



# Hybrid-Cloud Management Platform with Azure Arc

2021

Presented by: < Name >

# ECS OVERVIEW

ECS is a leading information technology provider delivering solutions in cloud, cybersecurity, software development, IT modernization, and science and engineering.

The company's highly skilled teams' approach and solve critical, complex challenges for customers across the U.S. public sector, defense, and commercial industries. ECS maintains partnerships with leading cloud and cybersecurity technology providers and holds specialized certifications in their technologies.

**Fairfax, VA**  
Headquarters

**3000+ Employees**  
Nationally and  
Internationally

## Our Expertise

- Cloud Solutions
- Cybersecurity
- Artificial Intelligence and Machine Learning
- Software and Systems
- IT Modernization
- Science and Engineering

## Our Customers

- Department of Defense
- Homeland Security and Law Enforcement
- Intelligence Community
- State, Local, and Education
- Commercial (Fortune 500, Midcap, Smallcap)

## Select Technology Partners

- Microsoft
- Attivo
- CrowdStrike
- Elastic
- VMware
- McAfee
- AWS
- Swimlane
- ThreatQ
- Google

# MARKETS & CUSTOMERS

Department of Agriculture  
Department of Commerce  
Department of Energy  
Department of Justice  
Department of Labor  
Department of State  
Department of Veteran's Affairs  
Environmental Protection Agency  
General Services Administration  
Government Accountability Office  
Health and Human Services  
Housing and Urban Development  
Internal Revenue Service  
National Oceanic and Atmospheric Administration  
National Transportation and Safety Board  
Peace Corps  
U.S. Postal Service



## Commercial

Blackboard  
Commercial  
Citizens Bank  
CVS Health  
Health Insight  
Hilton Grand Vacations  
IBM  
L3Harris Technologies  
Pilot Flying J  
Randstad  
Sharp Packaging  
United Technologies  
WL Gore

## SLED

Port of Houston  
State of California  
State of Delaware  
State of Minnesota  
State of New Jersey  
State of New York

Defense Advanced Research Projects Agency  
Defense Health Agency  
Defense Information Systems Agency  
Missile Defense Agency  
National Center for Telehealth and Technology  
U.S. Air Force  
U.S. Army  
U.S. Marine Corp  
U.S. Navy  
U.S. TRANSCOM

DHS Customs and Border Protection  
DHS Continuous Diagnostics and Mitigation  
DHS National Protection and Programs Directorate  
DHS Federal Emergency Management Agency  
DHS Immigration and Customs Enforcement  
DHS Transportation Security Administration

# OUR SOLUTIONS



CYBERSECURITY



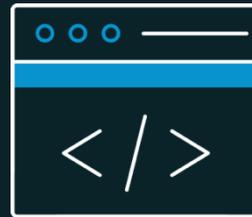
CLOUD SOLUTIONS



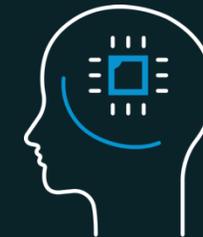
MACHINE LEARNING



DIGITAL  
MODERNIZATION



APPLICATION  
MODERNIZATION



SCIENCE AND  
ENGINEERING

# Our Centers of Excellence



**ECS CLOUD**

CENTER OF EXCELLENCE



**ECS AI**

CENTER OF EXCELLENCE



**ECS CYBER**

CENTER OF EXCELLENCE



**ECS PM**

CENTER OF EXCELLENCE



# CLOUD SOLUTIONS

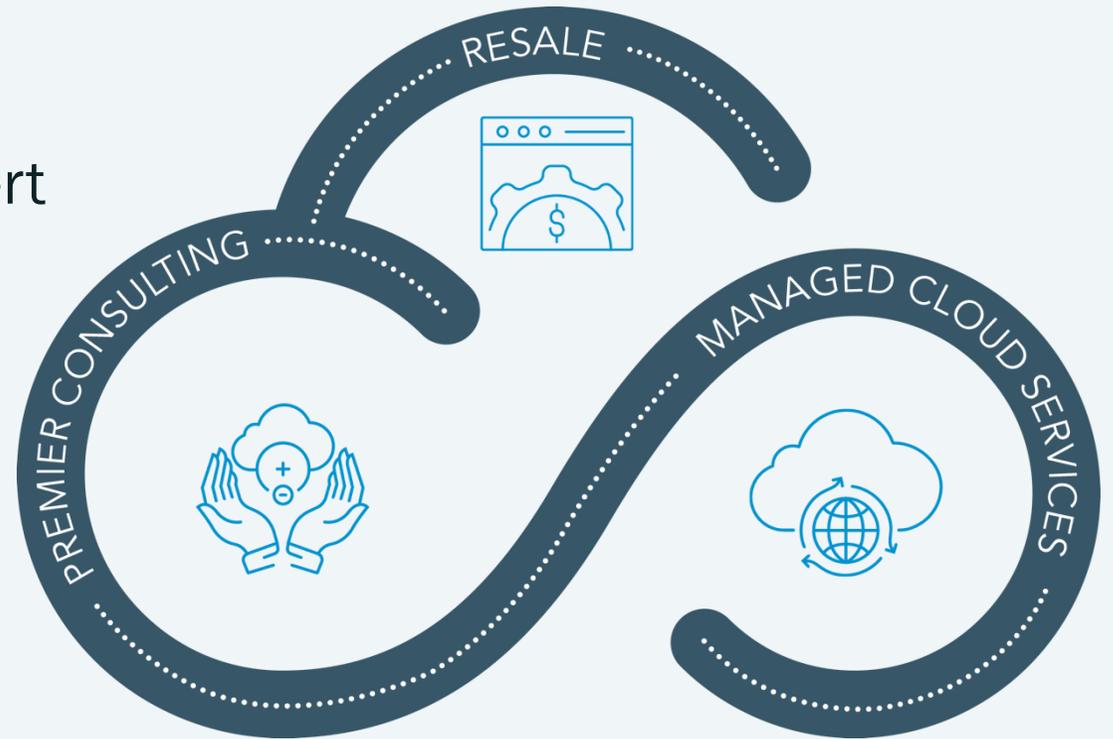
Consulting | Managed Services | Resale

*\*Company Proprietary – Use or disclosure without expressed consent from ECS Federal is prohibited\**

# CLOUD SOLUTIONS

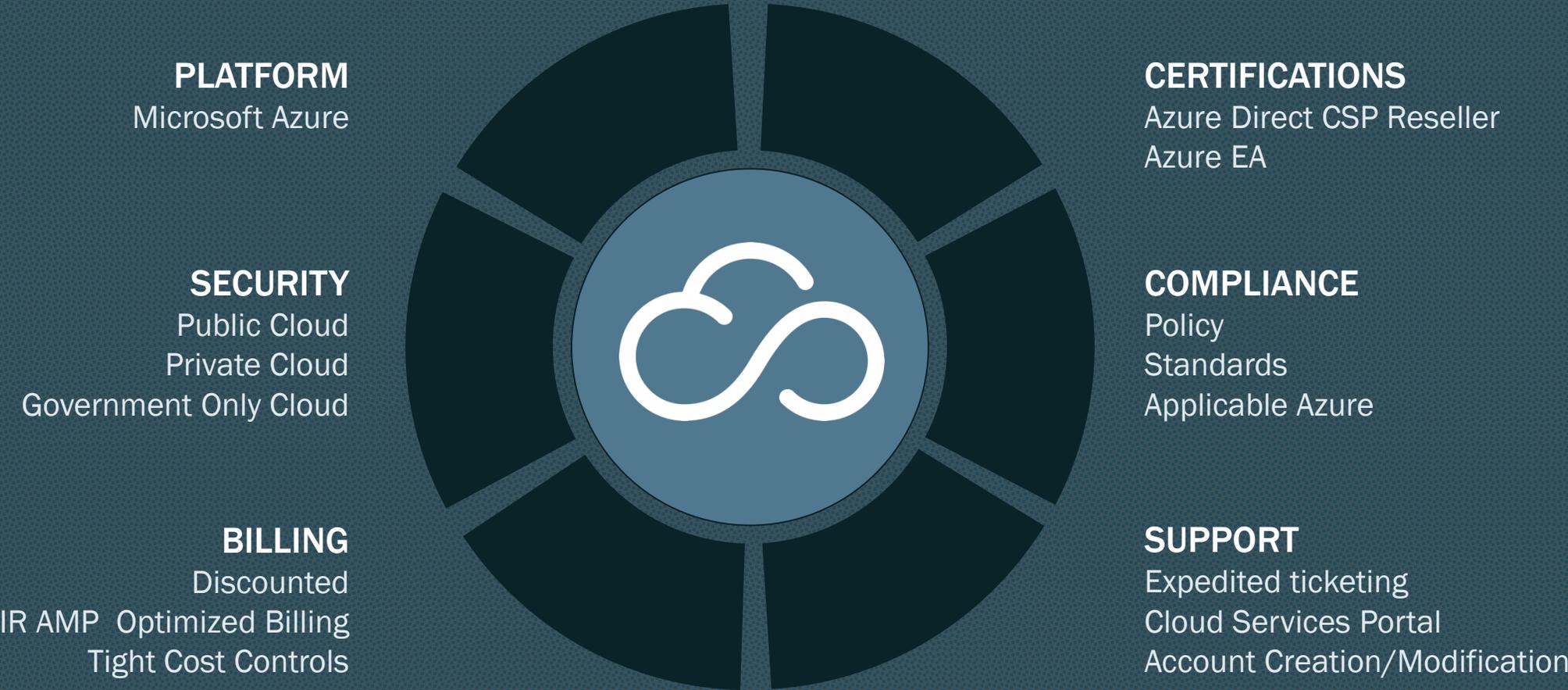
All your cloud needs. One dedicated company.

ECS helps you leverage the benefits of the Cloud with our extensive experience, recognized technical competencies, and expert certified architects. We'll support your Cloud adoption process at every step, while deploying trusted enterprise solutions. We serve both commercial and public sector organization by delivering solutions across public, private, and hybrid cloud workloads.



# CLOUD RESALE

There are many choices to consider as you set out. We are here to simplify the process. We will guide and support you, while providing these resale options, benefits, and cost-savings.



## PLATFORM

Microsoft Azure

## SECURITY

Public Cloud  
Private Cloud  
Government Only Cloud

## BILLING

Discounted  
IR AMP  
Optimized Billing  
Tight Cost Controls

## CERTIFICATIONS

Azure Direct CSP Reseller  
Azure EA

## COMPLIANCE

Policy  
Standards  
Applicable Azure

## SUPPORT

Expedited ticketing  
Cloud Services Portal  
Account Creation/Modification



# Microsoft

CLOUD DEPLOYMENT PARTNER

SIX-TIME PARTNER OF THE YEAR

SOLUTION PARTNER OF THE YEAR

SHAREPOINT PARTNER OF THE YEAR

MICROSOFT MANAGED SERVICE PROVIDER

### GOLD CERTIFIED COMPETENCIES

Application Development • Cloud Productivity • Messaging  
Collaboration & Content • Datacenter • Midmarket Solutions

### SILVER CERTIFIED COMPETENCIES

Communications • Data Analytics • Data Platform  
Devices and Deployment • Hosting • Identity and Access

AUTHORIZED MICROSOFT RESELLER



## ECS and MICROSOFT RECOGNITION & CAPABILITIES

We help you leverage the benefits of Microsoft’s Cloud offering with our extensive experience, recognized technical competencies, and awards. We’ll support your Cloud adoption process at every step, while deploying trusted enterprise solutions.



# CHALLENGES OF CLOUD MARKET

1. Use of cloud technology is a cultural and disruptive shift in design, deployment and operation. Its not commodity. Cloud sales and delivery currently require specialized SMEs with experience and the risk of failure is greater when proposing and implementing cloud solutions.
2. CSP partnership management requires dedicated focus, investment, resources, competencies, and capabilities to match and stay ahead of the increasing competition. High Demand of skilled resources has resulted in scarcity of top cloud talent and building capacity requires extensive training, mentoring, retention, and on the job training.
3. Greatest market opportunity to scale rapidly exists in driving cloud into existing contracts and as a component of larger solutions. Goal of cloud in every solution requires framework of incubation, governance, mentoring, and eventual hand off to self sufficient production ready teams across entire organization.

# CUSTOMER ENVIRONMENTS AND APPLICATION REQUIREMENTS ARE EVOLVING

Single control plane with **Hybrid Cloud Management Platform powered with Azure Arc**

How to govern and operate across disparate environments?

How to ensure security across the entire organization?

How to best enable innovation and developer agility?

How to meet regulatory requirements and overcome technical hurdles?

100's–1,000's of apps



VMs



Databases



Containers



Serverless



Diverse infrastructure



Datacenters



Hosters



Branch offices



OEM hardware



IoT devices



Edge

Hybrid & Multi-Cloud



Microsoft Azure



Google Cloud



vmware®



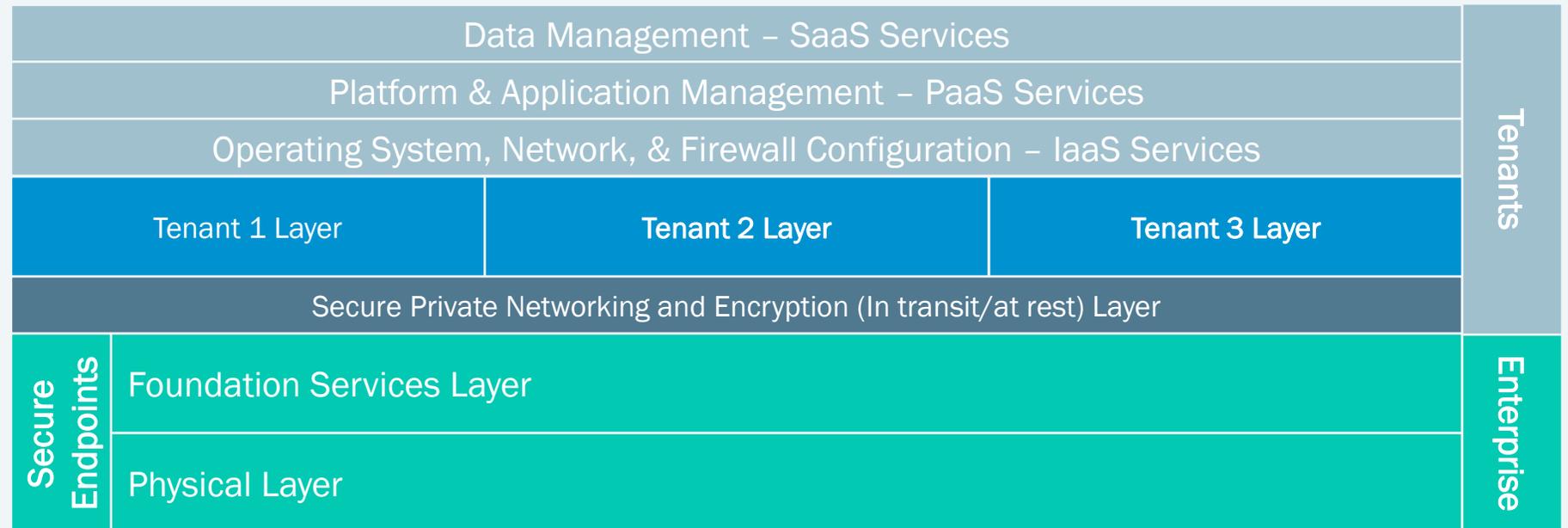
IBM Cloud

# ECS COMMON CLOUD FRAMEWORK

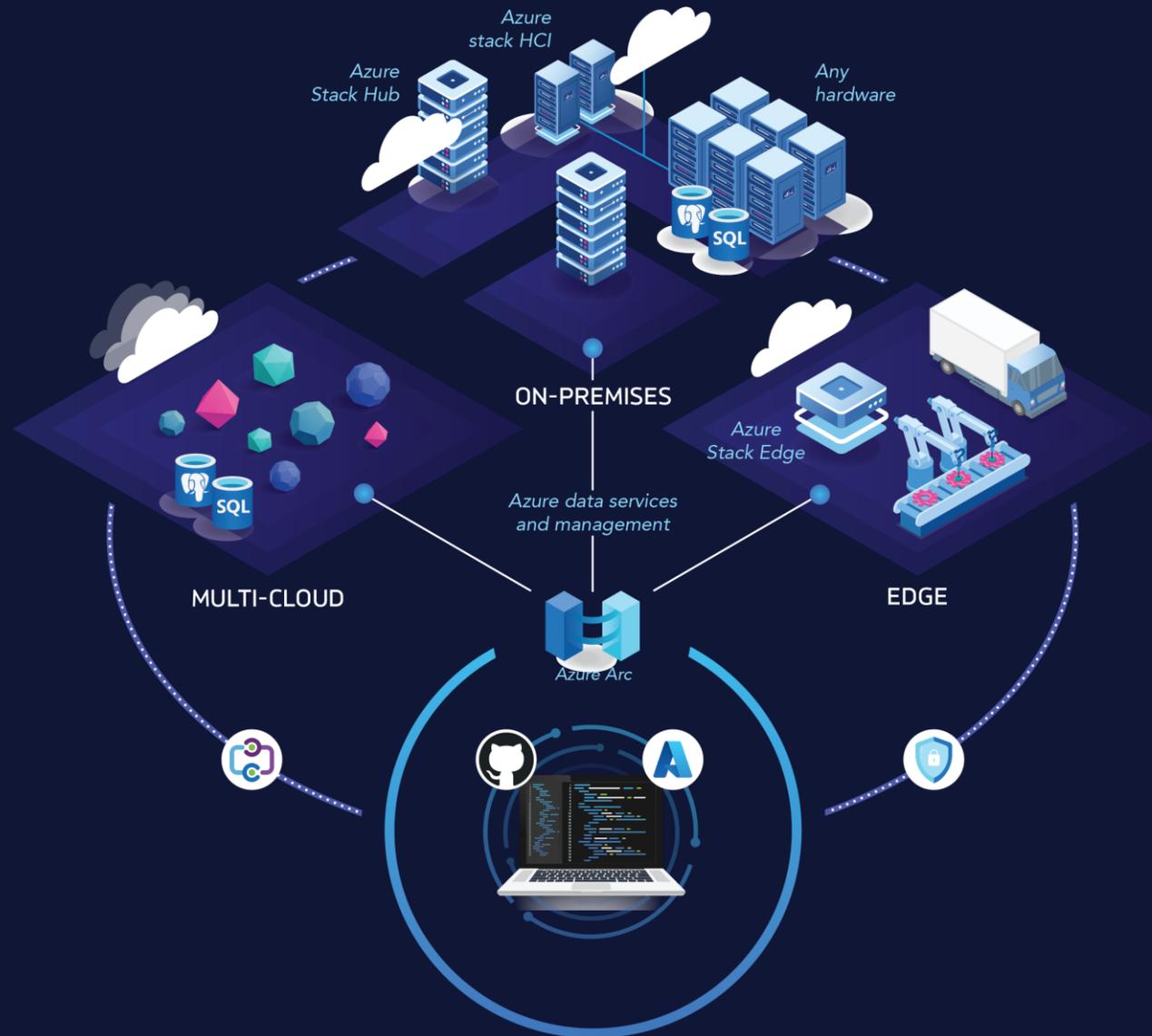


# ECS HYBRID-CLOUD MANAGEMENT (HCM) CAPABILITIES

- Drive market mindshare and thought leadership/brand
- Develop cloud delivery frameworks and processes
- Develop innovative tools and solutions



# ECS HCM PLATFORM



- VM Management of Windows and Linux Physical and virtual servers
- Policy Management such as the configuration and environment settings.
- OS Management with OS updates for Azure Arc enabled servers/VMs
- Inventory Management including reports on configuration changes
- Monitoring of guest OS and application performance
- Security and Compliance: to detect and proactively monitor for security threats



## Single control plane with ECS HCM Platform powered with Azure Arc

**Azure Arc enabled infrastructure**  
Connect and operate hybrid resources as native Azure resources

**Azure Arc enabled services**  
Deploy and run Azure services outside of Azure while still operating it from Azure

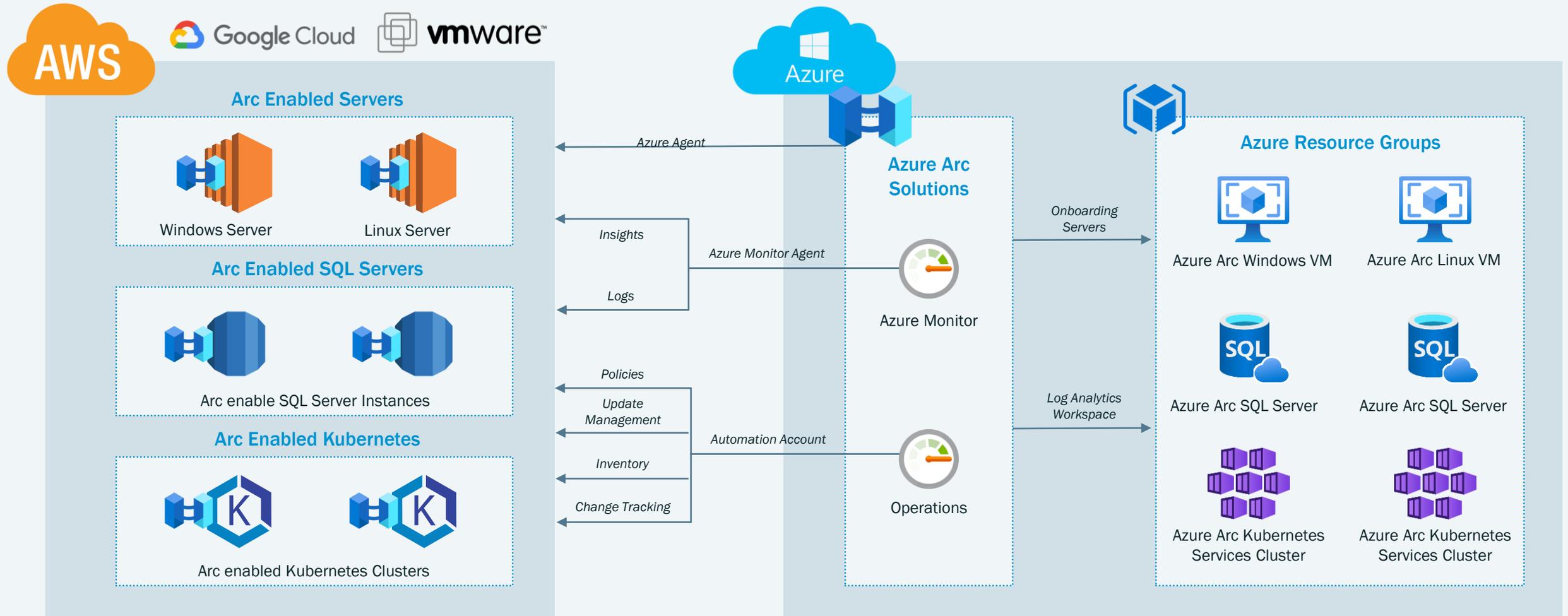


  
Multi-cloud

  
Datacenter

  
Edge

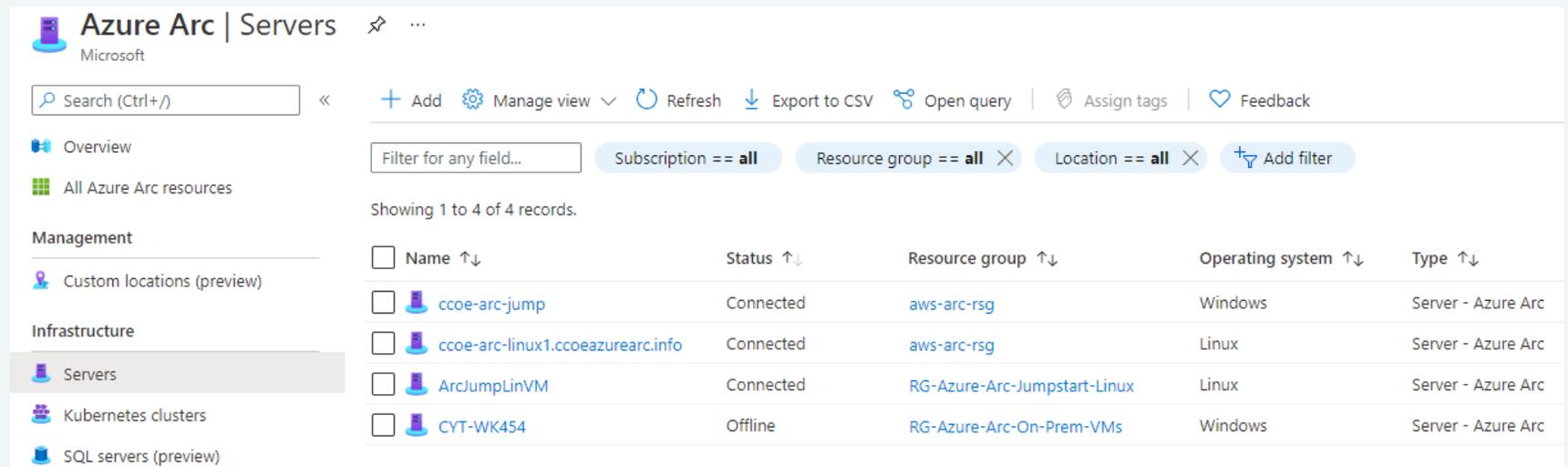
# ECS HCM PLATFORM LOGICAL ARCHITECTURE



# DEMO – ECS HCM – AZURE ARC ENABLED SERVERS

Enabled Servers include:

- Azure VMs
- AWS EC2
- On-premises VMware VM
- Domain joined Server



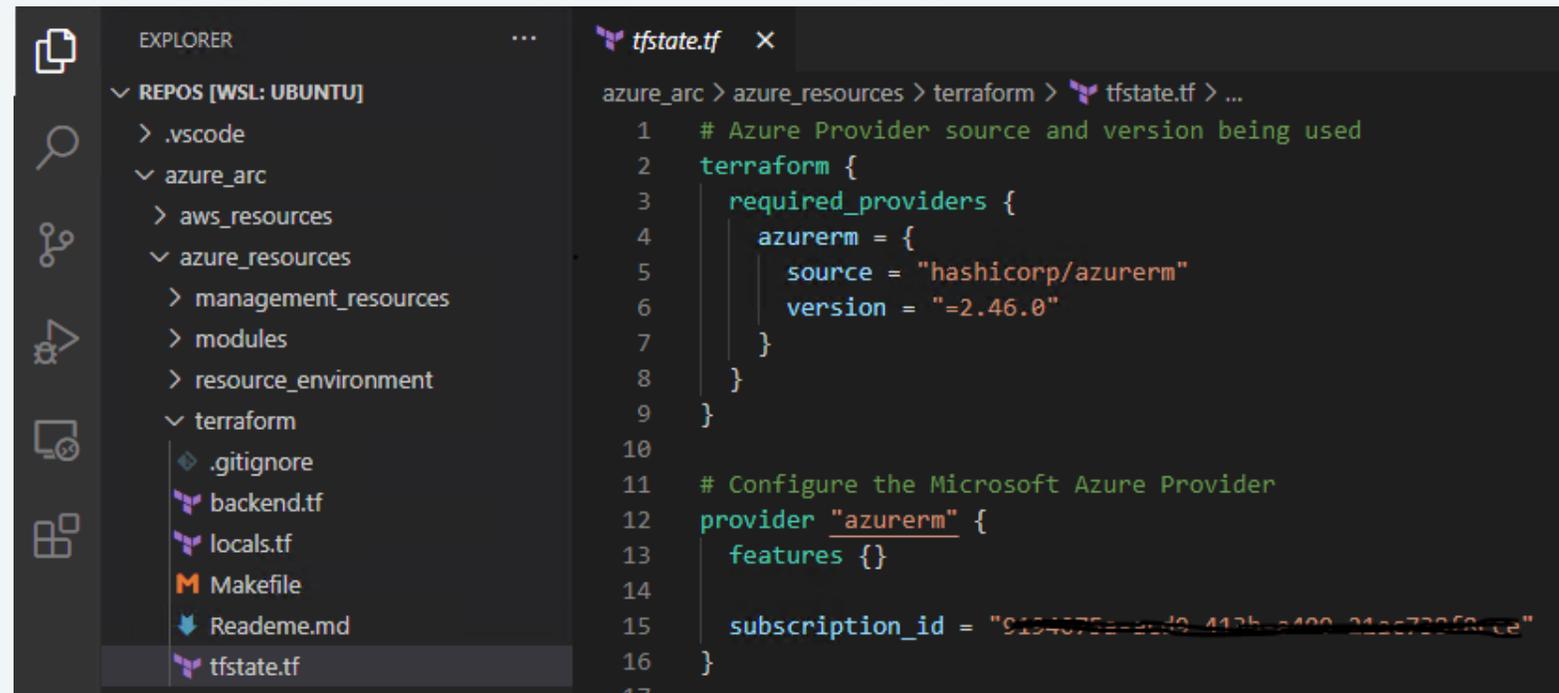
The screenshot displays the Azure Arc Servers management interface. The left sidebar shows navigation options: Overview, All Azure Arc resources, Management (Custom locations (preview)), Infrastructure (Servers, Kubernetes clusters, SQL servers (preview)). The main area shows a search bar, a toolbar with 'Add', 'Manage view', 'Refresh', 'Export to CSV', 'Open query', 'Assign tags', and 'Feedback'. Below the toolbar, there are filter buttons for 'Subscription == all', 'Resource group == all', and 'Location == all'. The table below shows 4 records:

Name ↑↓	Status ↑↓	Resource group ↑↓	Operating system ↑↓	Type ↑↓
<input type="checkbox"/> ccoe-arc-jump	Connected	aws-arc-rsg	Windows	Server - Azure Arc
<input type="checkbox"/> ccoe-arc-linux1.ccoeazurearc.info	Connected	aws-arc-rsg	Linux	Server - Azure Arc
<input type="checkbox"/> ArcJumpLinVM	Connected	RG-Azure-Arc-Jumpstart-Linux	Linux	Server - Azure Arc
<input type="checkbox"/> CYT-WK454	Offline	RG-Azure-Arc-On-Prem-VMs	Windows	Server - Azure Arc

# ONBOARDING SERVERS– AUTOMATION WITH TERRAFORM

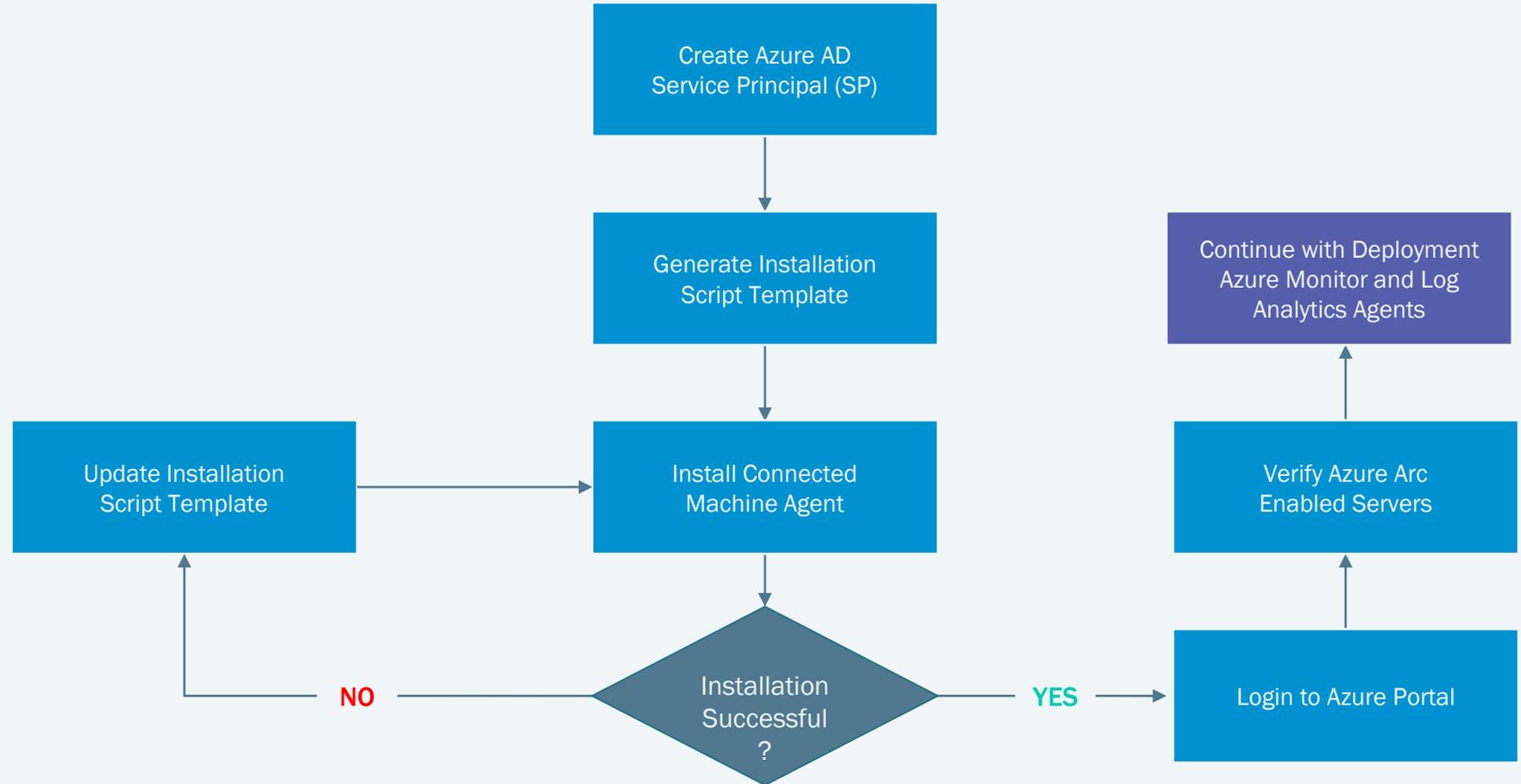
## Using Terraform

- Build Azure environment including Resource Groups, VNet, VM, Network Security Group, etc.
- Create services for Azure Arc including Log Analytics Workspace, Automation Account, etc.
- Onboard servers and deploy monitoring agents



```
azure_arc > azure_resources > terraform > tfstate.tf > ...
1  # Azure Provider source and version being used
2  terraform {
3    required_providers {
4      azurerms = {
5        source = "hashicorp/azurerms"
6        version = "=2.46.0"
7      }
8    }
9  }
10
11 # Configure the Microsoft Azure Provider
12 provider "azurerms" {
13   features {}
14
15   subscription_id = "9194375e-8c49-412b-a400-21ac732f8bce"
16 }
17
```

# PROCESS FLOW - CONNECT HYBRID MACHINES TO AZURE AT SCALE





# THANK YOU.

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