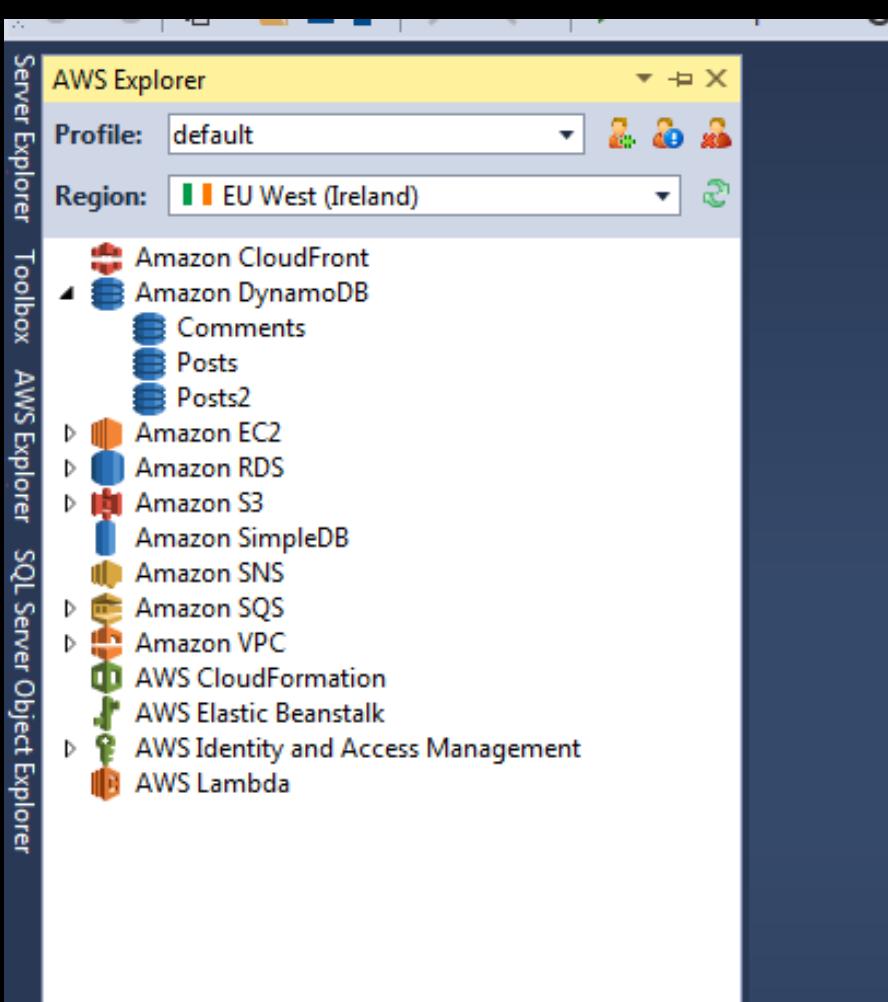
AWS Toolkit for Visual Studio



AWS Toolkit
for Visual
Studio



.NET SDK



Learn from experienced partners

aws
partner
network

Microsoft Competency Partners



Migration Partners





VMware Cloud on AWS



A truly compelling and differentiated solution

vmware®

+

aws

Leading compute, storage and network
virtualization capabilities

Support for a broad range of workloads

De-facto standard for the enterprise DC

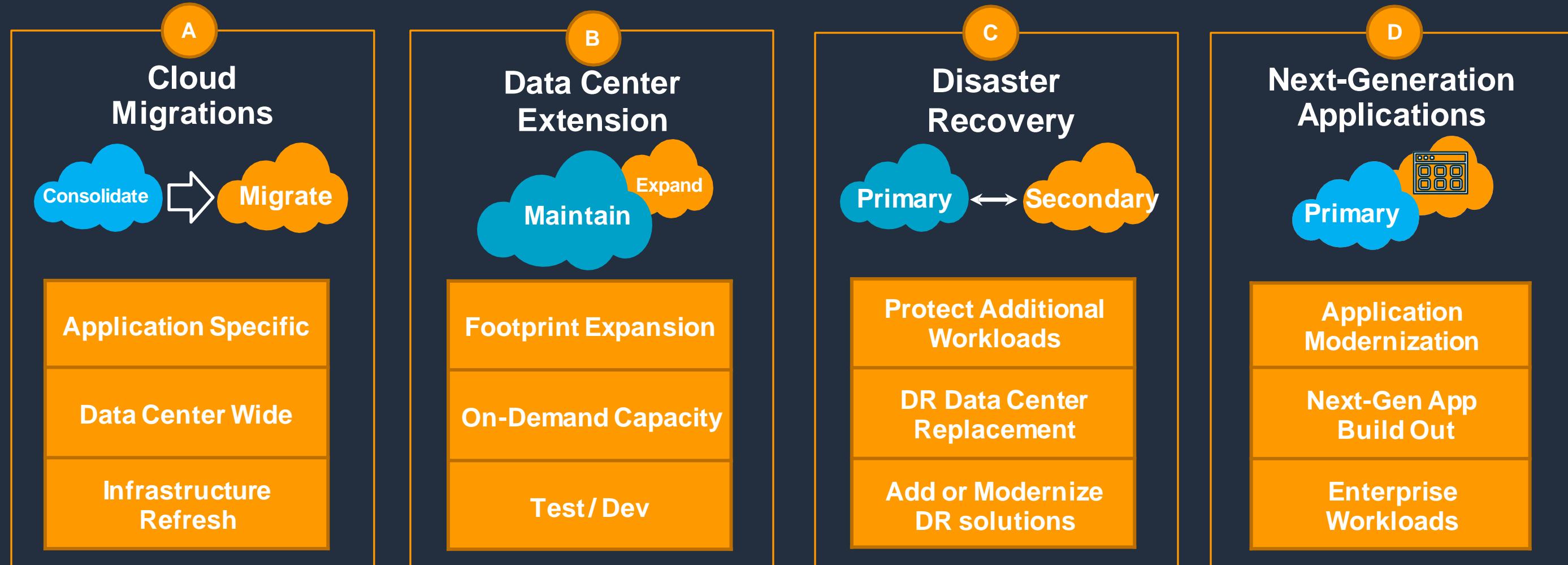
Flexible consumption economics

Broadest set of cloud services

Global scale and reach

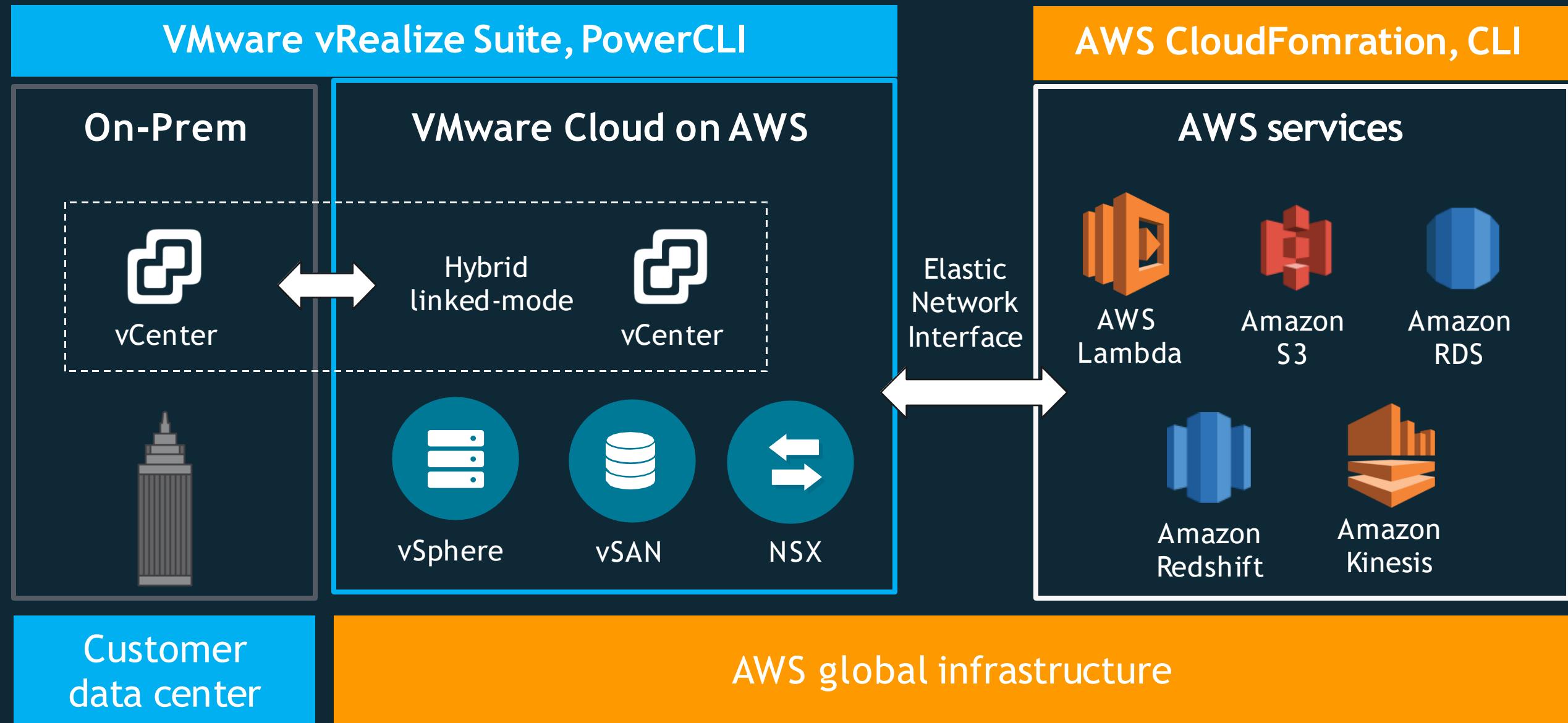
Jointly engineered solution delivers the best of VMware and AWS for customers

VMware Cloud on AWS Target Use Cases



Customer Decides and Places Workloads between On-Premises and AWS

VMware Cloud on AWS Overview



VMware Cloud on AWS resources

VMware Cloud on AWS Home:

- <https://cloud.vmware.com/vmc-aws/>
- <https://aws.amazon.com/vmware/>
- Single Host SDDC Access Request: <https://cloud.vmware.com/vmc-aws/single-host-access>

VMware Cloud on AWS Blog: <https://cloud.vmware.com/community/vmware-cloud-on-aws/>

YouTube Channel Playlists:

- Customer stories: <https://bit.ly/2JuY7dm>
- Overview videos: <https://bit.ly/2xGM08j>
- Demos: <https://bit.ly/2svD68Z>



Migrate Oracle applications, middleware and databases to AWS



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How Amazon is Achieving Database Freedom Using AWS

Challenge

Amazon is on the verge of concluding an enterprise-level, multiyear initiative to move **>50PB** of the company's data from **~5000 Oracle databases** onto AWS, and had urgent reasons to make it work including complicated and error prone administration, provisioning, and capacity planning. The company's steep growth trajectory required more and more Oracle database shards. Business as usual on Oracle would have cost 10% more per year.

Solutions

- Amazon DynamoDB
- Amazon Aurora
- Amazon Simple Storage Service
- Amazon Relational Database Service
- AWS Database Migration Service
- AWS Schema Conversion Tool

Benefits

- Cut database operating costs by 50%
- Eliminated most database-administration and hardware-management overhead
- Lowered latency of most critical services by 40%



Company: Amazon

Industry: Multiple

Country: US and Worldwide

Employees: 560,000

Website: www.amazon.com

About Amazon

Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Customer reviews, 1-Click shopping, personalized recommendations, Prime, Fulfillment by Amazon, AWS, Kindle Direct Publishing, Kindle, Fire tablets, Fire TV, Amazon Echo, and Alexa are some of the products and services pioneered by Amazon.



AWS options for Oracle customers include...



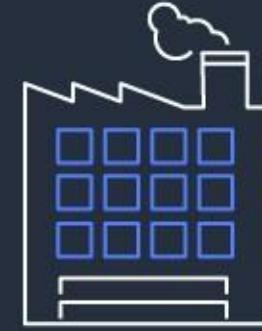
Oracle Databases on AWS



Database migration to AWS



Fusion Middleware on AWS



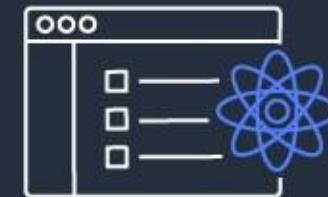
Oracle Enterprise Applications on AWS



Java on AWS



Analytics & DW on AWS



AWS Data Lakes



AI/ML

AWS migration strategies for Oracle customers

Solution	Oracle Databases			Oracle Fusion Middleware on AWS	Oracle Middleware to AWS	Oracle Enterprise Applications on AWS
	Oracle Databases on AWS EC2	Oracle Databases on AWS RDS	Oracle database migration to AWS			
Migration path	Rehost	Replatform	Refactor	Rehost	Refactor	Rehost
Post migration	Customer runs Oracle Database EE, SE, NoSQL, TimesTen, MySQL, Golden Gate on AWS	Customer shifts Oracle EE, SE to AWS RDS for Oracle	Customer migrates from Oracle EE, SE, NoSQL to AWS RDS OSS, Aurora or Redshift	Customer runs Oracle SOA Suite, WebLogic, OBIEE, BPM and more on AWS	Customer refactors their Java application	Customer runs Oracle E- Business Suite, PeopleSoft, JDE, Hyperion, Siebel and more on AWS
AWS Services	EC2/EBS, VPC	Oracle RDS	RDS OSS, Aurora, Redshift, Schema Conversion Tool, Database Migration Service	EC2/EBS, VPC	Elastic Beanstalk, ELB, Aurora	EC2/EBS, VPC, Oracle RDS

Oracle to AWS license and support - considerations

Solution	Oracle Databases			Oracle Fusion Middleware on AWS	Oracle Middleware to AWS	Oracle Enterprise Applications on AWS
	Oracle Databases on AWS EC2	Oracle Databases on AWS RDS	Oracle database migration to AWS			
Migration path	Rehost	Replatform	Refactor	Rehost	Refactor	Rehost
License consideration	BYOL. Review Oracle Cloud Licensing Policy. 2 vCPU= 1 Oracle Proc with Hyper threading enabled	License included or BYOL	MySQL and PostgreSQL open source	BYOL	Consider open source e.g. JBoss	BYOL
Support consideration	Standard Oracle support. Oracle Database >=11.2.0.4 & >= 12.1.0.2. AWS EC2 DB optimized instances.	Supported for Oracle Database =>11.2.0.4 & => 12.1.0.2. AWS EC2 DB optimized instances.	AWS RDS and Redshift are managed services.	Standard Oracle support. Fully compatible	AWS Elastic Beanstalk provides management features	Standard Oracle support, including E-Business Suite, PeopleSoft, Siebel and more

Data categories and common use cases



Relational

Key-value

Document

In-memory

Graph

Search

Time-series

Ledger

Referential integrity, ACID transactions, schema-on-write

Low-latency, key lookups with high throughput and fast ingestion of data

Indexing and storing documents with support for query on any attribute

Microseconds latency, key-based queries, and specialized data structures

Creating and navigating data relations easily and quickly

Indexing and searching semistructured logs and data

Collect, store, and process data sequenced by time

Complete, immutable, and verifiable history of all changes to application data

Lift and shift, EMR, CRM, finance

Real-time bidding, shopping cart, social

Content management, personalization, mobile

Leaderboards, real-time analytics, caching

Fraud detection, social networking, recommendation engine

Product catalog, help and FAQs, full text

IoT applications, event tracking

Systems of record, supply chain, health care, registrations, financial

AWS: Purpose-built databases



Relational



Key-value



Document



In-memory



Graph



Search



Time-series



Ledger



Amazon RDS

Aurora



MySQL®



MySQL®



Amazon
DynamoDB

Community

ORACLE®



Amazon
DocumentDB



Amazon
ElastiCache



redis



Amazon
Neptune



Amazon
Elasticsearch
Service



Amazon
Timestream



Amazon
Quantum
Ledger
Database



Database Migration the Easier Way

Step 1: Convert or copy your schema



Step 2: Move your data



Resources

<https://aws.amazon.com/oracle/resources/>

<https://aws.amazon.com/migration-acceleration-program/>

<https://aws.amazon.com/rds/aurora/>

<https://aws.amazon.com/dms/>

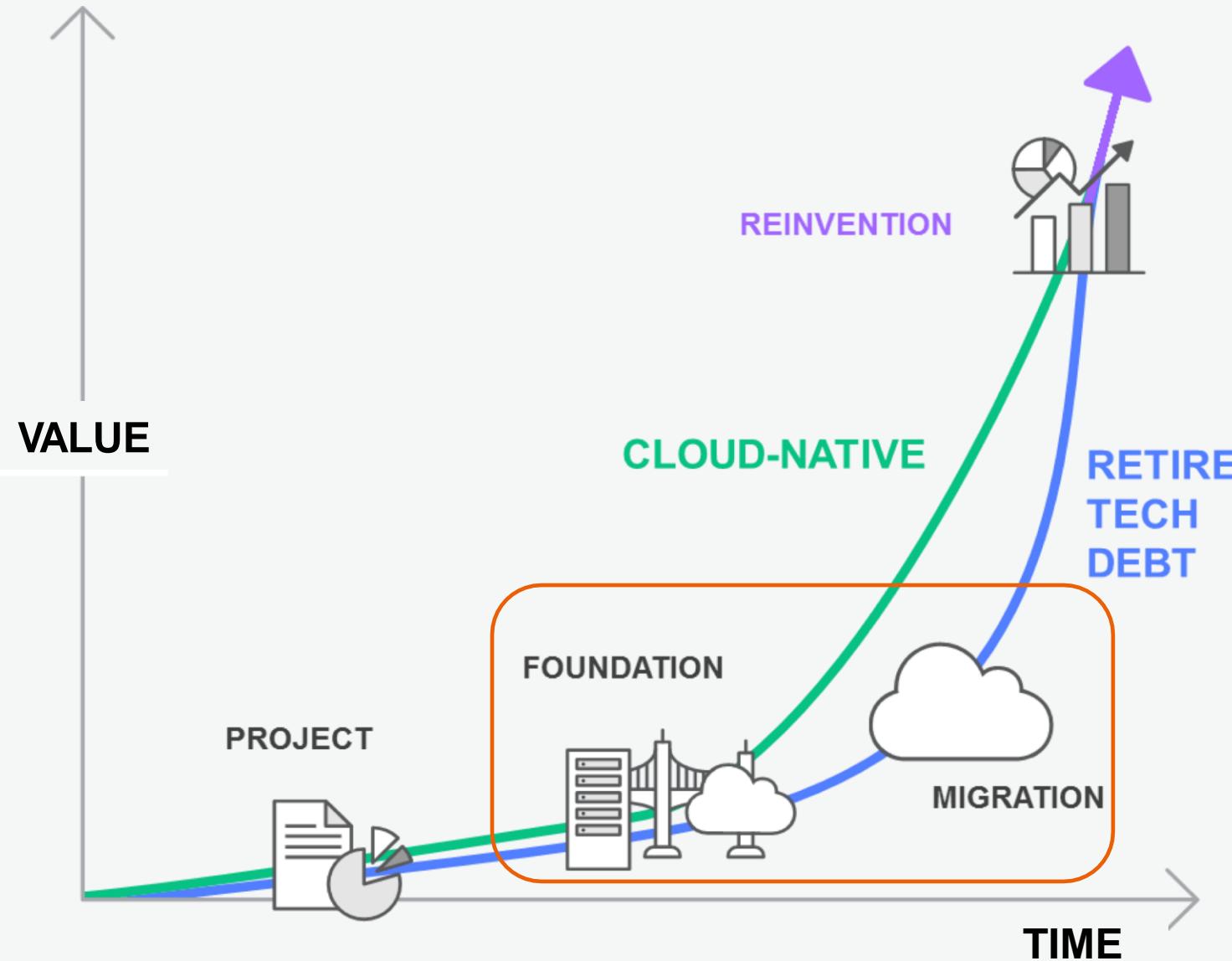




Migration Acceleration Program

Accelerating your journey to the cloud

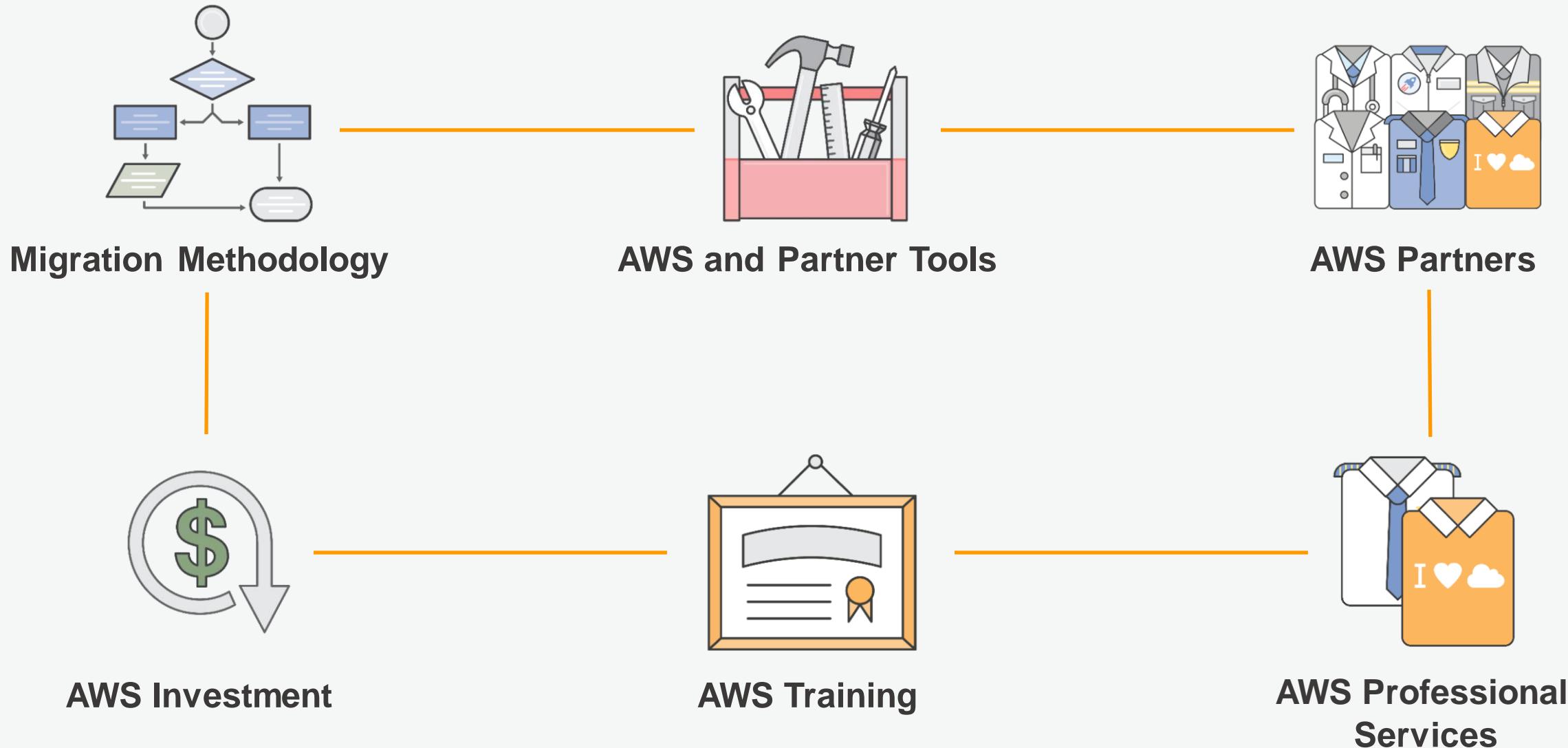
Journey to the cloud



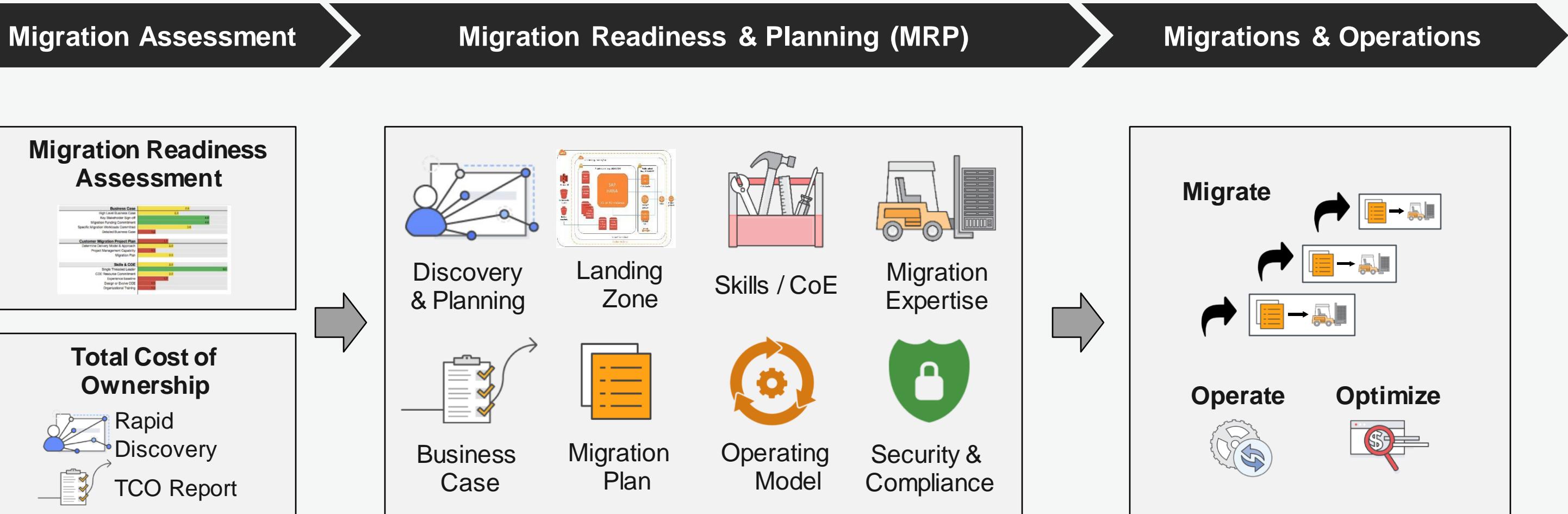
Migration Acceleration Program (MAP)

- Accelerate your journey to build new capabilities
- Outcome-driven / focused on your business needs
- Proven methodology with secure approach
- Experience based on helping 100's of enterprise customers migrate to AWS

Migration Acceleration Program (MAP)



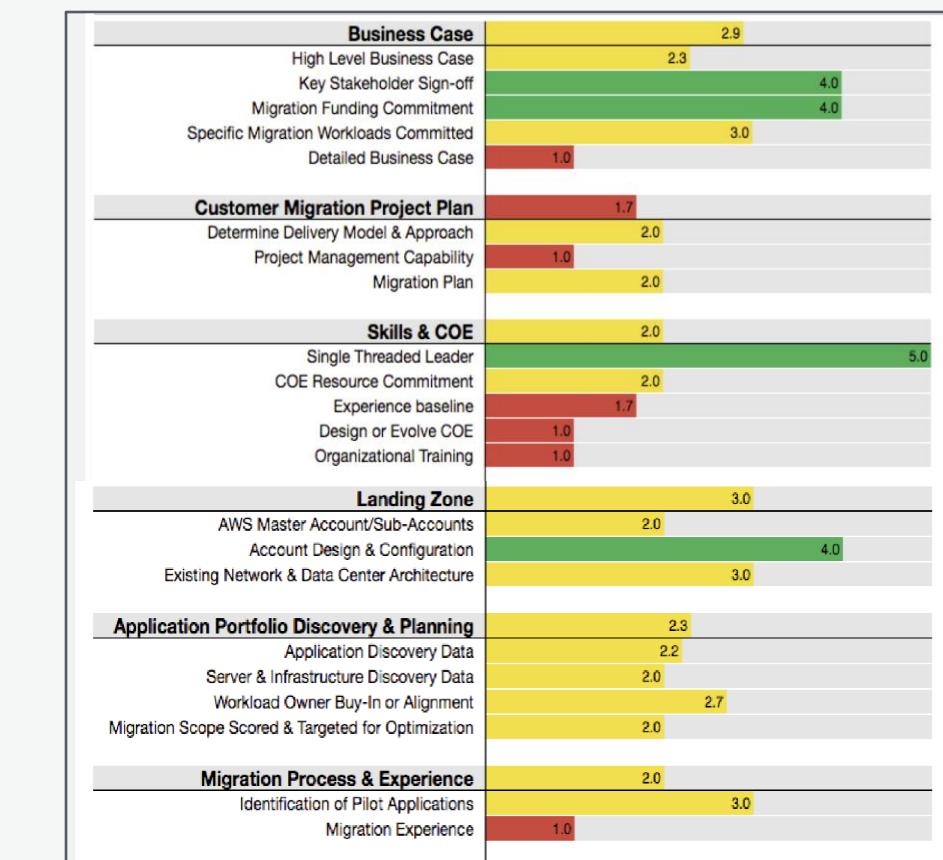
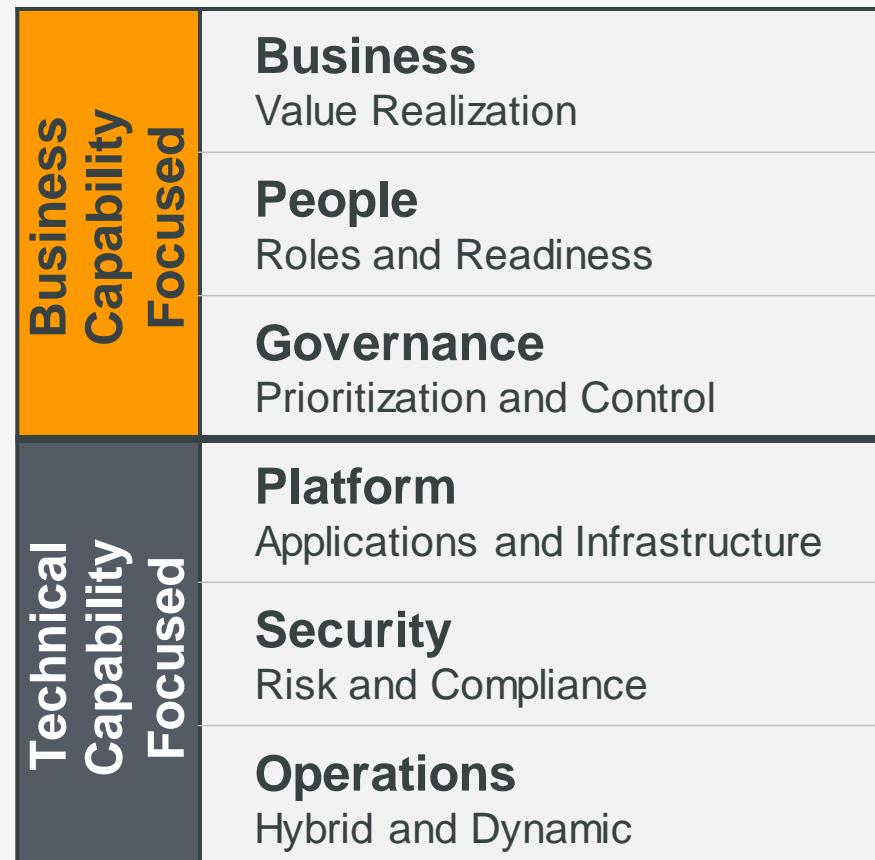
MAP migration customer journey



MRP Timing: 2 - 6 Months, Partner, and/or AWS ProServe consulting project

Migration Readiness Assessment (MRA)

- Conducted as a 1-day workshop and/or interviews with stakeholders
- 60-70 question survey aligned to AWS Cloud Adoption Framework (CAF)
- Provides actions close gaps, forms MRP project plan provided by ProServe/partner
- Suggested to do Total Cost of Ownership analysis in parallel

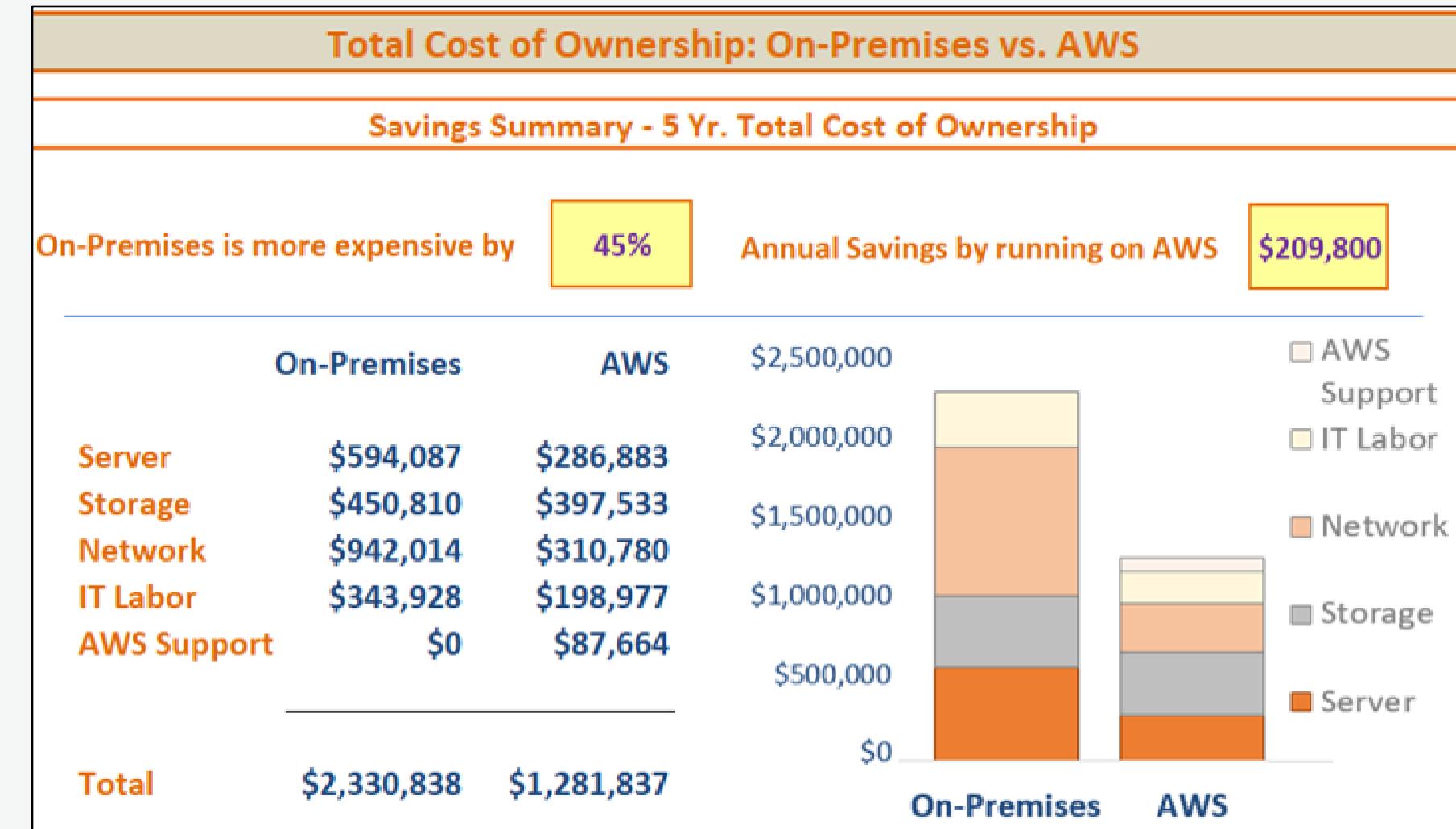


<https://aws.amazon.com/professional-services/CAF/>

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TCO offer to jump start your migration effort

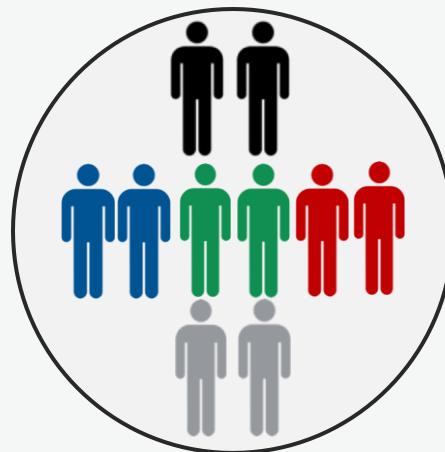
- Energize your migration and align business goals
- Rapid Discovery using third-party discovery tooling (4 weeks)
- TCO report containing your specific cost-savings analysis
- Presentation to your business leaders



Articulate TCO & ROI using real data from your actual environment **at no charge**

Implementing a Cloud COE to lead the journey

Cloud Tiger Team (0-6 months)

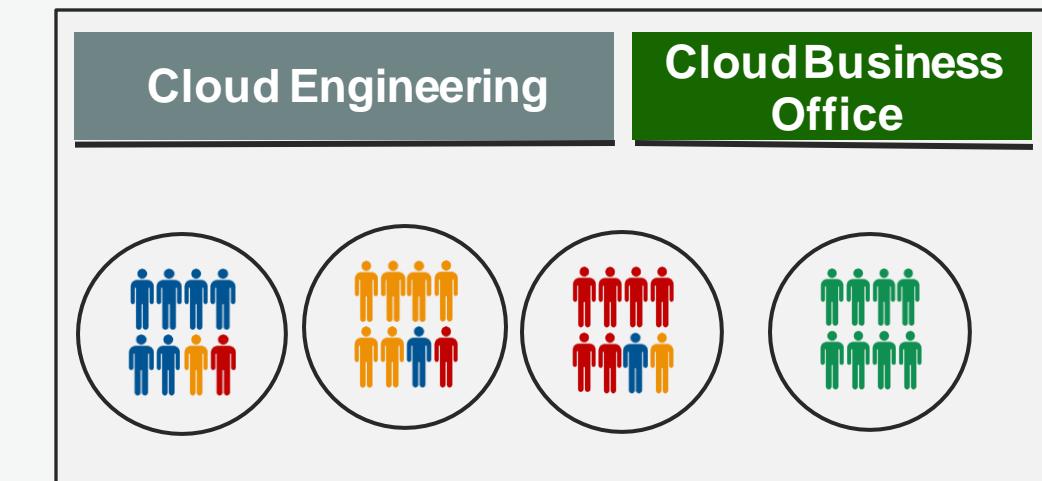
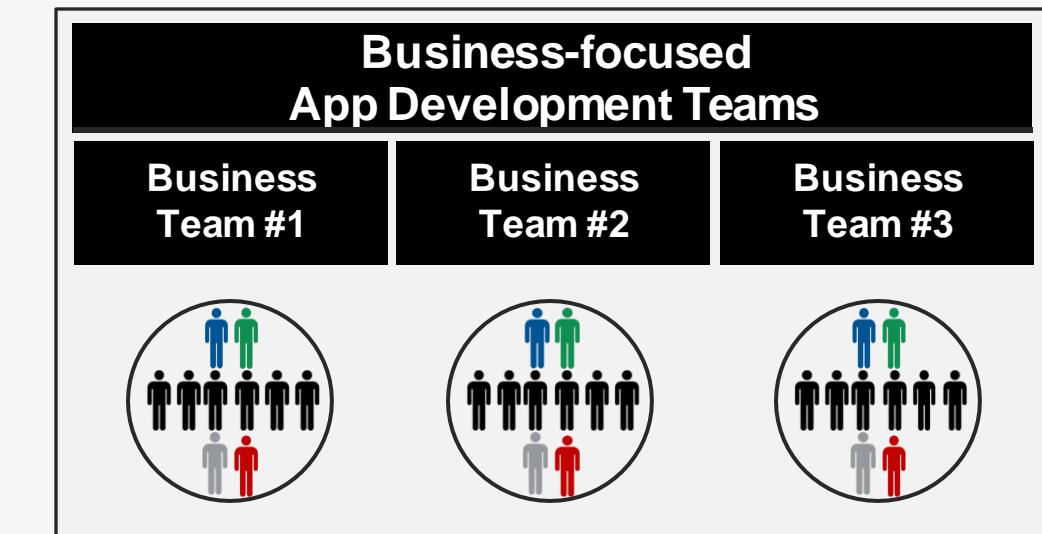


- Leadership
- Infrastructure
- **Security**
- Operations
- Applications

Initial Cloud COE (6+ months)



Cloud-Enabled Organization (18+ months)



Migration investment

Total AWS Investment:

Up to **25%** of annual AWS usage from migrations, dependent upon the customer commitment

Migration Assessment

Migration Readiness & Planning (MRP)

Migrations & Operations

○ AWS Investment

- 1-Day MRA Workshop
- Rapid Discovery Tool
- TCO

○ AWS Investment (with MAP commitment)

- Partner or ProServe consulting investment
- On-site training classes
- Platform credits for pilot migration

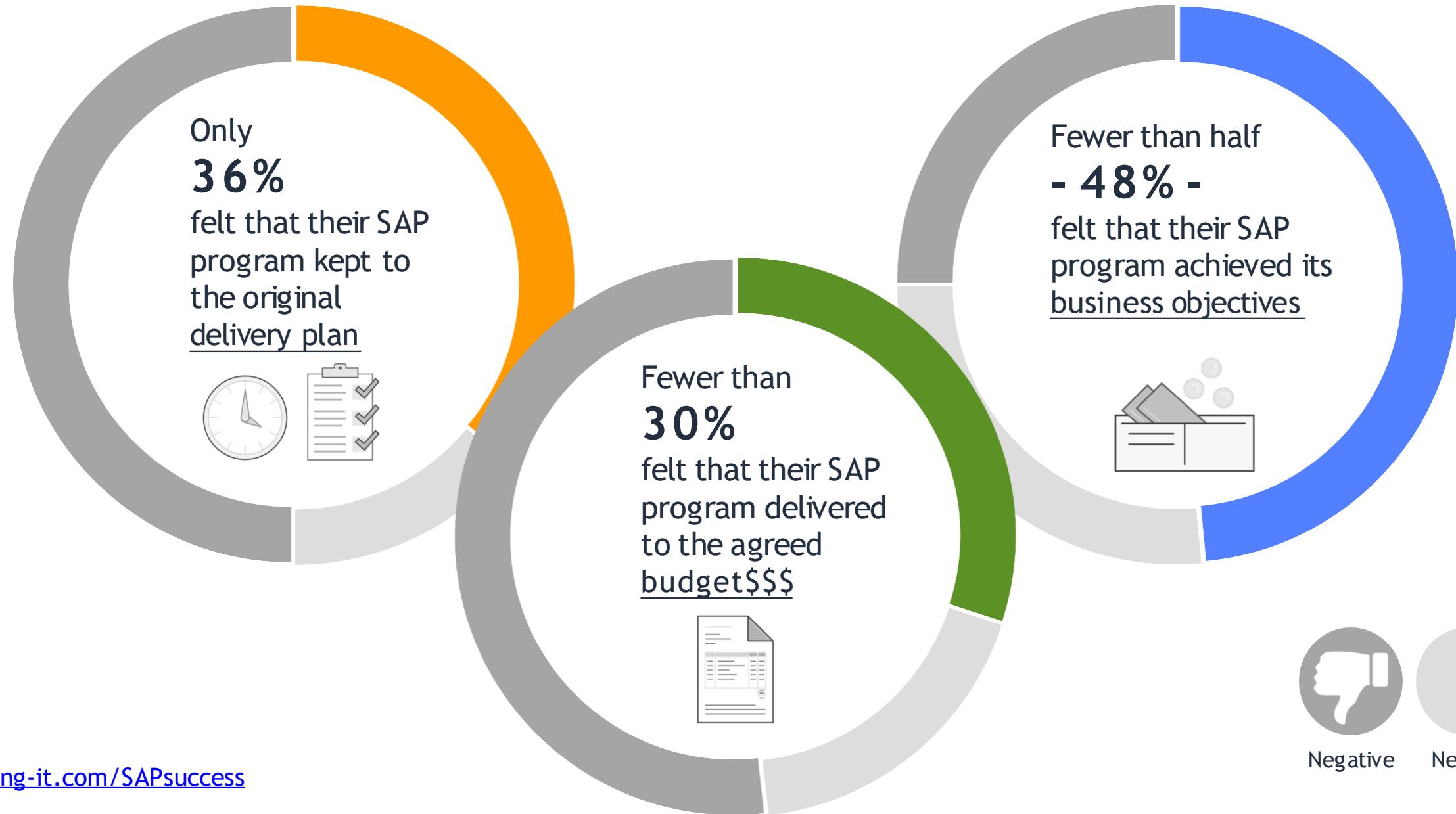
○ AWS Investment (with MAP commitment)

- Platform credits to help you offset the cost of migration



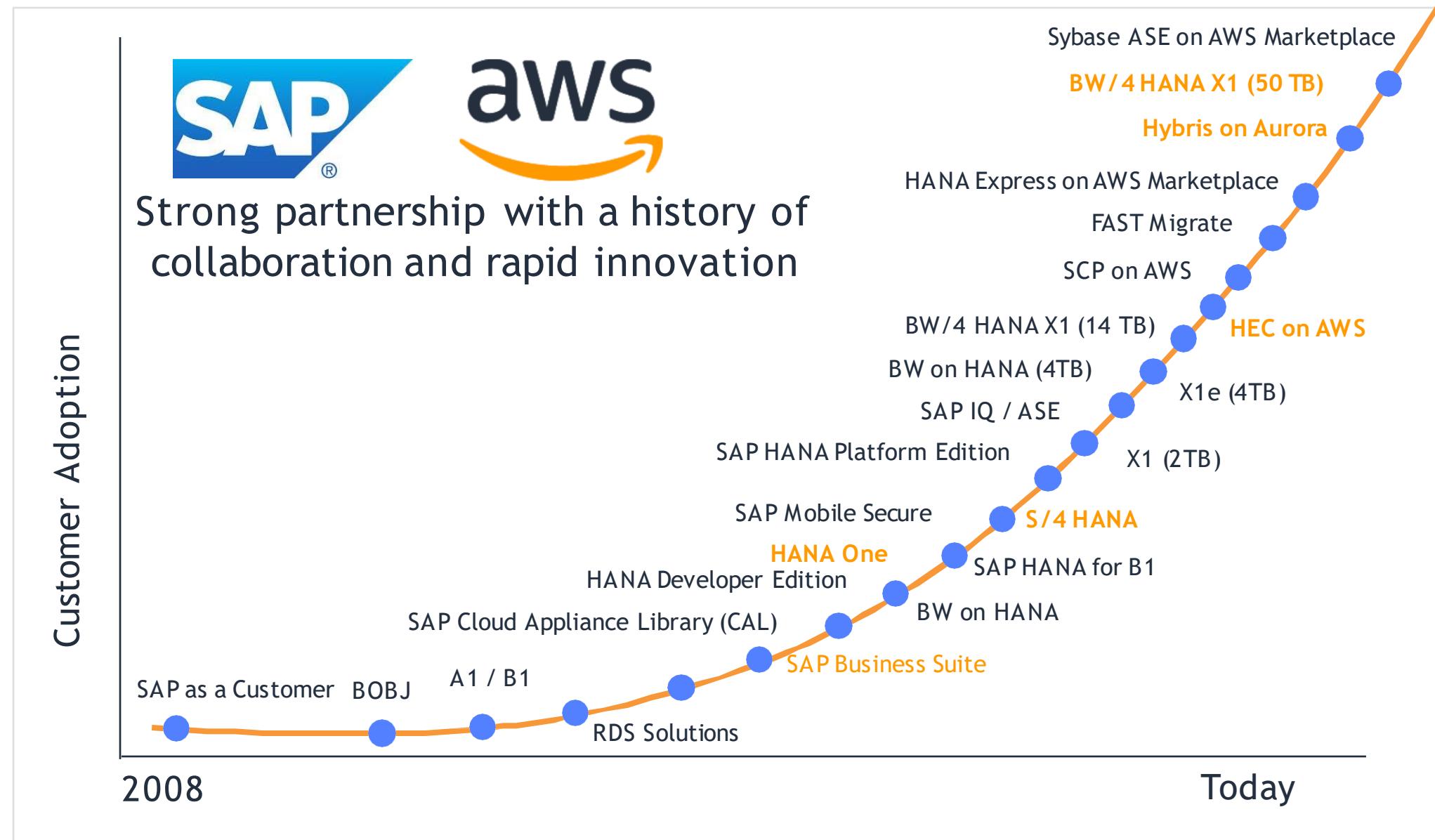
SAP Cloud on AWS

Findings Show:



Source: www.resulting-it.com/SAPsuccess

The SAP | AWS Alliance



Amazon EC2 Instances for SAP HANA

Available Now

24

18

12

6

9

TB

.244

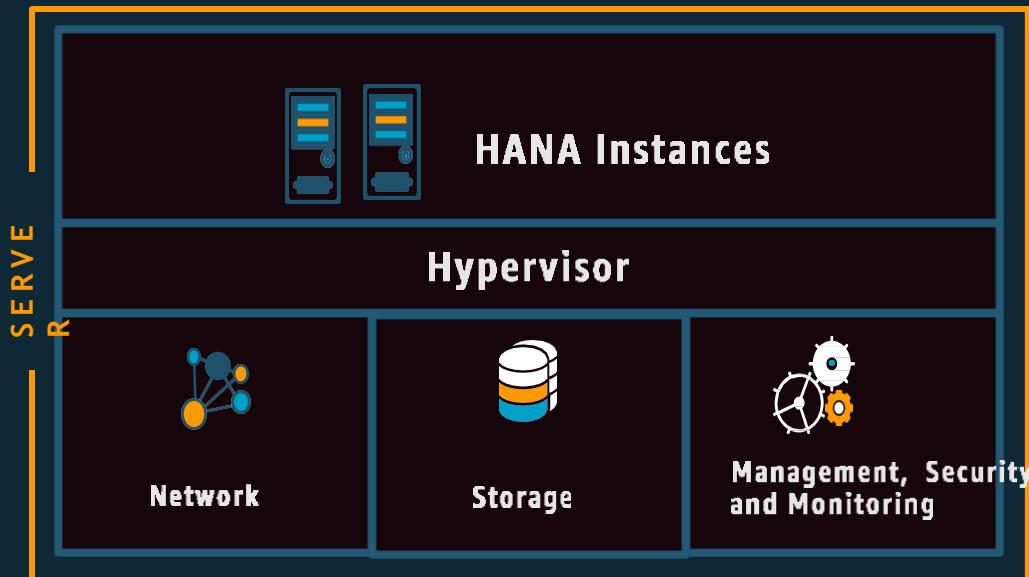
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1

2

4

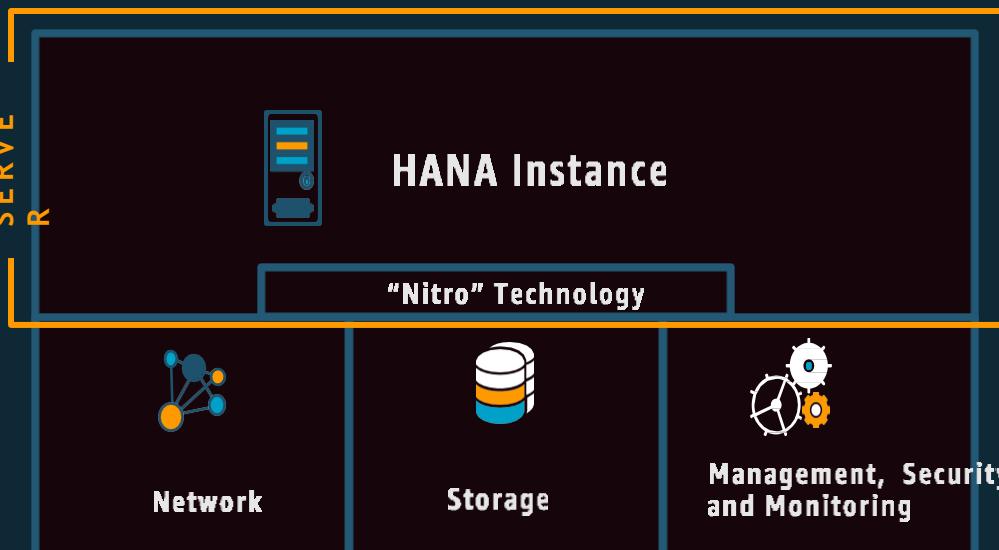
SERVE R



EC2 Instances (Virtual)

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EC2 Bare Metal Instances



- ✓ EC2 instances in AWS regions and availability zones
- ✓ Available in Amazon VPC
- ✓ API driven
- ✓ Operate through the AWS Console & CLI/SDK
- ✓ Direct hardware access in case of Bare Metal instances
- ✓ Elastic Storage Capacity with Amazon EBS



Amazon EC2 Instances - for SAP workloads

General Purpose M4 and M5					
Name	vCPU	Memory (GiB)	Network (Gbps)	Storage (Mbps)	SAPS
m5.24xlarge	96	384	25	10,000	135,230
m5.12xlarge	48	192	10	5,000	67,215
m5.4xlarge	16	64	High	2,120	22,538
m5.2xlarge	8	32	High	2,120	11,269
m5.xlarge	4	16	High	2,120	5,634
m5.large	2	8	High	2,120	2,817

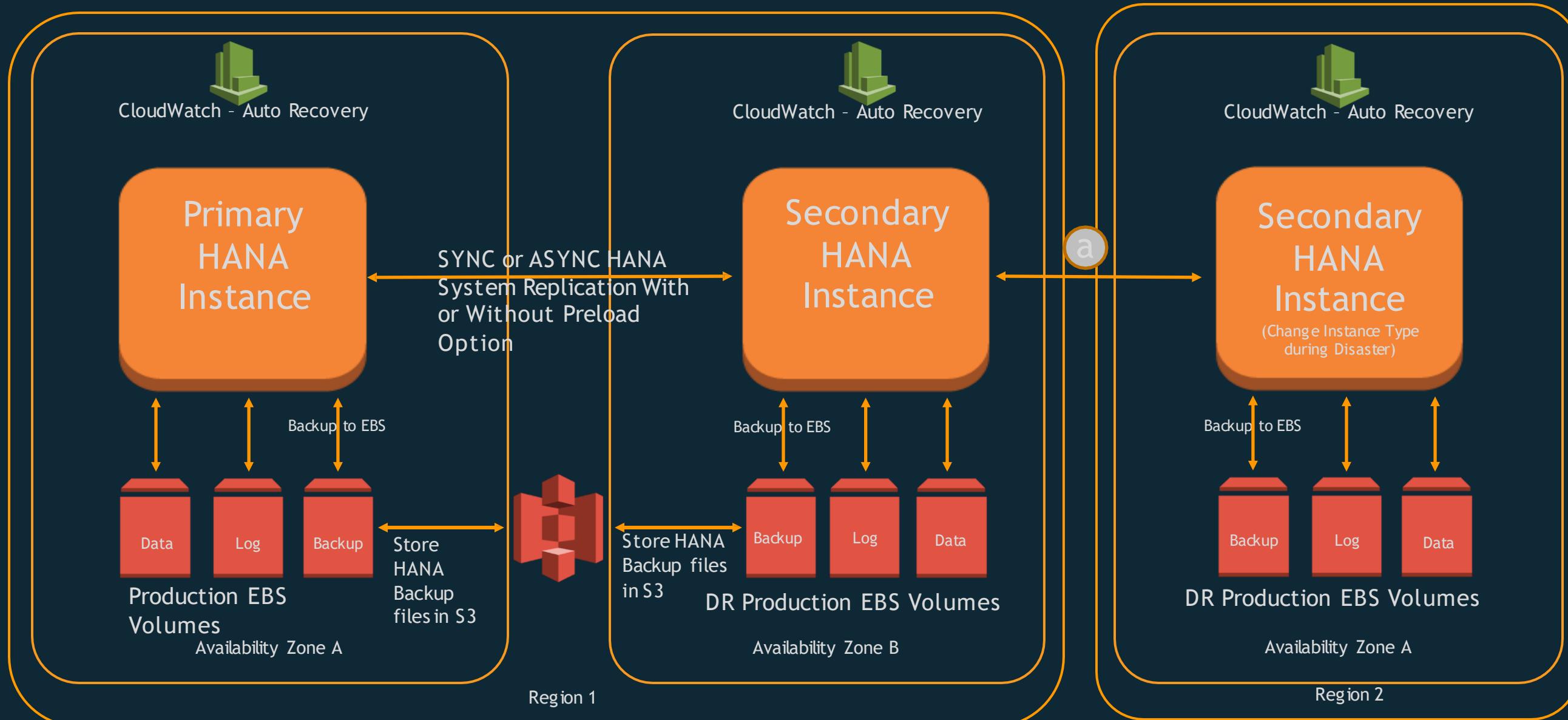
Compute Optimized C4 and C5					
Name	vCPU	Memory (GiB)	Network (Gbps)	Storage (Mbps)	SAPS
c5.18xlarge	72	144	25	9,000	95,400
c5.9xlarge	36	72	10	4,500	47,700
c5.4xlarge	16	32	Up to 10	2,250	21,200
c5.2xlarge	8	16	Up to 10	2,250	10,600
c5.xlarge	4	8	Up to 10	2,250	5,300
c5.large	2	4	Up to 10	2,250	2,650

- 61 instances certified across the R3, R4, R5, M4, M5, C4, C5, X1, X1e & High memory instance families
- Use in two-tier and three-tier configurations up to hundreds of thousands of SAPS
- Check SAP Note 1656099 for more information

Memory Optimized R5,R4, X1,X1e & High memory instances					
Name	vCPU	Memory (GiB)	Network (Gbps)	Storage (Mbps)	SAPS
u-12tb1.metal	448	12,288	25	14,000	480,600
u-9tb1.metal	448	9,216	25	14,000	480,600
u-6tb1.metal	448	6,144	25	14,000	480,600
x1e.32xlarge	128	3,904	25	14,000	131,500
x1.32xlarge	128	1,952	25	14,000	131,500
x1.16xlarge	64	976	10	7,000	65,750
r4.16xlarge	64	488	10	7,000	76,400
r4.8xlarge	32	244	10	7,000	38,200
x1e.16xlarge	64	1,952	10	7,000	32,875
x1e.8xlarge	32	976	Up to 10	3,500	32,875
x1e.4xlarge	16	488	Up to 10	1,750	16,437
x1e.2xlarge	8	244	Up to 10	1,000	8,219
x1e.xlarge	4	122	Up to 10	500	4,109
r5.24xlarge	96	768	25	14,000	135,230
r5.12xlarge	48	384	Up to 10	7,000	67,615
r5.4xlarge	16	128	Up to 10	3,500	22,538
r5.2xlarge	8	64	Up to 10	3,500	11,269
r5.xlarge	4	32	Up to 10	3,500	5,535
r5.large	2	16	Up to 10	3,500	2,817

SAP HANA HA / DR on AWS

Option 5 - EC2 Auto Recovery & Multitier HSR with Preload (Hot Standby and out-of-region DR)



a ASYNC HANA System Replication
Without
Preload Option



SAP Migration Journey

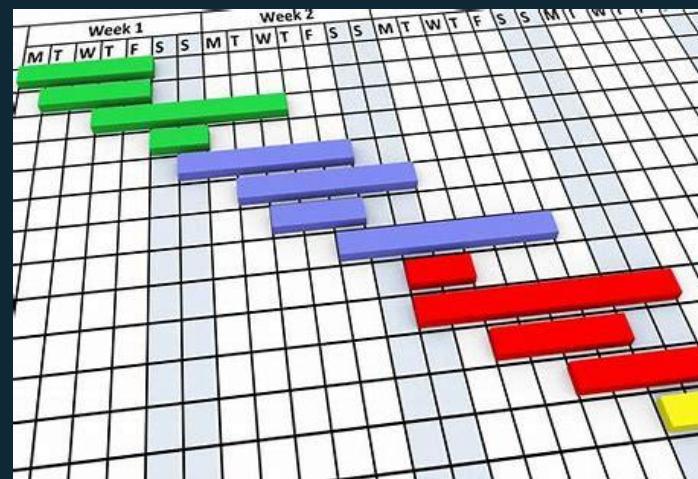


Programs and Resources to Accelerate the Journey

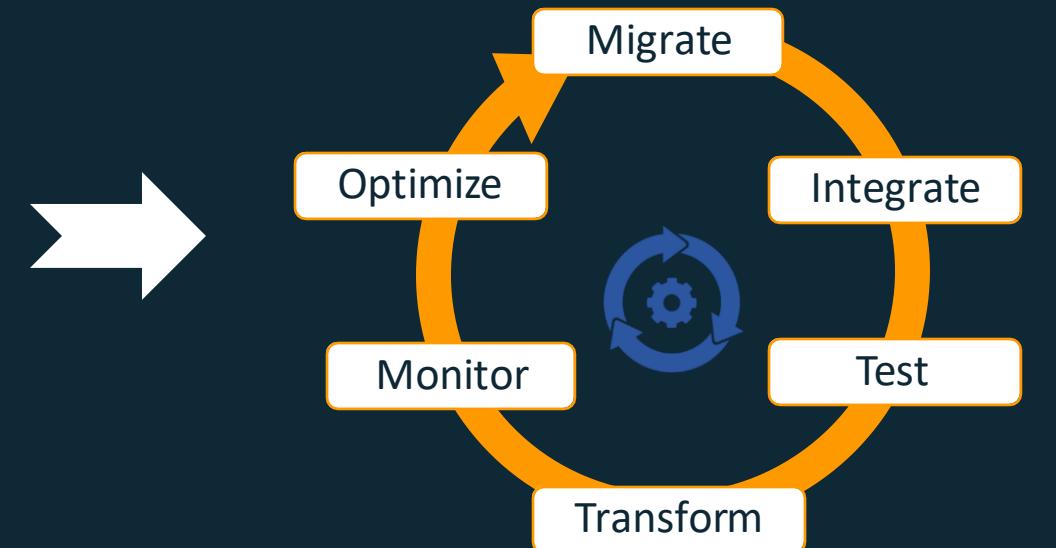
MIGRATION READINESS ASSESSMENT (MRA)



MIGRATION READINESS & PLANNING (MRP)



MIGRATIONS & OPERATIONS



- AWS ProServe SAP Discovery Workshop
- AWS or Partner led Proof of Concept (POC)
- Partner Led Advisory Services
- AWS ProServe SAP Accelerator or Go Live Assessment Services
- SAP Quick Starts
- Partner Led SAP Assessment and/or Migration Planning Services
- Migration Acceleration Programs
- SAP Competency Partners

SAP Migration Workshop Components

The SAP Migration Workshop is modular so it can be tailored for to meet your specific needs and consumption preferences. The key workshop modules are:

SAP Immersion Day

Provides a basic understanding of SAP on AWS capabilities, use cases, and benefits

SAP Discovery

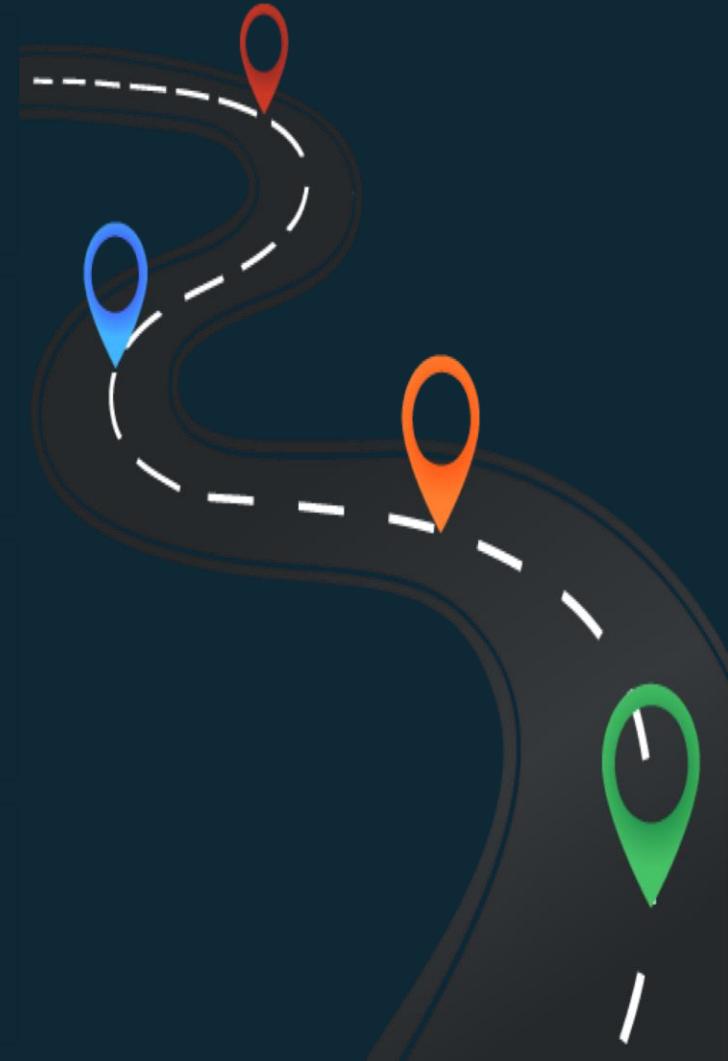
Collects your: priority use cases and outcomes, SAP solutions and databases, sizing and architectural considerations for your technical environment, and partner engagement plans and preferences

SAP Migration Readiness Assessment

Identifies key areas to address to prepare for successful migration and operation of SAP workloads on AWS

SAP Advisory Services

Provides SAP migration strategy and architecture recommendations and suggests initial projects to start the migration journey



SAP Competency Partners

Partners with both SAP and Migration Delivery Competency



Partners with SAP Competency Only

