SAP on AWS
Move, Run, Optimize & Beyond

SAP Basis on the move – get ready for 2027

June 15th 2022

Stig Skaugvoll
Sr. Partner Development Specialist – SAP
skastig@amazon.nl

Benjamin Houttuin
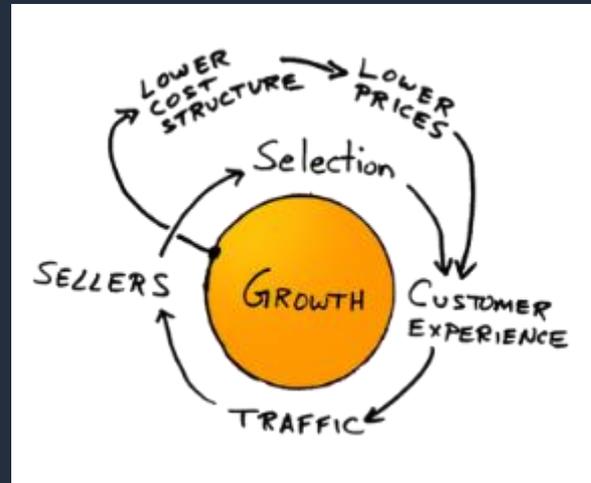Sr. Partner Solutions Architect – SAP
benhou@amazon.nl

Who we are

Amazon strives to be Earth's most customer-centric company!

Amazon is guided by four key principles:

1. Customer obsession
2. Passion for invention
3. Commitment to operational excellence
4. Long-term thinking
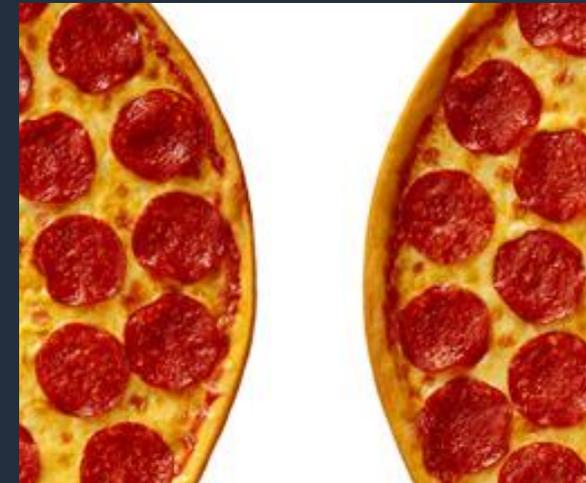
aws

Amazon's peculiar culture of innovation

Customer obsession

Delight customers by working backwards from their needs

Think big, fail fast

Embrace invention, failure and re-invention

Two pizza teams

Drive ownership and business velocity by keeping teams small

High-velocity, two way door decision making

Stay agile by making decisions that can be reversed

aws

"There is no compression algorithm for experience."

CEO Amazon, Andy Jassy

aws

5000+ SAP customers across industries and geos trust AWS

HEALTHCARE & LIFE SCIENCES

moderna · Cerner · Bayer · Thermo Fisher SCIENTIFIC · Bristol Myers Squibb · vyaire MEDICAL · CHANGE HEALTHCARE

ENERGY & NATURAL RESOURCES

bp · PHILLIPS 66 · ENGIE · Origin · Contact · HUDBAY · seaco · Northern Gas Networks · PETRONAS · TIDEWATER · Newmont · e·on

RETAIL & CONSUMER GOODS

PELOTON · zulily · UNIQLO · Fender · Zappos.com · Delivery Hero · zalando · BOSE

MEDIA & ENTERTAINMENT

deluxe · MGM · NHL · LIONSGATE · twitch · LIVE NATION · HEARST · RAZER · Fairfax Media

PUBLIC SECTOR & DEFENSE

NS2 · LOCKHEED MARTIN · US NAVY · MAGELLAN AEROSPACE · Sab · CAMBRIDGE UNIVERSITY PRESS · HOOPP

AUTOMOTIVE & TRANSPORTATION

VW · LAMBORGHINI · LAND-ROVER · TATA MOTORS Connecting Aspirations · FCA FIAT CHRYSLER AUTOMOBILES · KARMA · DB · BMW GROUP · JAGUAR

MANUFACTURING & INDUSTRIAL

SIEMENS · GE · INVISTA · Schneider Electric · KOMATSU · Garrett ADVANCING MOTION · HOYA · JABIL · SUMITOMO CHEMICAL

AGRICULTURE, CPG, & FOOD/BEV

Dole · rbi restaurant brands international · Kellogg's · SWIRE COCA-COLA · TATA CONSUMER PRODUCTS · Royal Flora Holland · CHS · Ferrara · GROWMARK · CCI · Sysco · E&J Gallo Winery

PROFESSIONAL/ FINANCIAL SERVICES

Liberty Mutual · MassMutual · pitney bowes · Edelweiss Ideas create, values protect · nationale nederlanden · CITCO · medibank · usg people · XINJA

TECHNOLOGY

Infosys · lemongrass · TIBCO · HP, Inc. · CSS CORP · L&T Infotech · msg · bizzy digital · SAP
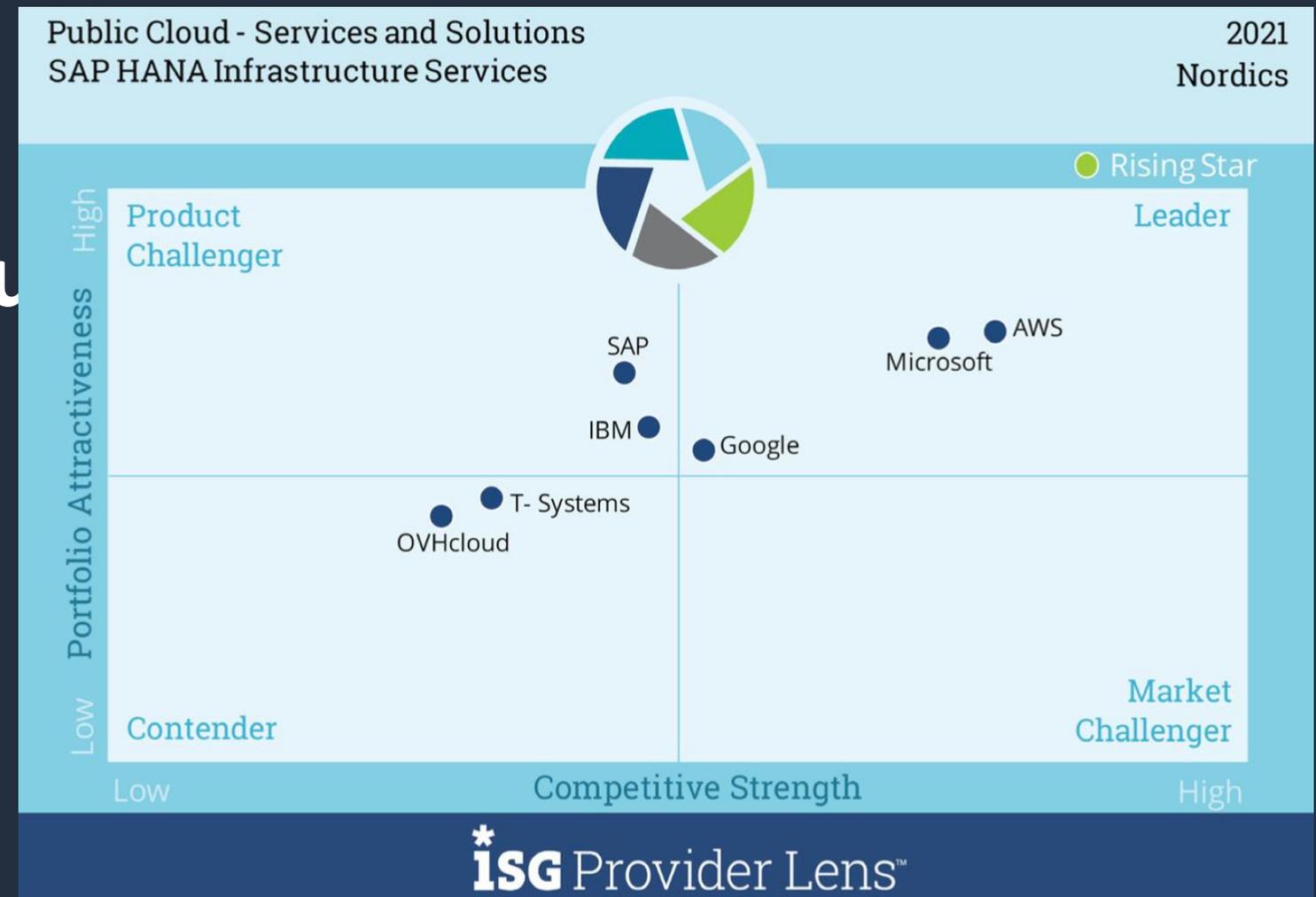
aws

AWS leads HANA Infrastructure Services

ISG recognizes AWS as a leader for the fourth consecutive year

NORDICS

AWS Recognized as a Leader in SAP HANA Infrastructu Services

"AWS has transformed its SAP HANA infrastructure services portfolio with numerous instances and bare metal services. The firm has onboarded large clients across verticals in the region."

Public Cloud - Services and Solutions
SAP HANA Infrastructure Services

2021
Nordics

Rising Star
Leader
Product Challenger
Portfolio Attractiveness
High
Low
SAP
IBM
Google
Microsoft
AWS
T- Systems
OVHcloud
Contender
Market Challenger
Low
Competitive Strength
High

iSG Provider Lens™

aws

Fresh from the Press – IDC Survey, June 2022

Cloud Transformation ....

Cloud solutions offer the opportunity to build more resilient IT environments, which is a key challenge for companies in geopolitical unstable situations.

The war in Ukraine may shift the approach of European companies to cloud and strengthen cloud investment. The impact will differ depending on geographic proximity to the conflict.

Source: IDC Ukraine Conflict Resource Center

IDC

© IDC | 16

Fresh from the Press – IDC Survey, June 2022

Focus Shifting to Cost Savings

Category	Percentage
Cost savings	40%
Employee productivity	30%
Profits	28%
Customer satisfaction	25%
Innovation	25%
Sustainability	25%
Revenue	23%
Operational efficiency	20%
Less business risk	20%
Less time to market	18%
Business agility	18%
Business resilience	8%

IDC
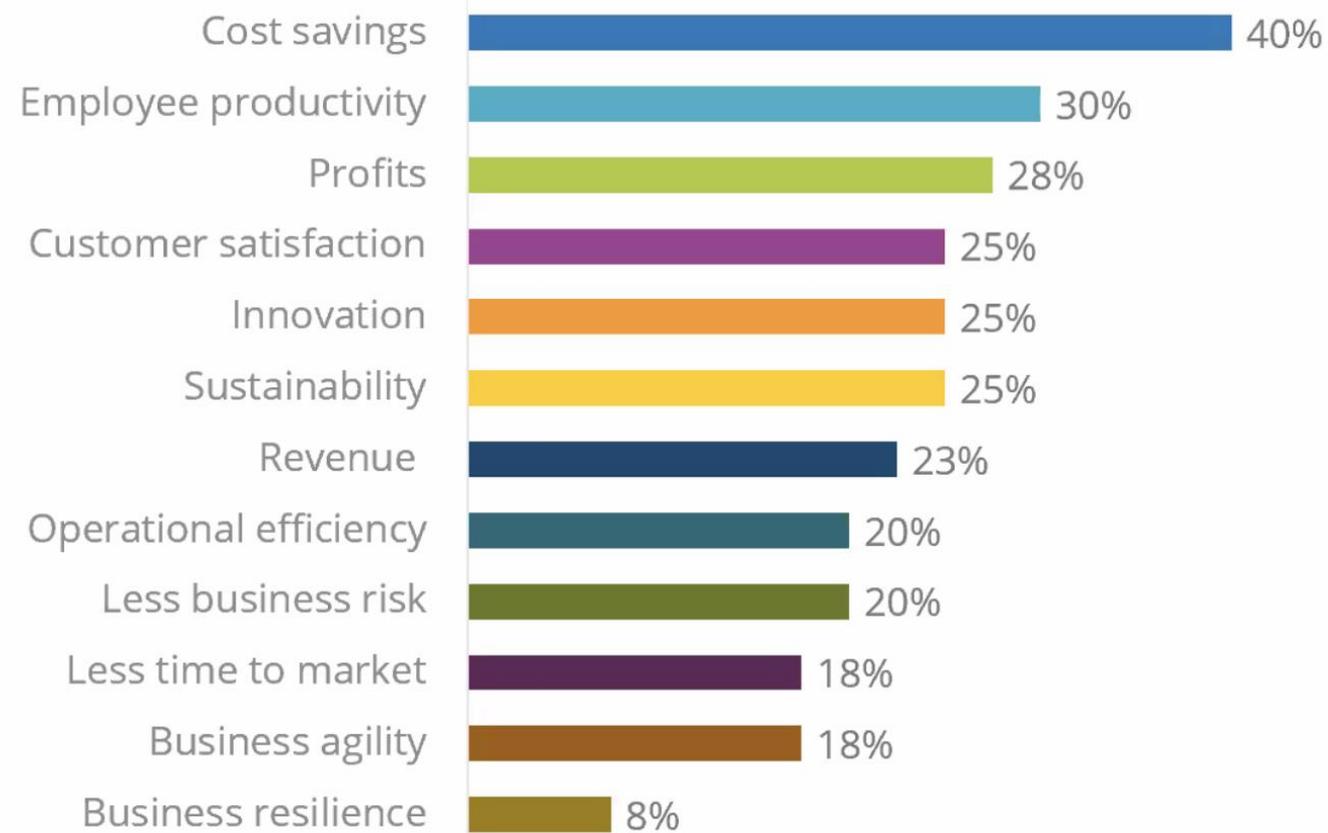
Source: IDC, Enterprise Resilience Survey, April 2022

© IDC | 26

aws

What is expected from IT Ops?

IT Ops is Expected to Drive Cost Savings

- IT operations leader(s) — 33%
- Senior IT executive — 18%
- Chief Executive Officer — 13%
- Financial executive — 10%
- Business ops. executive — 10%
- IT Financial ops. leader(s) — 10%
- Procurement leader(s) — 8%

IDC
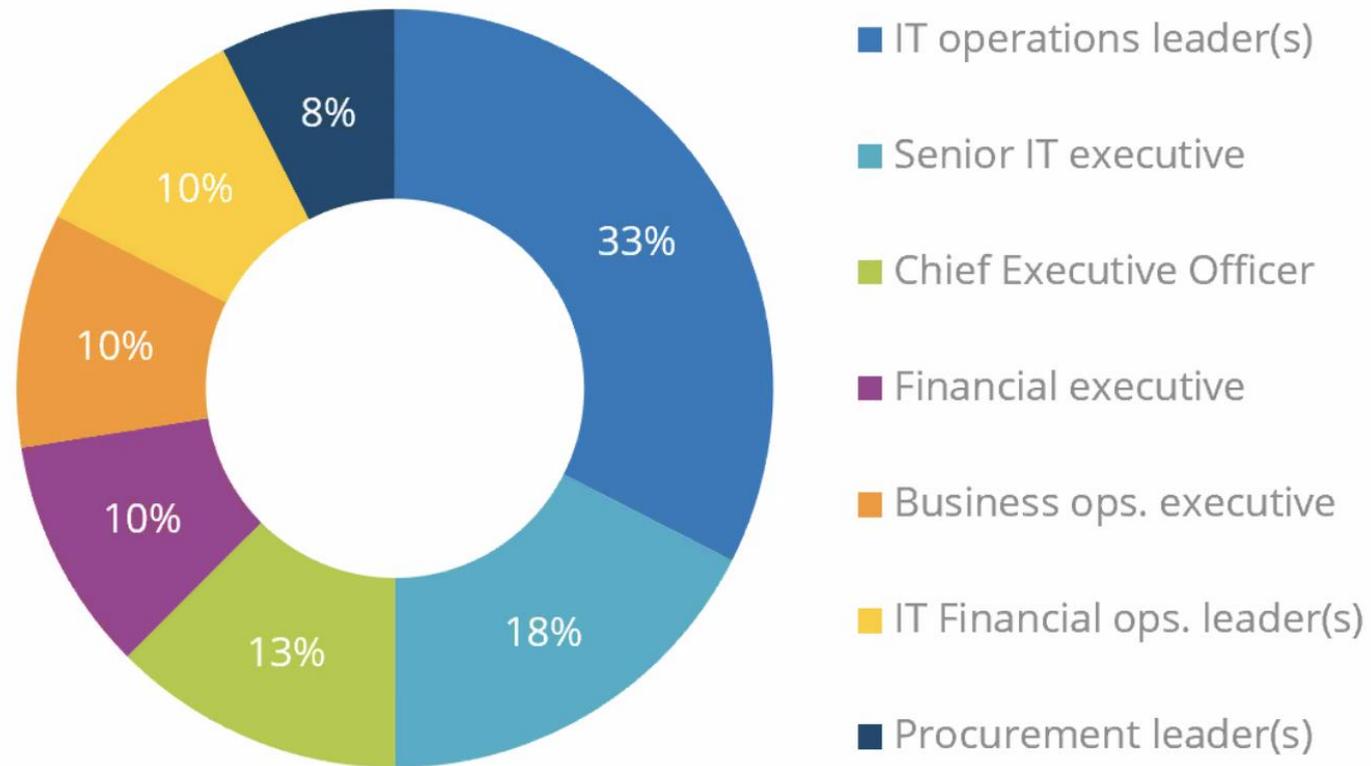
Source: IDC, Enterprise Resilience Survey, April 2022

© IDC | 27

aws
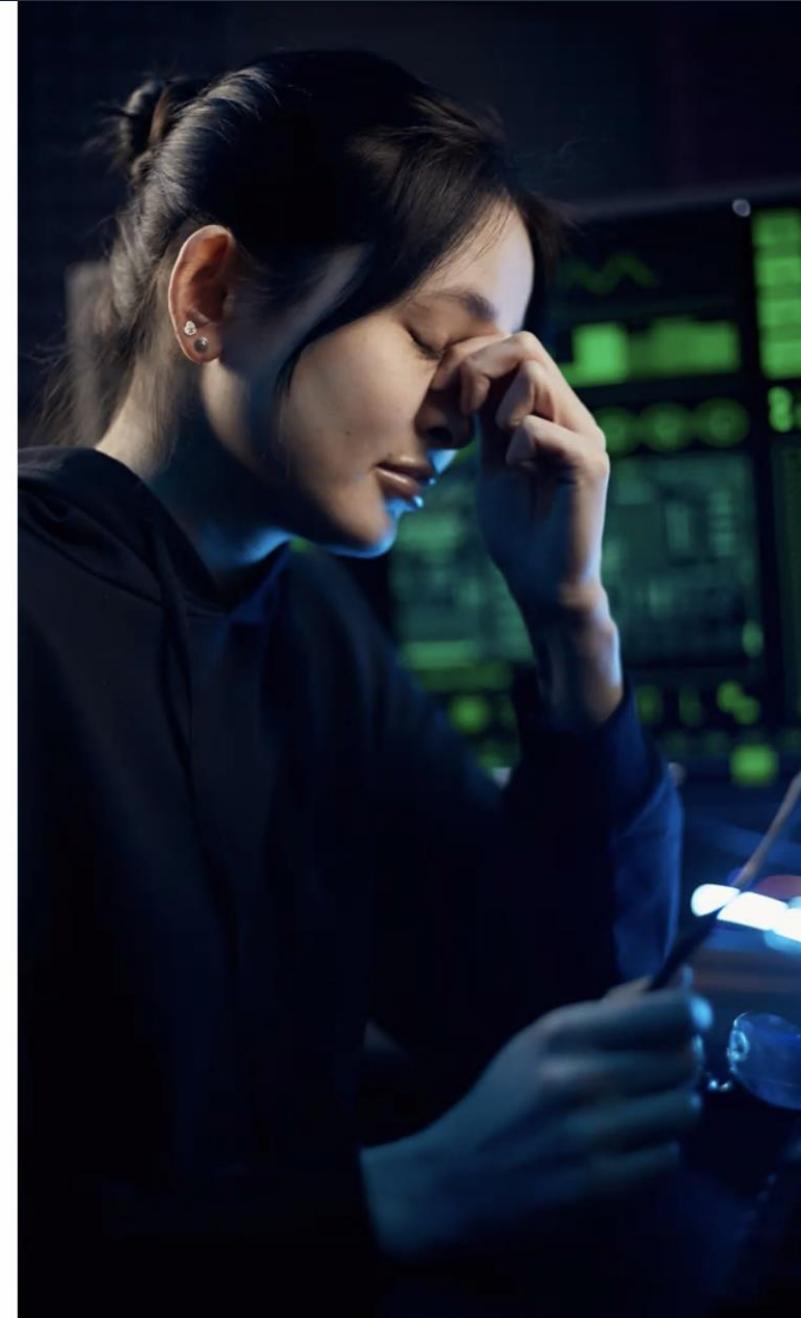
Who has ever used, installed, upgraded, patched or configured a SAP Netweaver Enterprise Portal?

aws

Who works for a company that positions SAP Netweaver Enterprise Portal as their primary/main front-end strategy?

aws

Introduction - Benjamin Houttuin

Sr. Partner Solutions Architect – SAP

- EMEA SI & GSI PSA Team
- BeNeLux / Nordics (supporting: Italy / Iberia / DACH)

- BSc Computer Science
- 18+ years IT
- 16+ years SAP
- Technology, Integration, Security, Automation, Front-End
- Architecture, Consulting, Training, Coaching, Enablement
- benhou@amazon.nl | +31 (0)6 21 345 523

Agenda

- BIG examples
- AWS Global Infrastructure
- SAP on AWS: how it is different?
- What customers ask & SAP BASIS of the future
- Training and enablement for SAP on AWS
- Q&A

aws

BIG examples

EPIC GAMES

Previously Potomac Computer Systems

Unreal

1991 –1999

Unreal Tournament

Jazz Jackrabbit

ZZT Ships

Gears of War Series

2006 –1999

Infinity Blade

FORTNITE

ROBO RECALL

2012–2018

BATTLE BREAKERS

SPYJINX
BECOME THE ULTIMATE MASTERMIND

aws

200M+ players

8.3 MILLION concurrent players

FORTNITE

aws

Analytics pipeline stats

REAL-TIME INGESTION

125M events/minute

79B events/day

61GB/minute of data at peak

DATA WAREHOUSE

>35 petabytes

5PB of data per month

MANAGED CLUSTERS

8K+ batch ETL jobs/day

22 EMR clusters in prod

4000+ EC2 analytics instances

aws

Transition from a developer of games, to becoming a full online publisher

Amazon ECS	Amazon ElastiCache	
Amazon Athena	Amazon Elasticsearch Service	
Amazon CloudFront	Amazon GuardDuty	
Amazon DynamoDB	Amazon Kinesis	
Amazon EBS	Amazon EKS	
Amazon EC2	Amazon RDS	
Amazon EFS	Amazon Aurora	
Amazon EMR	Amazon Route 53	

All in on AWS

Amazon SES	AWS CloudTrail
Amazon SNS	AWS Device Farm
Amazon SQS	AWS KMS
Amazon S3	AWS Lambda
AWS Trusted Advisor	AWS Shield
Amazon VPC	AWS Storage Gateway
AWS Certificate Manager	AWS Support
AWS CloudWatch	AWS WAF

The U.S. Navy migrated its largest SAP ERP system to AWS GovCloud

6 U.S. Navy commands, 72,000 users, $7B worth of parts and goods

Increased data protection

50% reduction in expected migration time
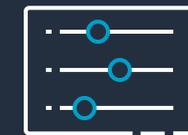
Reporting time reduced from 5 hours to 0.5 hours

Highly scalable infrastructure

"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

aws

Deeper Insights with Hybrid Data Architecture

"

We have **increased the value of our SAP systems by integrating SAP with AWS technologies** because we can steer the business in near real time.

"

Yuriy Volosenko
Director for Enterprise Applications and Architectures
Zalando

zalando

30% Reduces cost of insights

30% Cuts maintenance time

Zalando combines SAP with AWS Glue, Amazon Redshift, Amazon Athena, and an Amazon S3 data lake for transactional and analytical data reports that track business performance.

aws

AWS Global Infrastructure

aws

AWS global infrastructure - architected for availability

AWS offers 2x more regions with multiple AZs than the next closest cloud provider

AWS Regions

AWS Regions are physical locations in the world where we have multiple AZs

AWS AZs

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

— Region and number of AZs

Announced regions (8)
Australia, India, Indonesia, Israel, New Zealand, Spain, Switzerland, and United Arab Emirates (UAE).

26 Regions | 84 AZs | 410+ PoPs

aws

AWS Availability Zone (AZ) design

- Fully isolated infrastructure with one or more datacenters
- Meaningful distance of separation
- Unique power infrastructure
- Many 100Ks of servers at scale
- Datacenters connected via fully redundant and isolated metro fiber
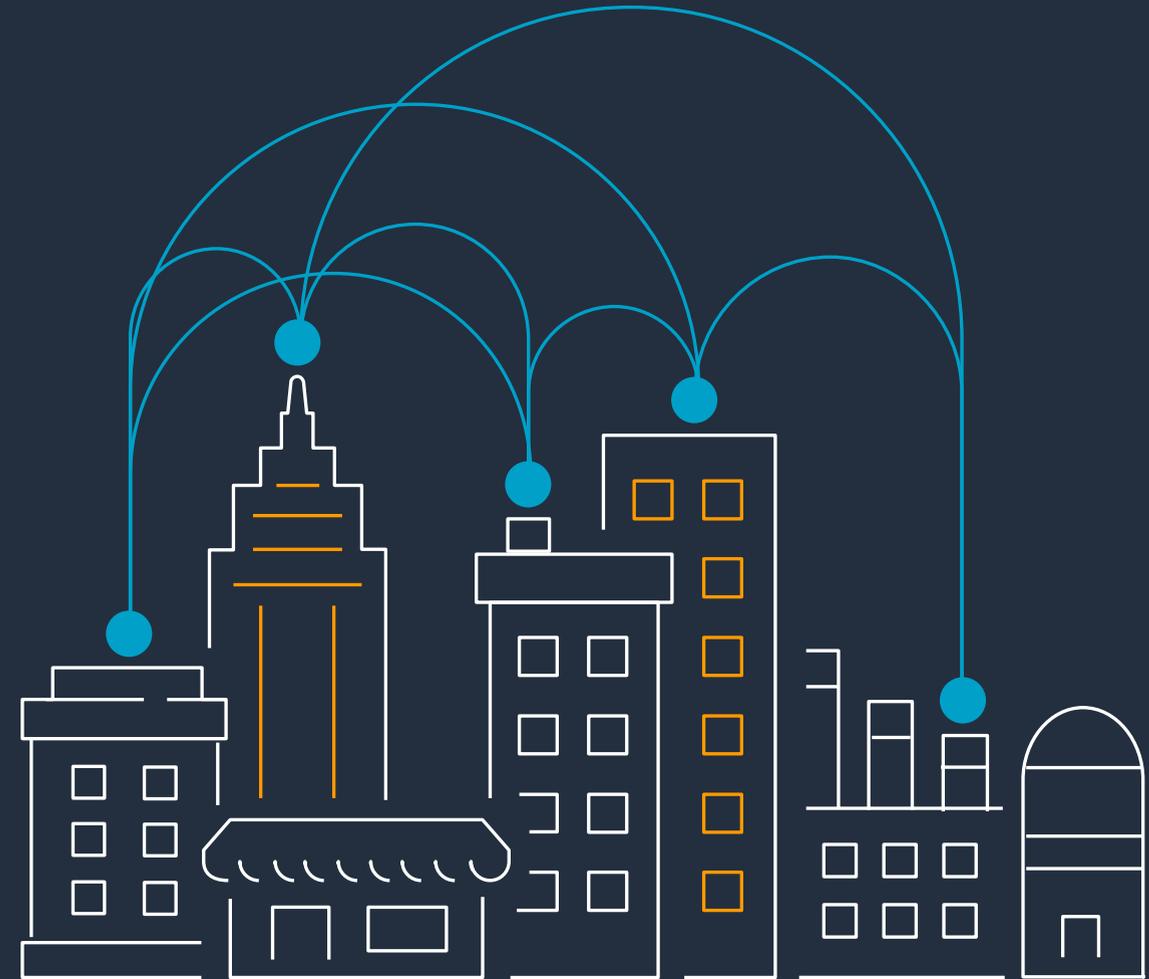
aws

AWS Datacenters

HEAT

NETWORK

DIRECT EVAPORATIVE COOLING & FREE-AIR COOLING SYSTEMS

HIGH CAPACITY NETWORK

CENTRALIZED STORAGE

DECENTRALIZED UPS

AC

DC

TOP OF RACK SWITCH

TOP OF RACK SWITCH

Idle instances

Running instances

LOWER CARBON INTENSITY POWER IN

aws
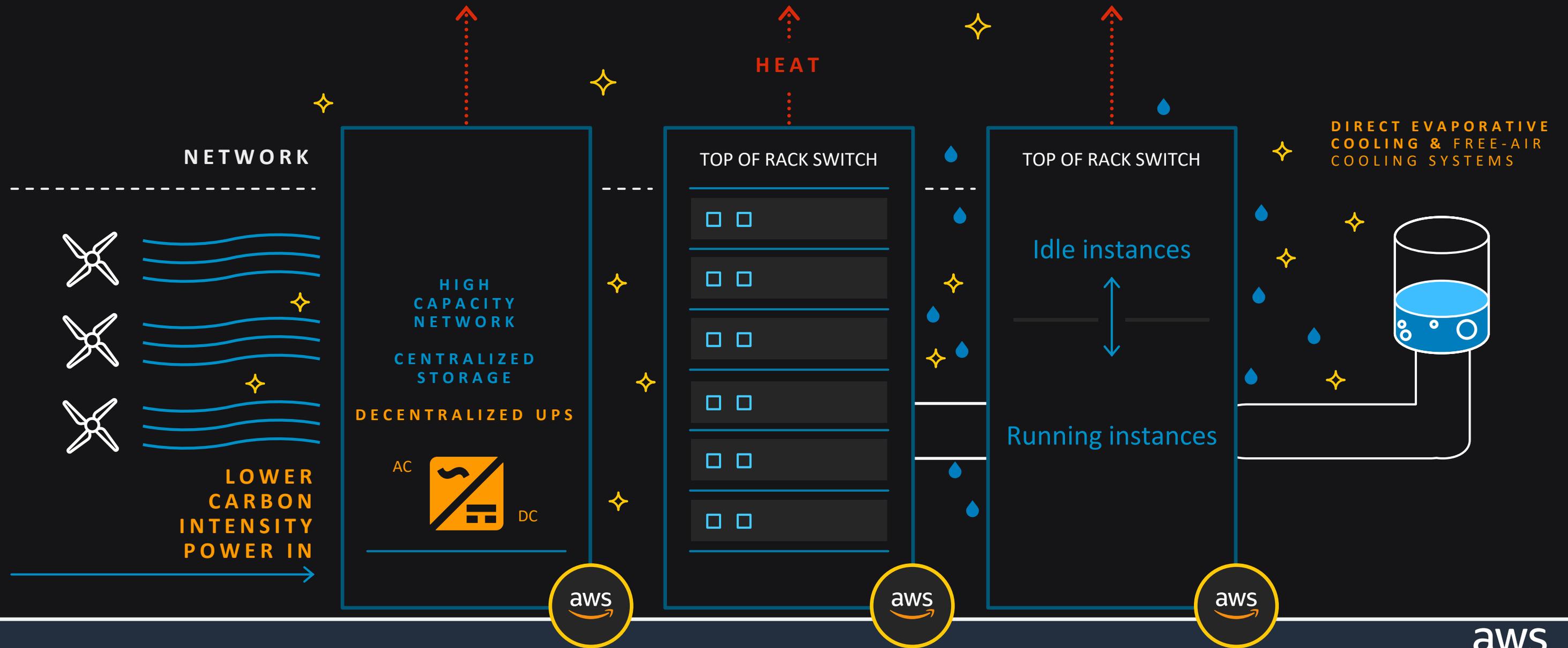
Figure 1: Magic Quadrant for Cloud Infrastructure and Platform Services

Gartner recognizes AWS as Leader for 11ᵗʰ straight year

Positioned highest and furthest in the 2021 Gartner Magic Quadrant for CIPS Leaders quadrant for its ability to execute and completeness of vision

aws

SAP on AWS

how it is different?

14 years of customer-obsessed innovation

An unparalleled track record of **industry firsts** for SAP in the cloud

2008
SAP starts using AWS

2011
AWS and SAP certify infrastructure

2012
Customers leverage AWS for production SAP deployments

2012
SAP HANA in production

2013
SUM Database Migration Option

2013
AWS SAP Partner Competency Program

2013
SAP NS2 on AWS GovCloud

2014
Deployment automation for SAP HANA

2016
Purpose-built infrastructure for SAP HANA

2017
High Memory Instances 4TB

2017
ProServe SAP Specialty Practice

2018
High Memory Instances 6/9/12TB

2019
High Memory Instances 18/24TB

2020
Wizard-based deployment automation

2020
R5B: up to 260k IOPS per instance

2021
Automated SAP software install and HA configuration

aws

SAP Systems Essential Components

Networking Resources
(VLAN, DNS, …)
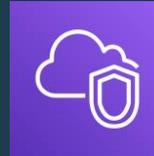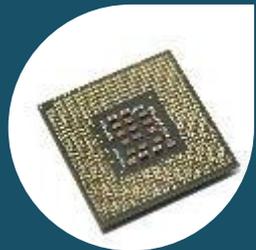
Amazon VPC

AWS Direct Connect
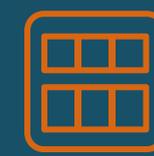
AWS VPN

AWS Transit Gateway

Amazon Route 53

Compute Resources
(Physical or Virtual Machines)

Amazon EC2

Amazon Machine Images

Amazon Elastic Load Balancing

Storage Resources
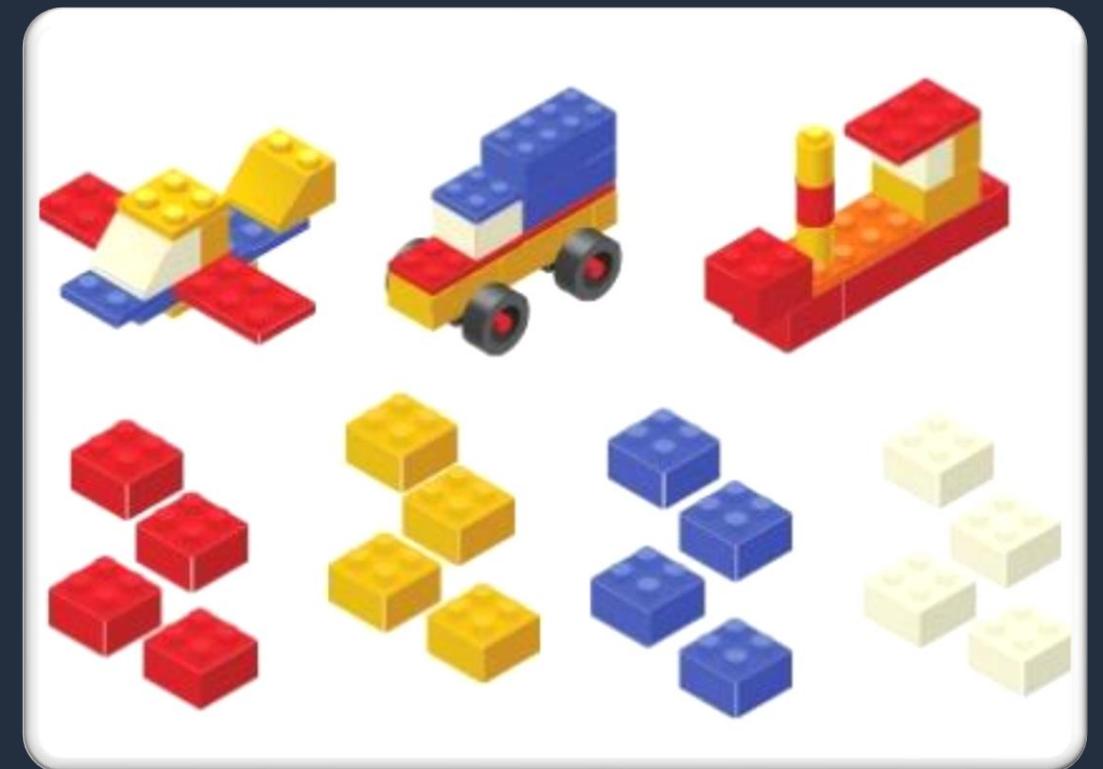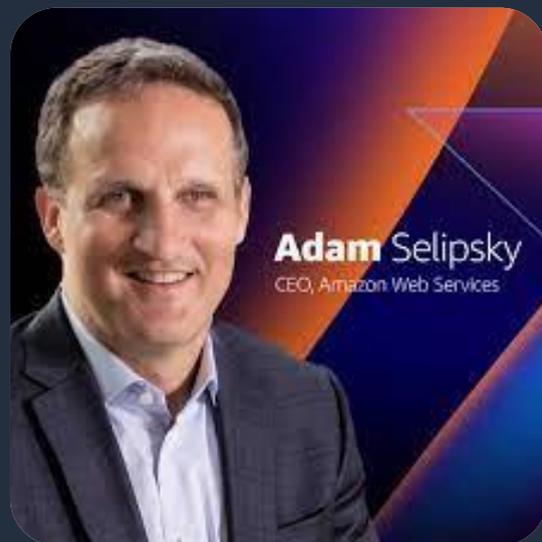(SAN, NAS, Tapes, HDDs, …)
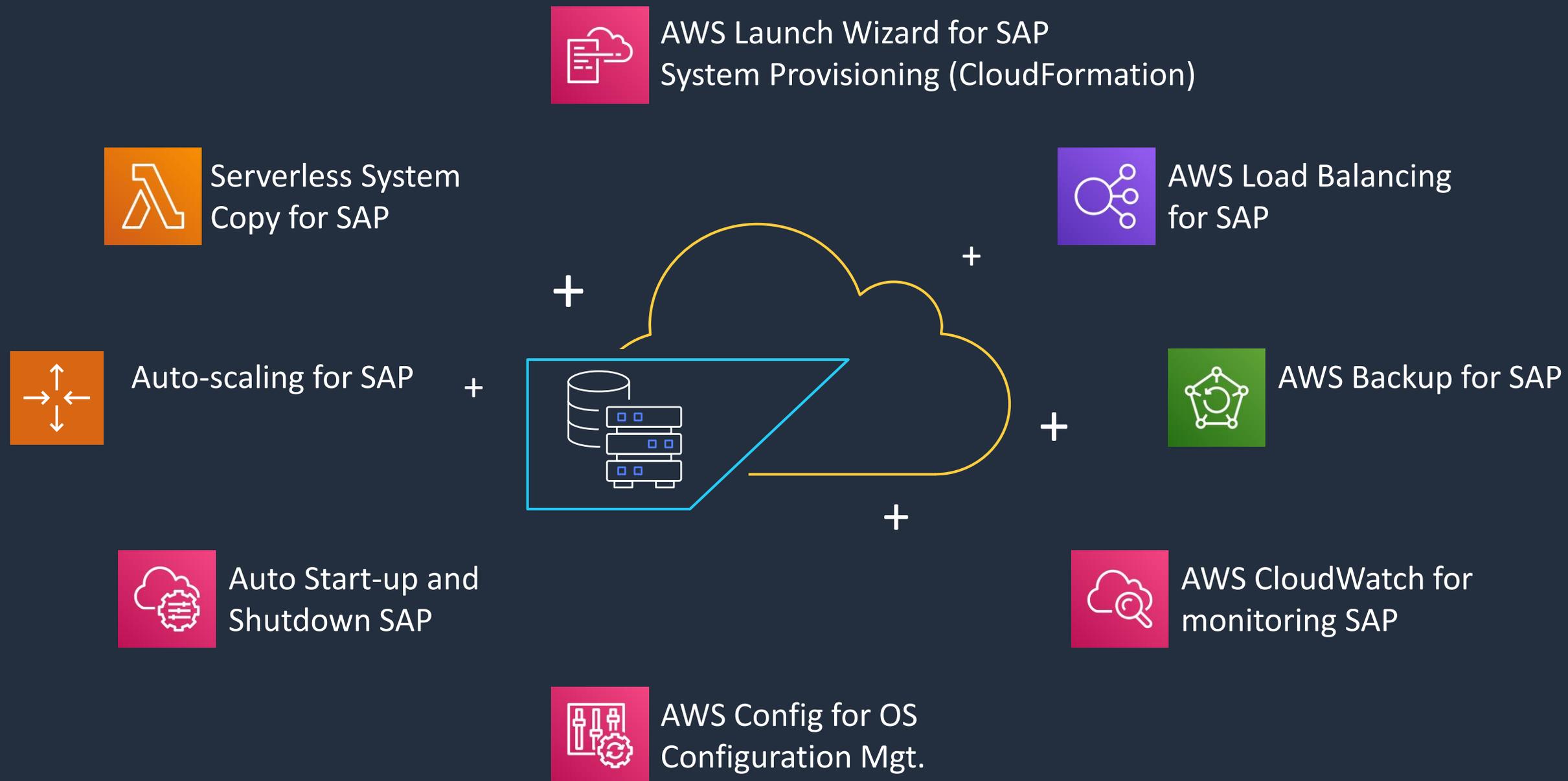
Amazon EBS

Amazon EFS

Amazon FSx

Amazon S3

aws

At AWS, we are builders

"More and more, customers are asking us to provide them with higher-level abstractions on top of AWS services,"
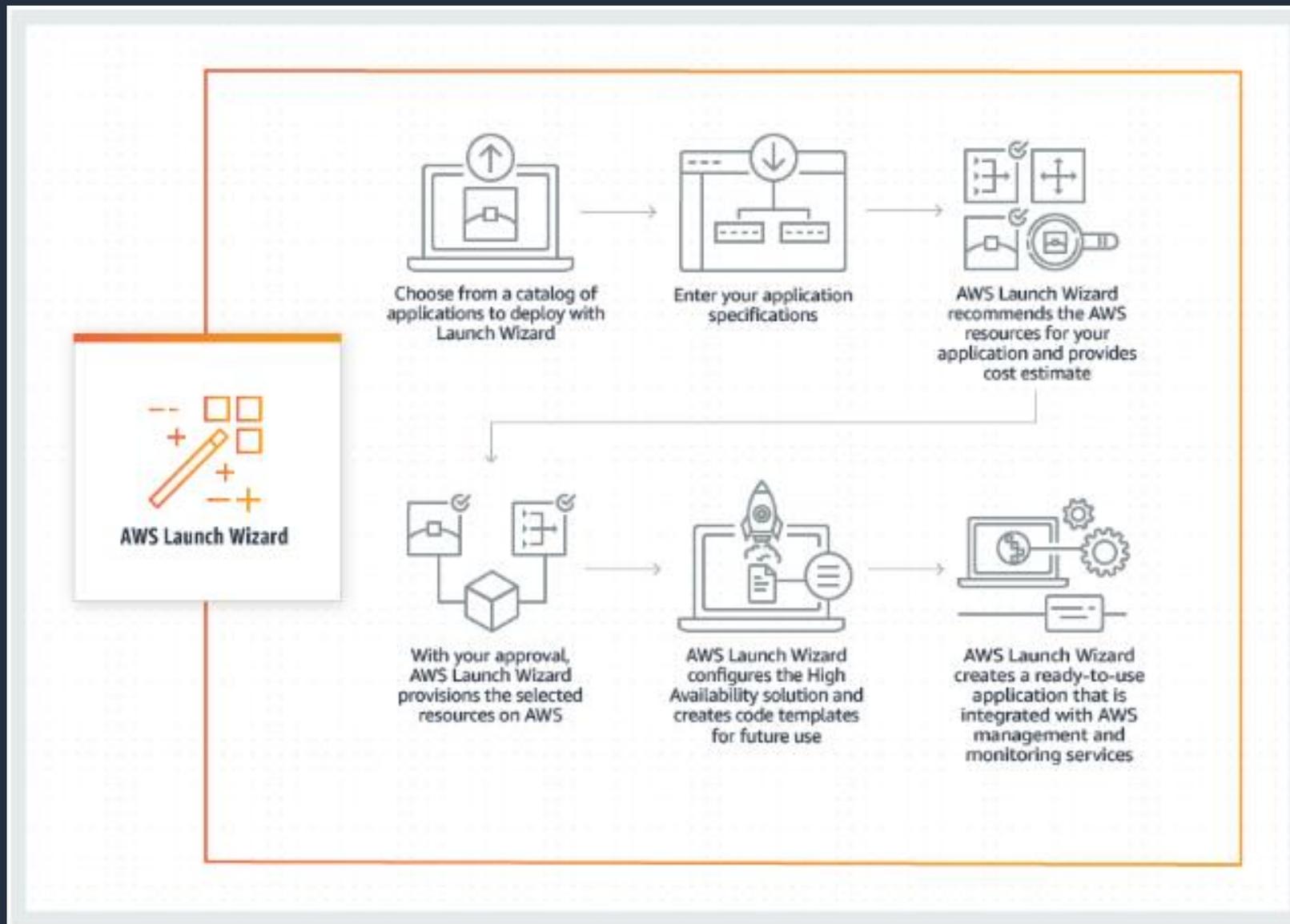
Adam Selipsky – CEO, Amazon Web Services

# SAP on AWS System Provisioning and Management

AWS Launch Wizard for SAP
System Provisioning (CloudFormation)

Serverless System
Copy for SAP

AWS Load Balancing
for SAP

Auto-scaling for SAP

AWS Backup for SAP

Auto Start-up and
Shutdown SAP

AWS CloudWatch for
monitoring SAP

AWS Config for OS
Configuration Mgt.

aws

AWS Launch Wizard for SAP

Wizard based experience to deploy and configure AWS resources for SAP HANA, S/4HANA, and BW/4HANA, following AWS/SAP Best Practices

Choose from a catalog of applications to deploy with Launch Wizard

Enter your application specifications

AWS Launch Wizard recommends the AWS resources for your application and provides cost estimate

AWS Launch Wizard

With your approval, AWS Launch Wizard provisions the selected resources on AWS

AWS Launch Wizard configures the High Availability solution and creates code templates for future use

AWS Launch Wizard creates a ready-to-use application that is integrated with AWS management and monitoring services

Features:

- SAP workload optimized deployment automation

- Aligned with SAP on AWS best practices and SAP certification requirements

- Focus for continuing innovation – multiple new features and updates since launch

- Additional automation flexibility through pre- and post-automation scripts, and Service Catalog integration

- Central place to view SAP deployments

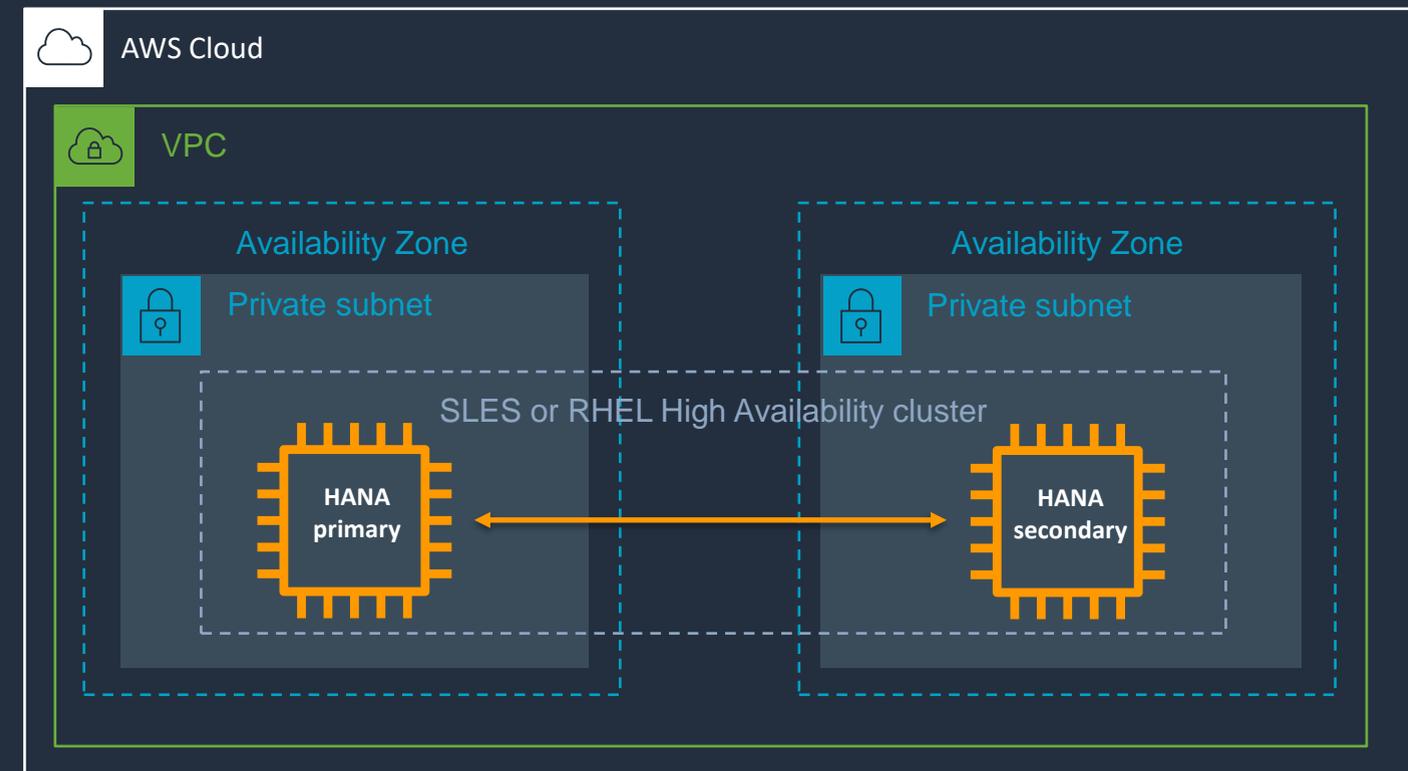- Integrated with Systems Manager and CloudWatch logs

aws

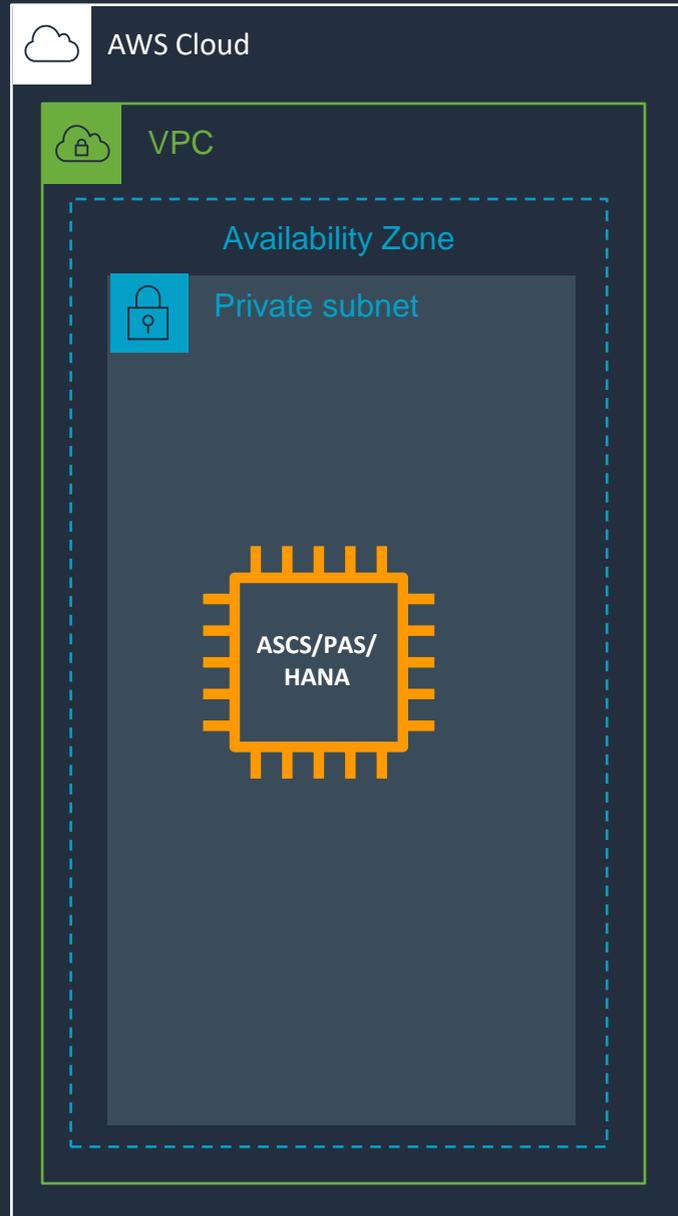# Supported Deployment Models – HANA
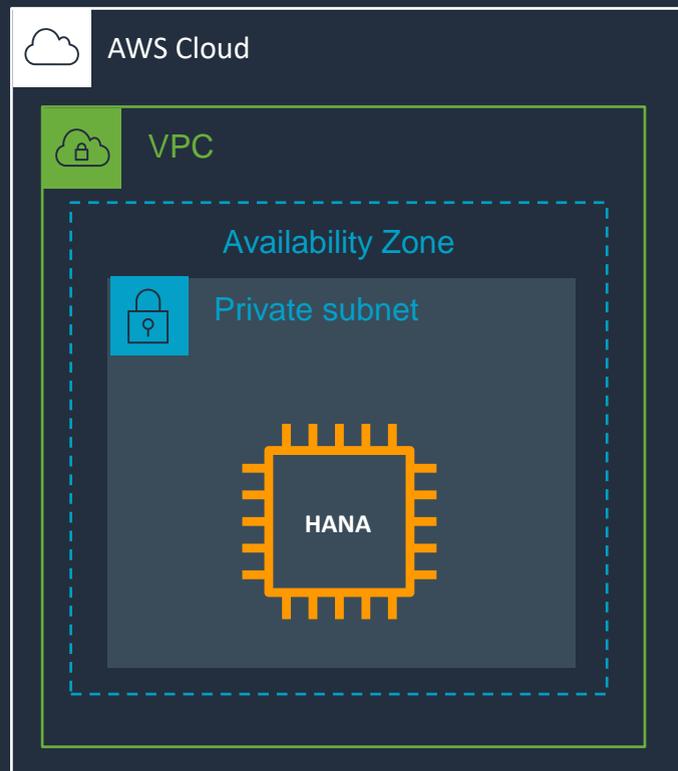
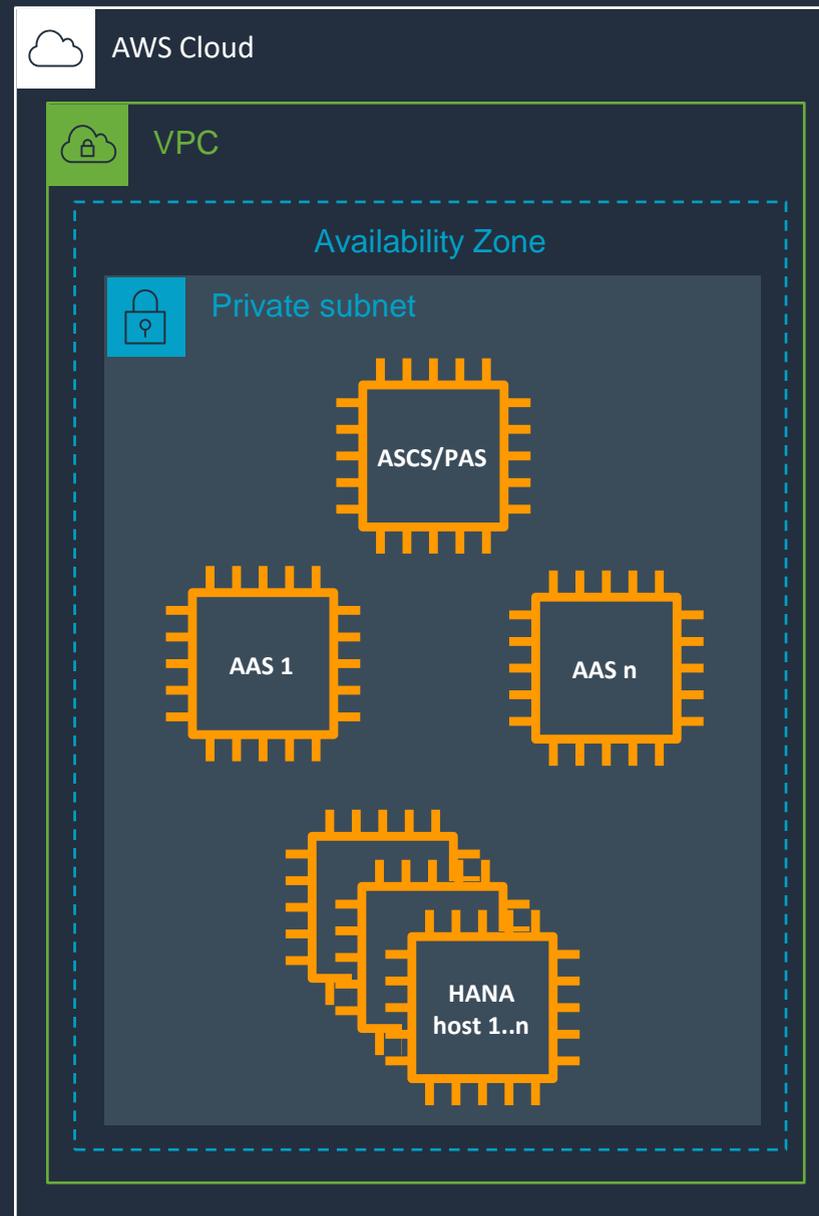Single Node Deployment
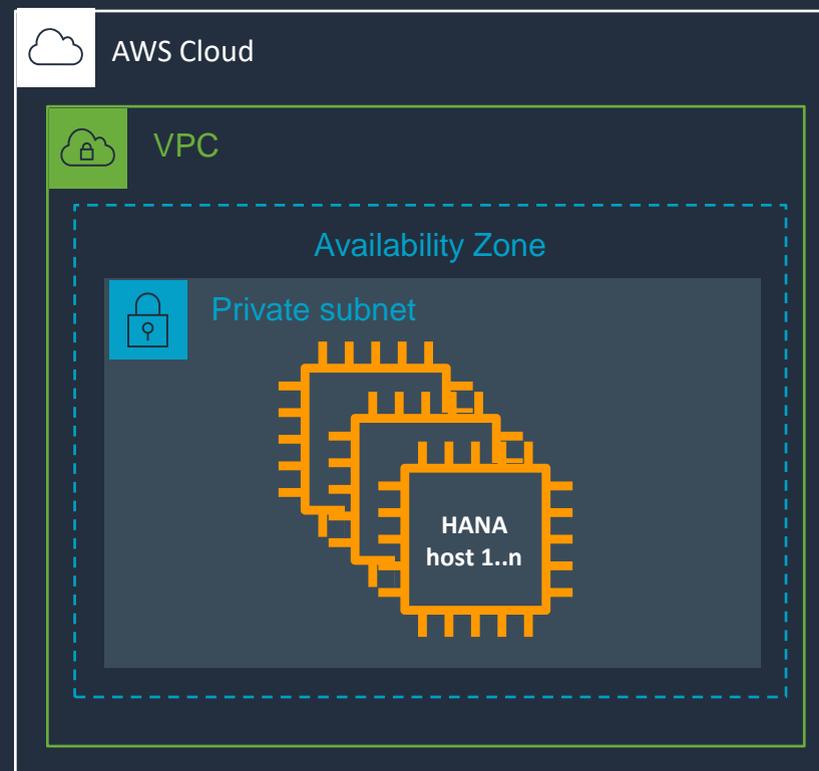
Multi Node Deployment

Cross AZ High Availability Deployment

- HANA Side-Car
- HANA DataMart
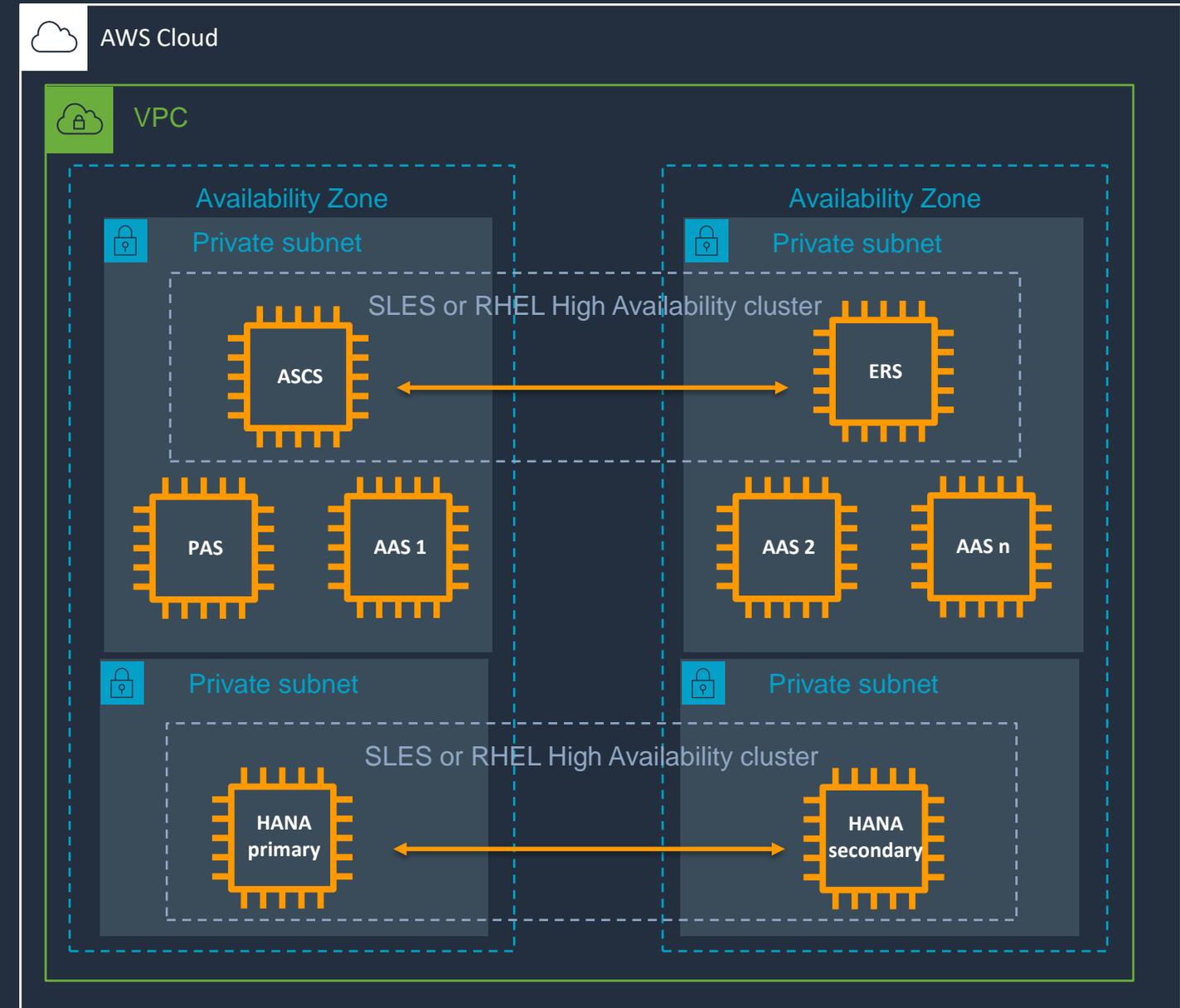- Native HANA Applications

aws

Supported Deployment Models – S/4HANA and BW/4HANA

Single Instance Deployment

Distributed Instance Deployment
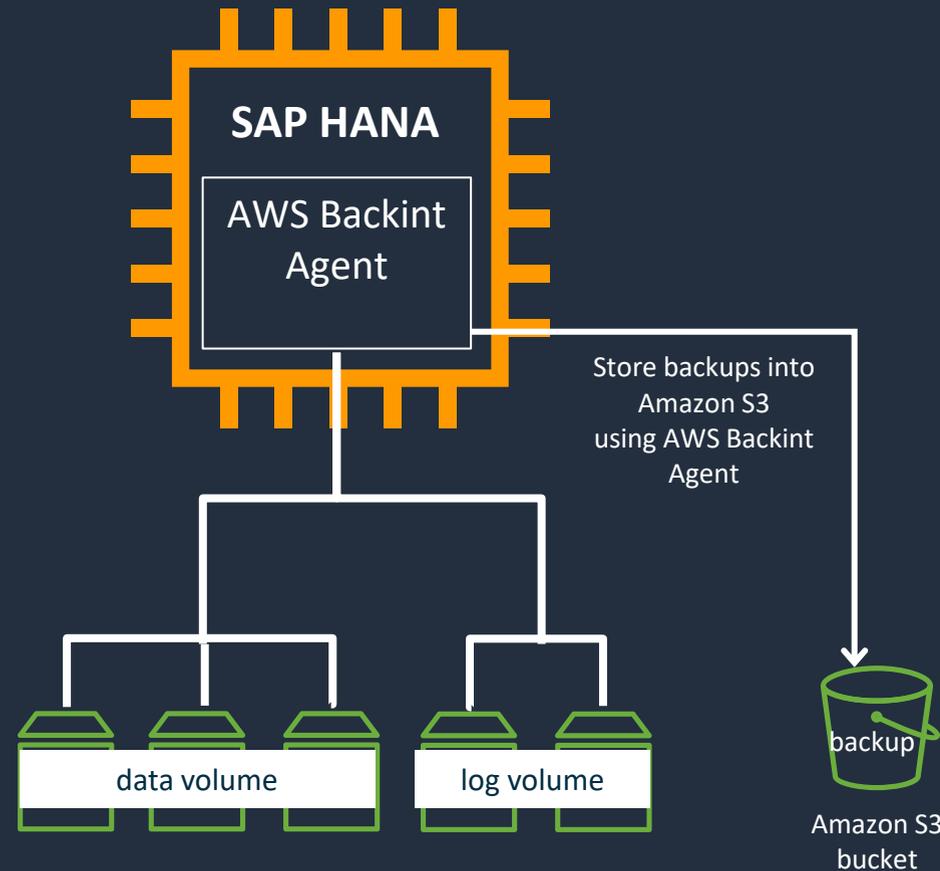
Cross AZ High Availability Pattern

To deploy solutions and run – SAP S/4HANA, BW/4HANA
To deploy infrastructure and run – SAP NetWeaver HANA based applications such as ECC, BW, etc.

AWS Backint Agent – Auto. Deployment and Configuration

Deploy AWS Backint Agent using Launch Wizard, to fully automate your deployments.

Available for all deployment systems and patterns
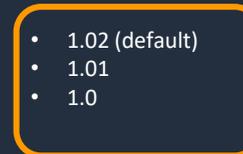
- 1.02 (default)
- 1.01
- 1.0

Choose S3 bucket of choice for saving backups

Encrypt backups using KMS key

Instance role update guidance

Recommend latest Version by default while allowing customers to choose older versions

Optionally provision local EBS backup volumes for file-level backups.
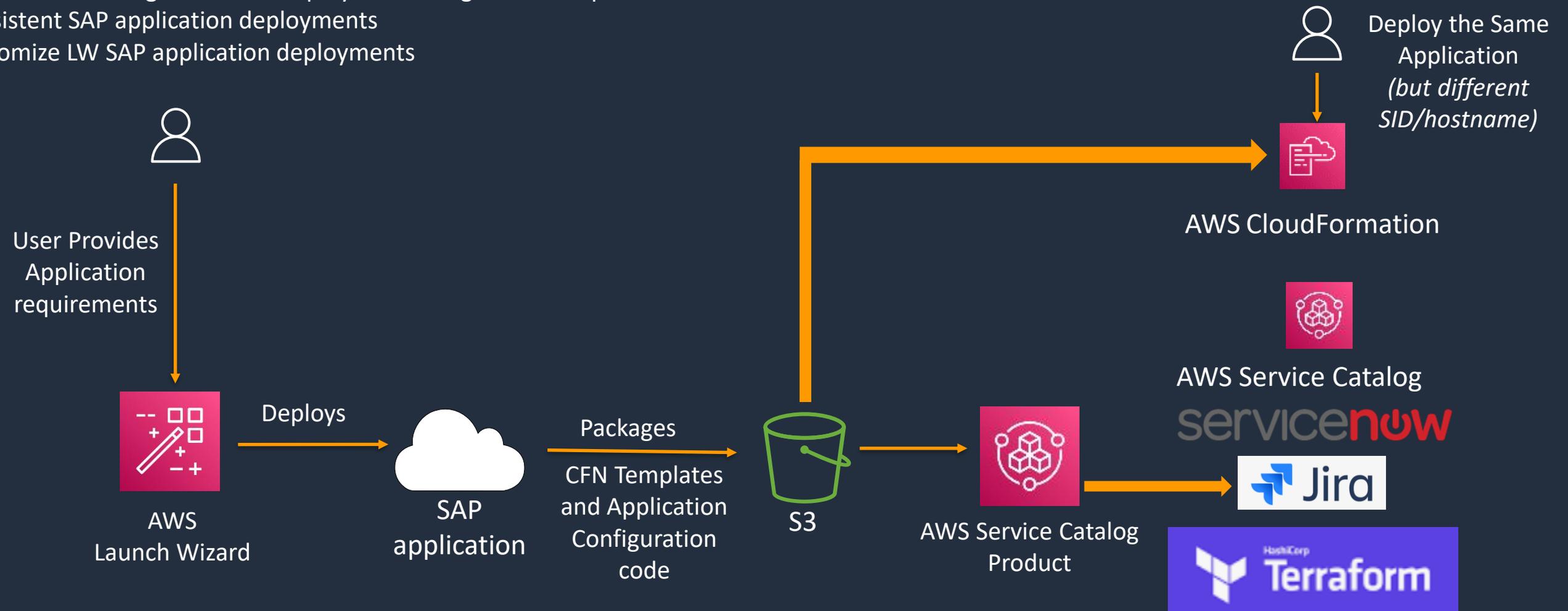
aws

AWS Launch Wizard Feature
Create AWS Service Catalog Product

AWS Launch Wizard packages the AWS CloudFormation templates and application configuration scripts used for the deployment to create a AWS Service Catalog to create a product. These CloudFormation templates and Service Catalog products for repeated deployments

Use Cases:
- Alignment with Organizational deployment and governance policies
- Consistent SAP application deployments
- Customize LW SAP application deployments

Deploy the Same Application *(but different SID/hostname)*

AWS CloudFormation

AWS Service Catalog

servicenow

Jira

HashiCorp Terraform

User Provides Application requirements

AWS Launch Wizard → Deploys → SAP application → Packages CFN Templates and Application Configuration code → S3 → AWS Service Catalog Product

aws

What customers ask & SAP Basis of the future

aws

What customers ask (and expect)

Ability to **Save cost**

Understanding
Security is "Job Zero"

Innovate, **modernize**,
transform
and
Automate

Deliver **Speed** & **Flexibility**

Understanding
Global Infrastructure
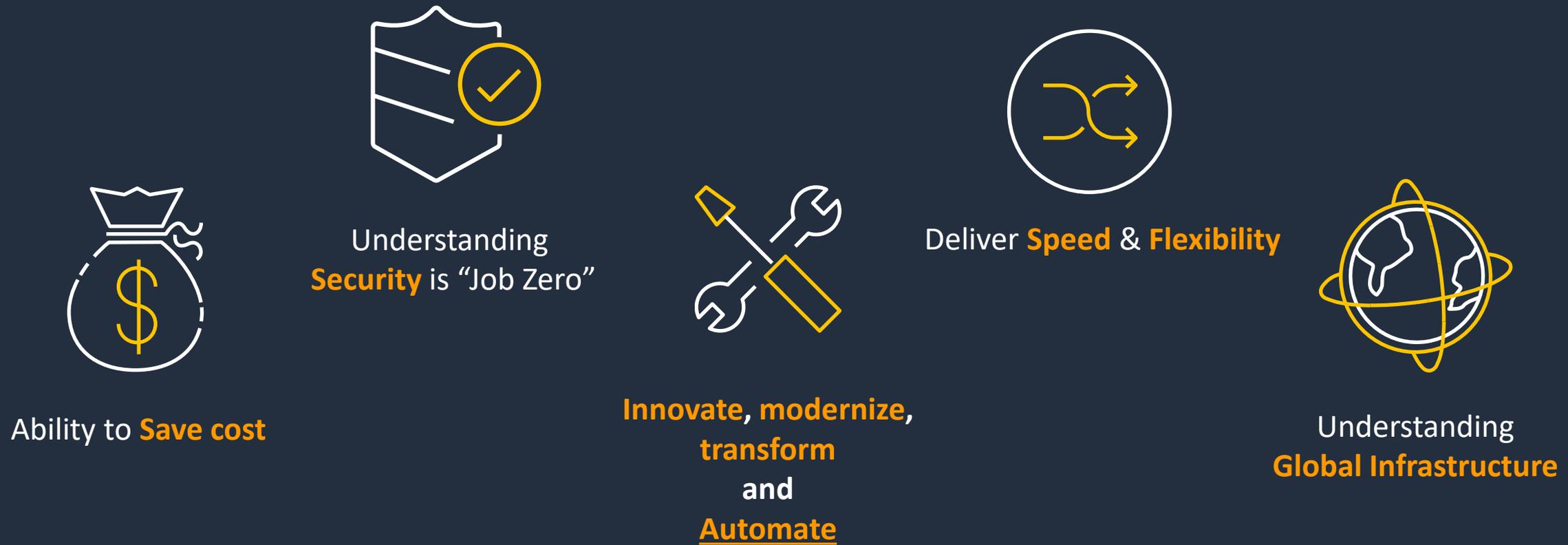
Infrastructure as Code & DevOps capabilities for SAP on AWS

Infrastructure as Code
Automatically manage and provision hardware

INFRASTRUCTURE

EC2

EBS

S3

PROVISIONING

CloudFormation / AWS CDK

Automation
Develop, test and deploy automatically

DEVELOP

Cloud9

CodeCommit

TEST

CodeBuild

DEPLOY

CodePipeline

CodeDeploy

Monitoring and Security
Keep your application performant and secure

SECURITY

IAM

Security Groups

MONITORING

CloudWatch

Automation requires no infrastructure to manage - services scale automatically
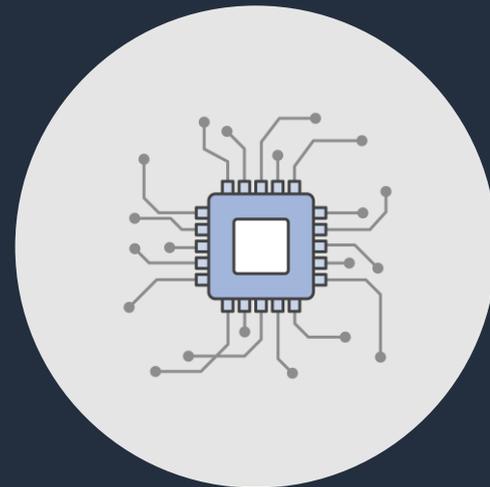
Industry standards such as Git are supported

Fully secured by AWS

aws

Five Pillars of innovations for SAP on AWS

2. Apps & APIs

3. Internet of Things (IoT)

4. Data & Analytics

5. AI/ML

1. IaC + DevOps

Compute

Network

Storage

SAP Basis 'traditional'

SAP Beyond offerings

Industries	Line of business	Digital transformations		Data and analytics	AI/ML	IoT	Apps and APIs	DevOps
Beyond for business				Beyond for technology				

SAP Beyond Infrastructure

SAP core offerings

SAP ECC	SAP Suite on HANA	SAP S/4HANA	SAP Business Warehouse (BW)	SAP BW/4HANA	SAP BTP	SAP HANA Enterprise Cloud	SAP SaaS offerings

Migration/operations/managed services

AWS foundation

AWS Regions/Availability Zones	Compute/storage/network	Security/compliance	Management tools

Infrastructure and core services

Platform

Infrastructure

aws

SAP Basis 'of the future'

SAP Beyond offerings

Extending / Integrating SAP

Industries	Line of business	Digital transformation
Beyond for business		

Data and analytics	AI/ML	IoT	Apps and APIs	DevOps
Beyond for technology				

SAP Beyond Infrastructure

Platform

SAP core offerings

SAP ECC	SAP Suite on HANA	SAP S/4HANA	SAP Business Warehouse (BW)	SAP BW/4HANA	SAP BTP	SAP HANA Enterprise Cloud	SAP SaaS offerings

Migration/operations/managed services

AWS foundation

Infrastructure

AWS Regions/Availability Zones	Compute/storage/network	Security/compliance	Management tools

Infrastructure and core services

Automating Infrastructure & SAP

aws

Training and enablement
for SAP on AWS

SAP on AWS - Tech. Professional Learning Path

AWS Knowledge (vertical axis)

Technical Differentiation (horizontal axis)

AWS Certified SAP Specialty

AWS Blogs – SAP

SAP GameDay

AWS Certified Solution Architect Associate

AWS Partner: AWS Solution Architect Associate Certification Journey

Architecting on AWS (3 days)

Course combination recommendation

SAP on AWS Hands on PSA Workshop

SAP on AWS Technical

SAP on AWS Business

AWS Certified Cloud Practitioner

AWS Partner: AWS Cloud Practitioner Essentials Certification Journey

AWS Partner: Foundations (Technical)

AWS Partner: AWS Cloud Practitioner Essentials (Classroom)

AWS Partner: Accreditation (Technical)

AWS Partner: Cloud Economics Accreditation

Legend

AWS Blogs

Partnercast Webinars

Additional Training by Workloads or Solution

Certification

* Fee based

aws

Thank You

Questions?

Benjamin Houttuin

Sr. Partner Solutions Architect – SAP

benhou@amazon.nl

aws