

Aria

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Cloud Management Specialist Norway, Denmark, Sweden,
Finland & Baltics

 @bgronas and @kate
lørdag 03. desember 2022



ANNOUNCING

The next chapter
in our multi-cloud
management story

A new perspective on managing
cloud native apps and public cloud
environments



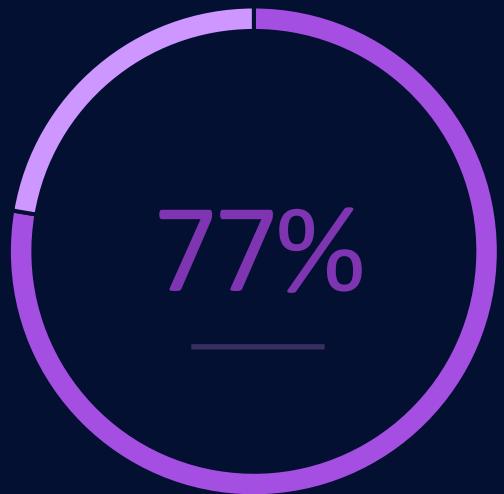
VMware
Aria™

<https://blogs.vmware.com/management/2022/08/introducing-vmware-aria.html>

vmware® EXPLORE

Multi-cloud is the new modern app backbone

Increasing Revenue



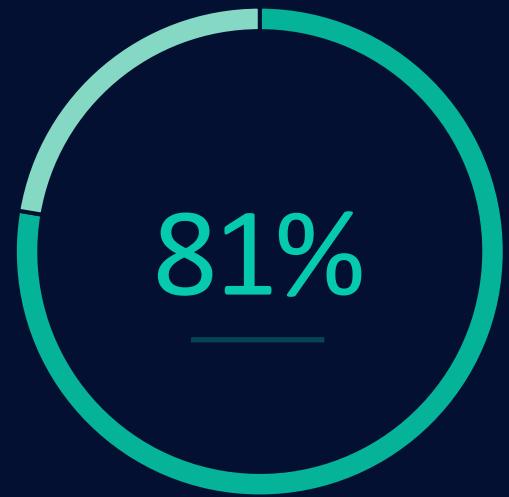
IT leaders report modernizing apps increases revenue¹

App Transformation



of CIOs say modernizing apps is their top priority²

Cloud Initiatives



Expect to be **multi-cloud** by 2024³

Multi-cloud provides significant benefits

Rich set of developer services

Easy self-service consumption

Immense scalability

Global geographic availability





Multi-cloud management challenges

Lack of enterprise controls



Evolving cloud services



Demand for ease & simplicity



Disparate pools of data

But adopting multi-cloud brings new challenges



Which apps should we deploy, to which cloud?

Are we **consistently applying policies** across clusters and clouds?

Are we prudently optimizing **cost vs performance**?

Do we have a **global view of cost, security and performance** across platforms and clouds?



Many tools, many teams, many objects, and fast-moving changes equals high complexity



▲ Network mgmt.

● Orchestration

★ Migration

● Catalog

▲ Log mgmt.

● CI/CD

● Infra-as-code

★ Capacity mgmt.

● Config mgmt.

▲ Trouble-shooting

● Regulatory config

▲ Infra monitoring

★ Cross-cloud cost optimization

▲ Secure cloud operations

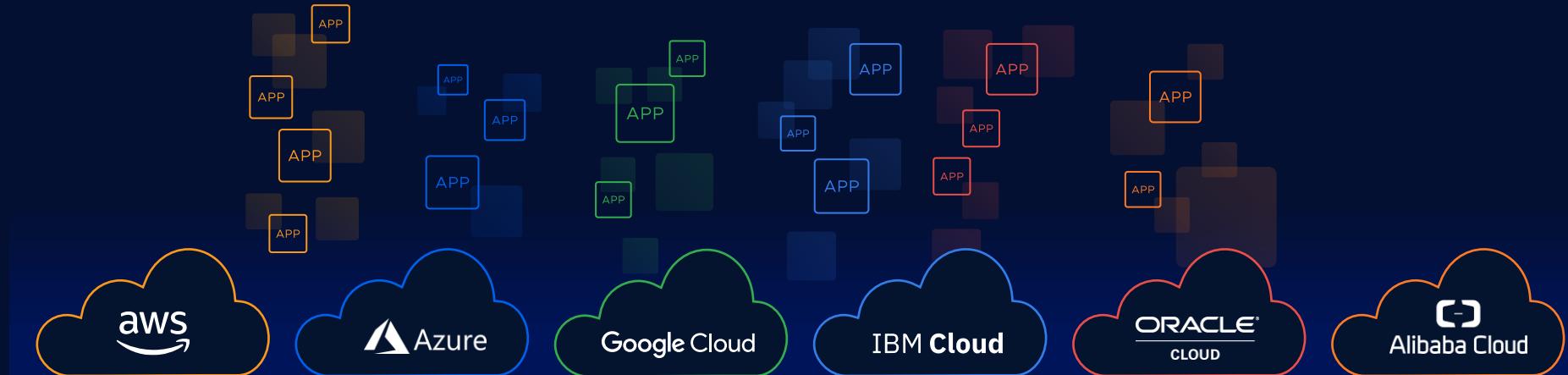
● Guardrails

▲ Full stack observability

★ Chargeback

● Secure host config

▲ App. monitoring



IT/Ops is Overwhelmed

- “Swivel chair” Management
 - vRealize solutions continue to deliver powerful, domain-centric capabilities, but offer siloed **data, interfaces, and scope**
 - The increased prevalence of hyperscalers, multi-cloud consumption and app modernization require reimagine cloud management
 - The accelerated push to SaaS demands rethinking product architecture, scalability and TTV



APP STRATEGY



Retain



Rehost



Replatform



Refactor



Retire

3. MANAGE ACROSS CLOUDS

CLOUD OPERATING MODEL

VMware Multi-Cloud Management



Cost



Performance



Secure Config



Delivery

2. BUILD PLATFORM

Kubernetes Runtime and Management

1. BUILD CLOUDS

VMware Cloud



IAAS CAAS PAAS

VMware Multi-Cloud Management



PARTNER

SOVEREIGN



Public Cloud

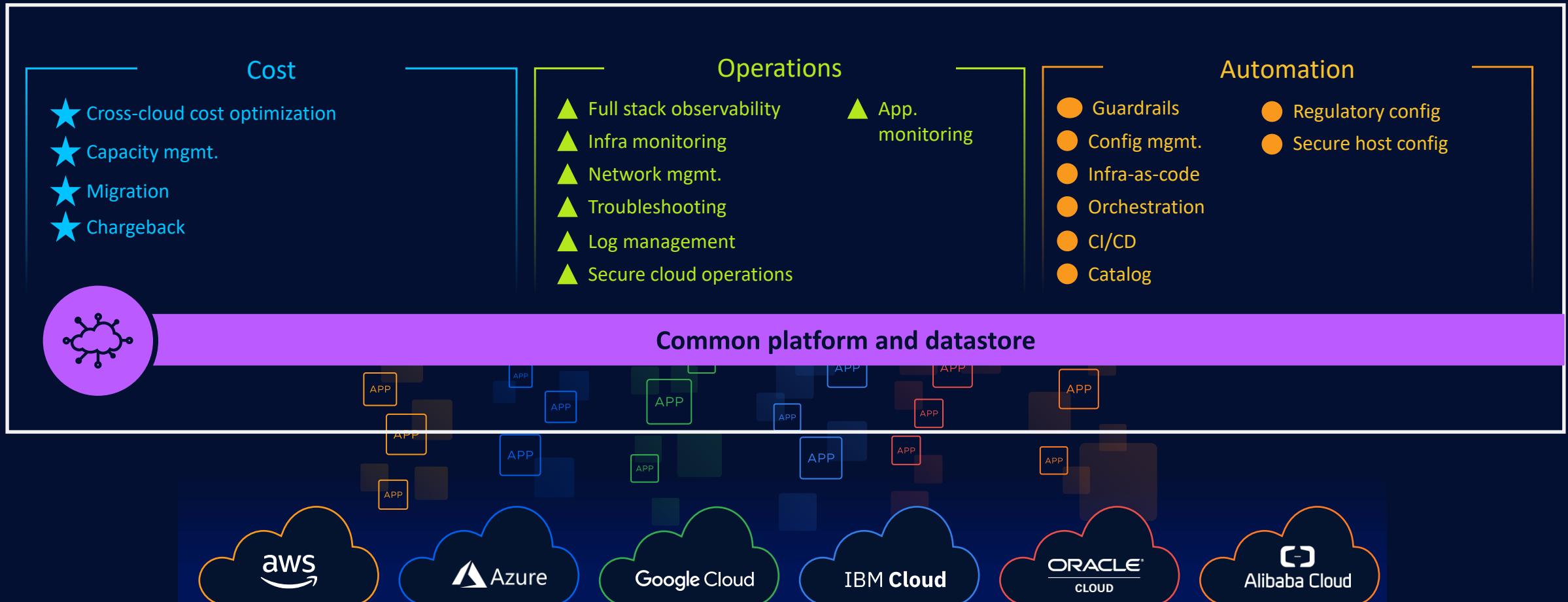


IAAS CAAS PAAS

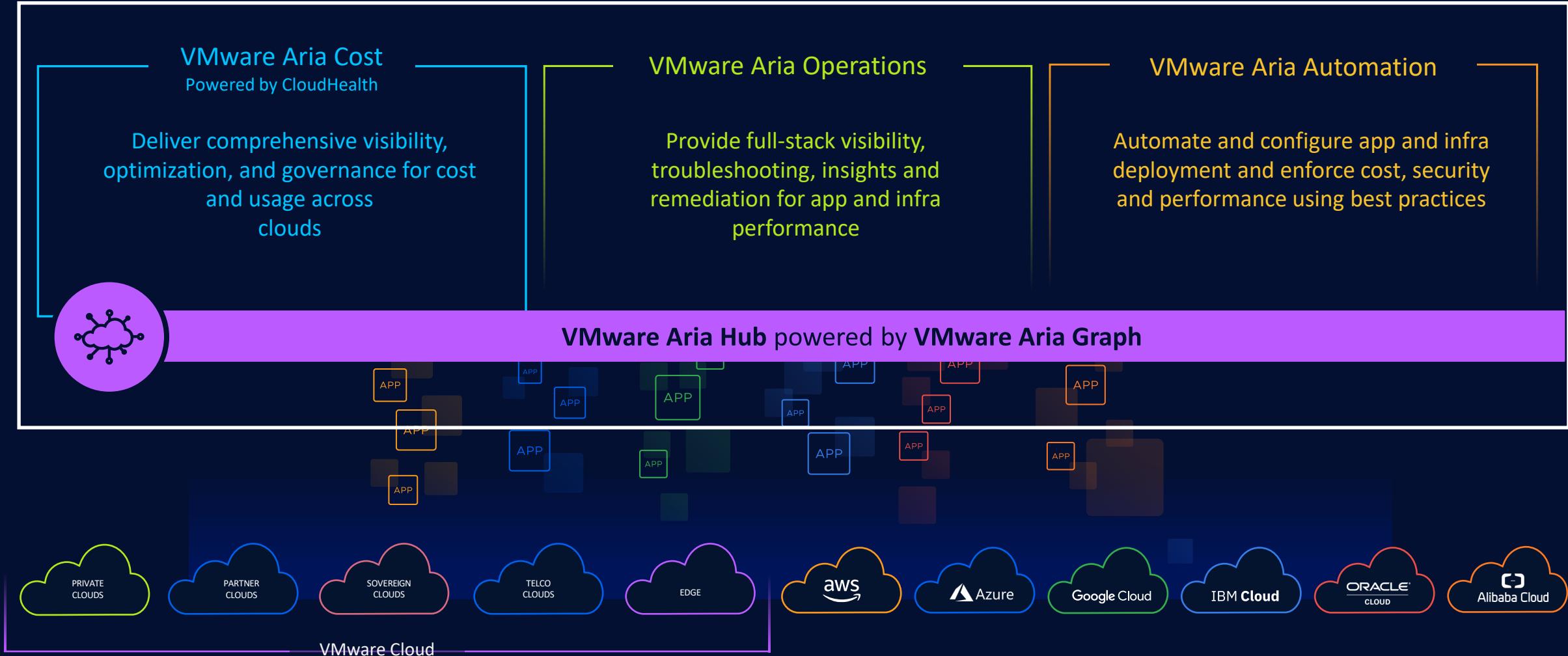


VMware Infra

New approach: integrate to deliver customer outcomes anchored by near real-time map of apps and cloud



Introducing VMware Aria: a unified management solution for cloud native apps and multi-cloud, including VMware Cloud



Aria
Automation



DEV

APP



Aria
Operations



SUP



Aria
Operations
for Logs



OPS

Aria
Cost



MGR

Aria
Operations
for Networks



NET

Aria
Automation Config



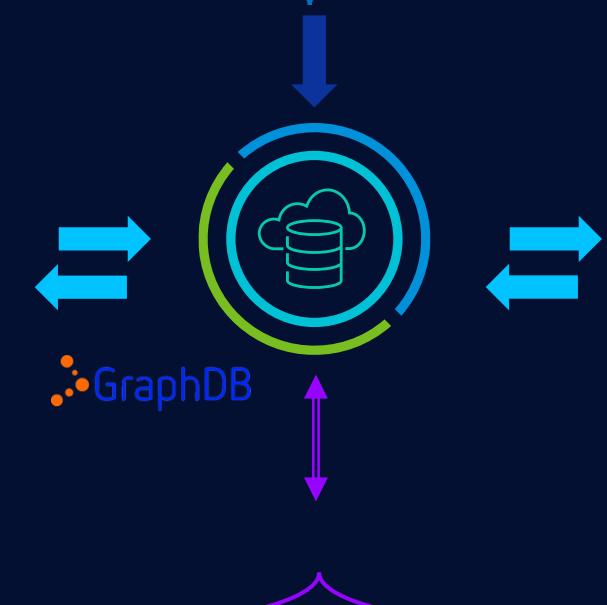
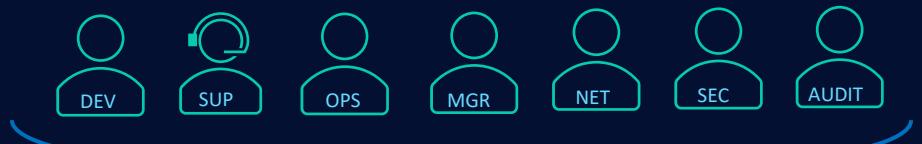
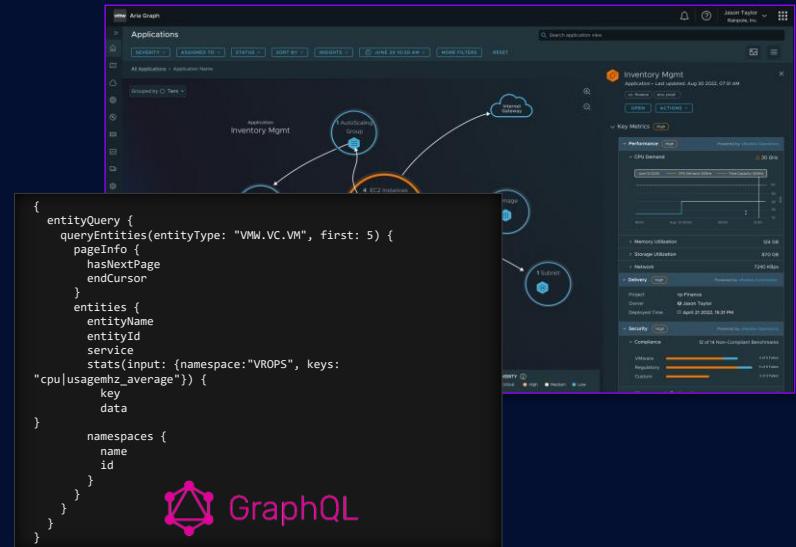
SEC

Aria
Automation for
Secure Hosts/Clouds



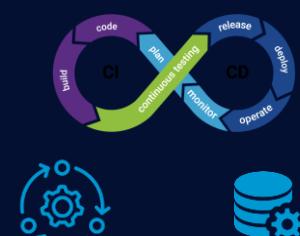
AUDIT





3rd Party Data Model Extension

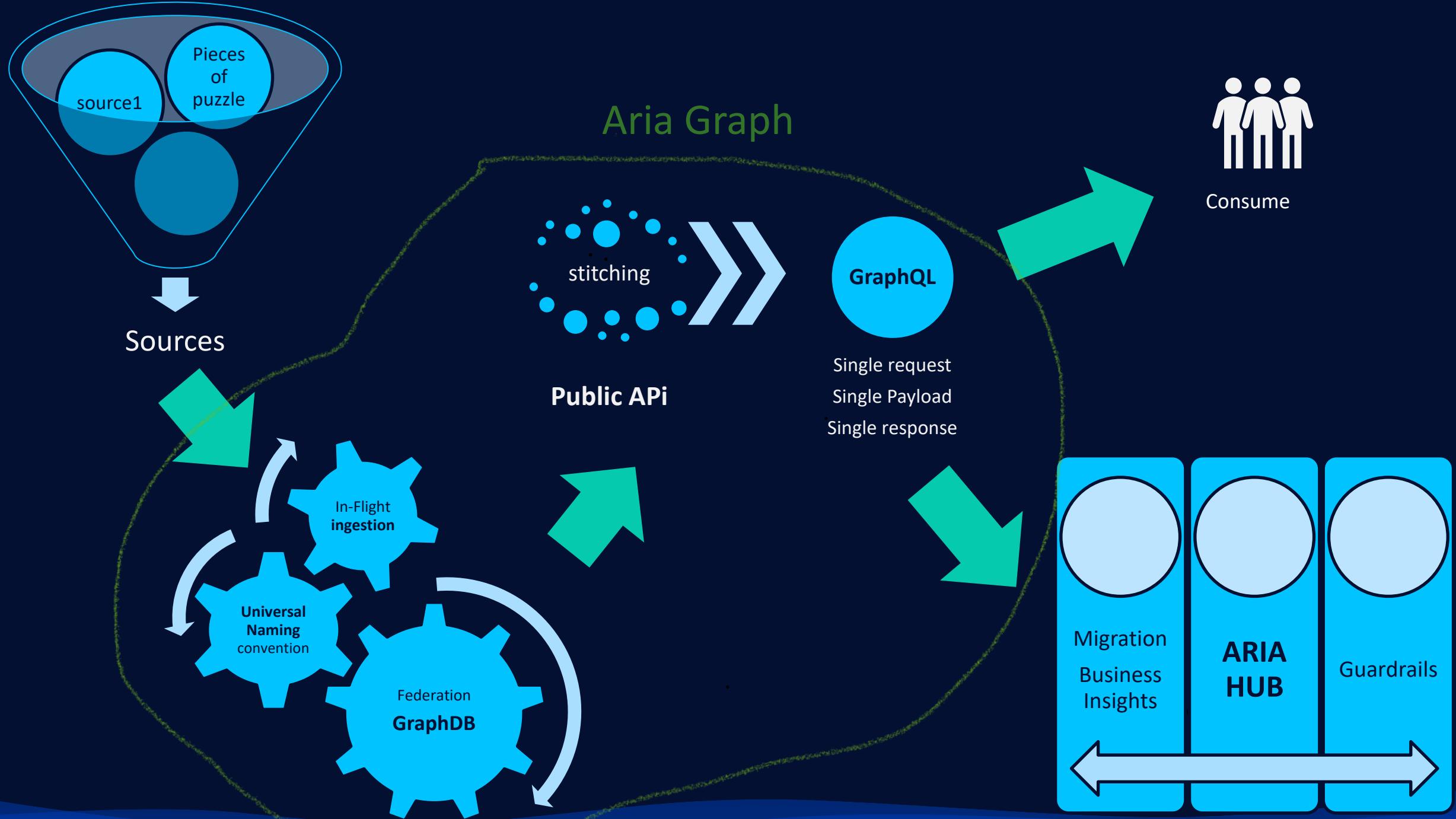
servicenow

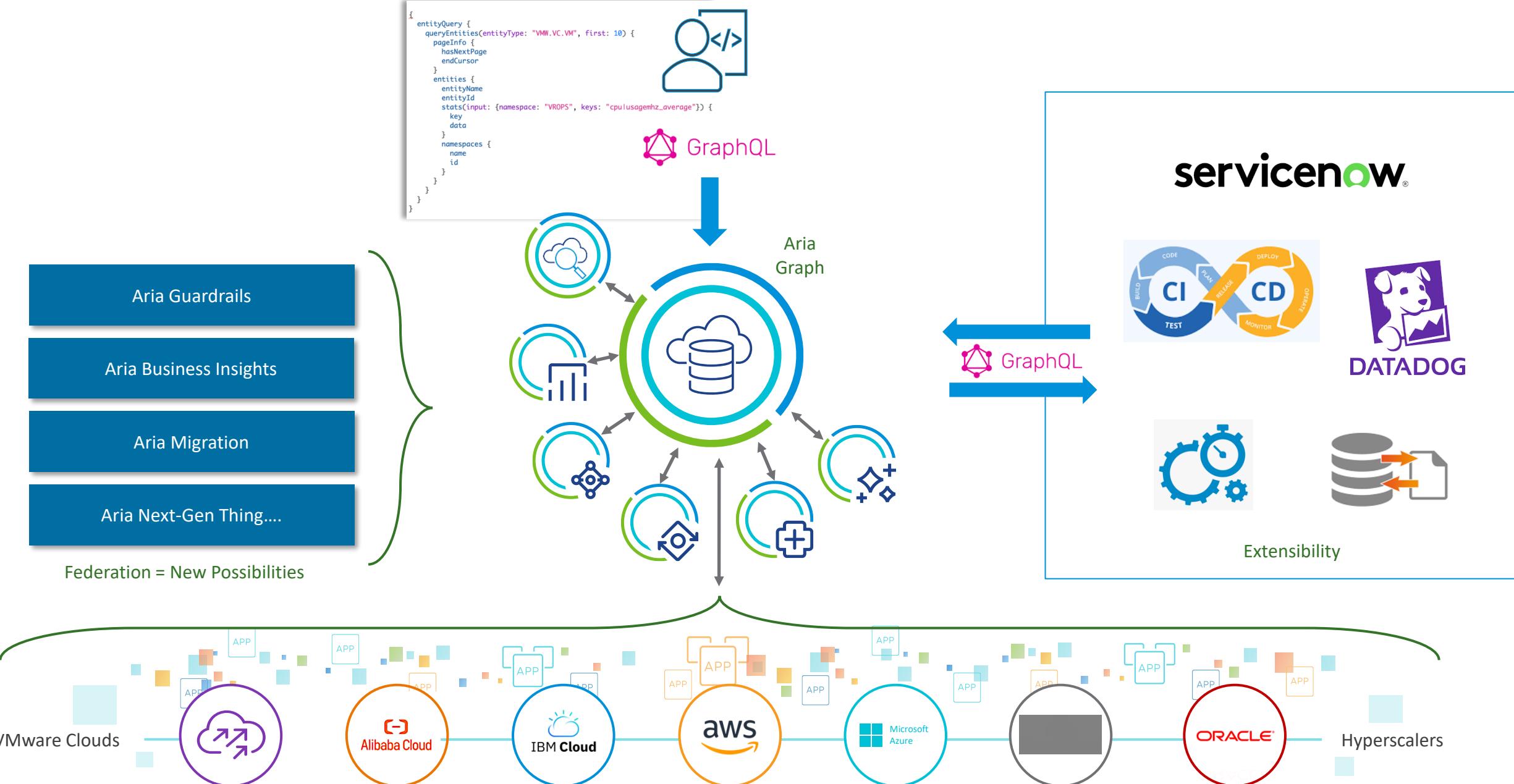


Unified Data Model

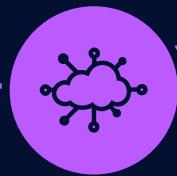
- Aria Automation**
 - Application Name
 - Deployment ID
 - Project
 - Owner
 - [...]
- vCenter Server**
 - Data Center
 - Cluster
 - [...]
- AWS/Azure/Google...**
 - Location
 - Availability zone
 - Cost
 - [...]
- Aria Operations (for Logs)**
 - Metrics
 - Alerts
 - Logs
 - [...]
- Aria Operations for Networks**
 - Traffic flow
 - Bandwidth usage
 - Ports/protocols
 - [...]
- Aria Automation Config (for Secure Hosts/Clouds)**
 - Desired state
 - Patch level
 - Vulnerabilities
 - Compliance
 - [...]







VMware Aria Graph: address problems that span disciplines, tools and teams



VMware Aria Cost

VMware Aria Operations

VMware Aria Automation

VMware Aria Graph

WITHOUT VMWARE ARIA GRAPH

Many different **data sources** and conflicting definitions leads to underinformed decisions and inefficient processes

Different teams log into different tools creating collaboration hurdles

Workflow gaps for **use cases** requires large custom integration teams

WITH VMWARE ARIA GRAPH



Aligned, multi-layered app relationships

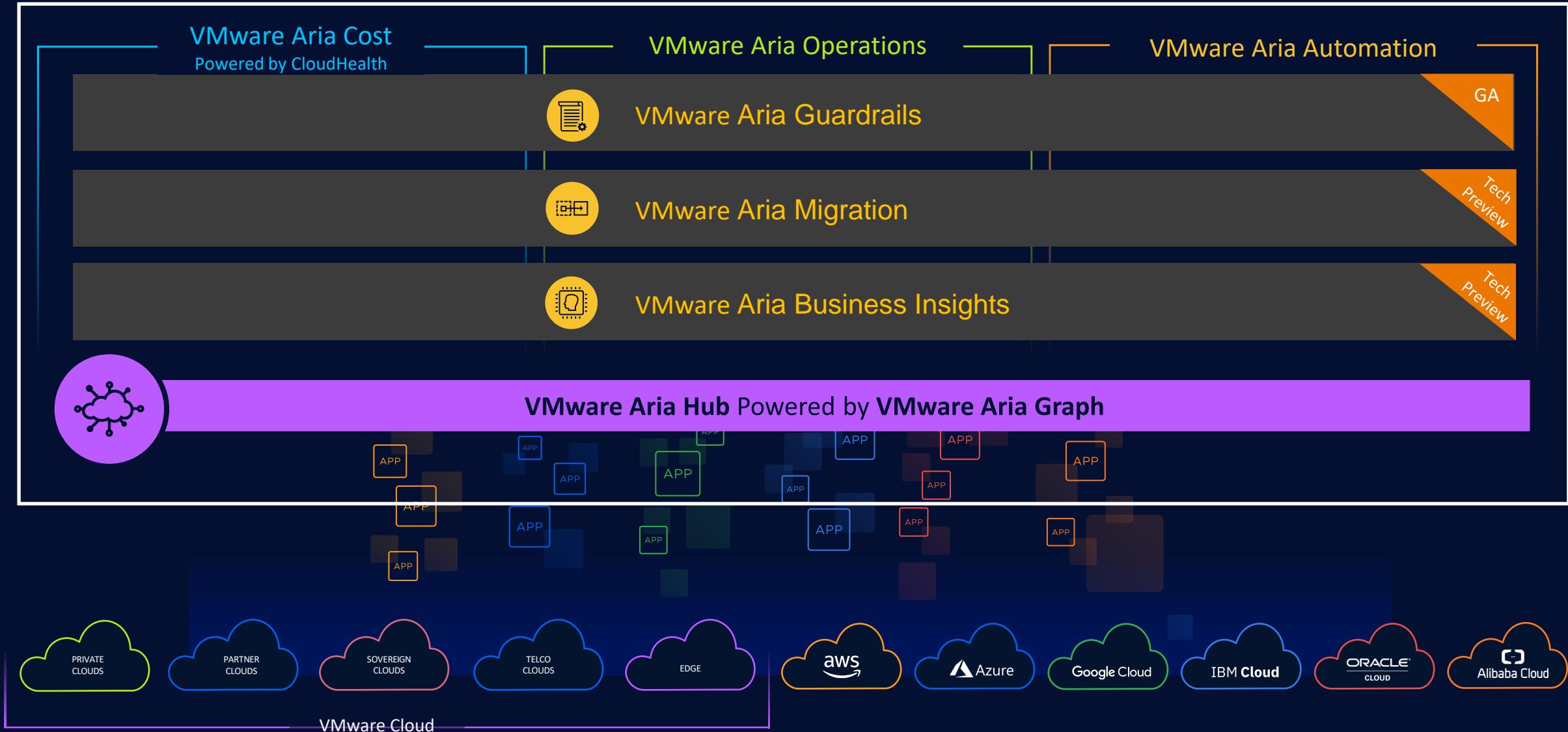


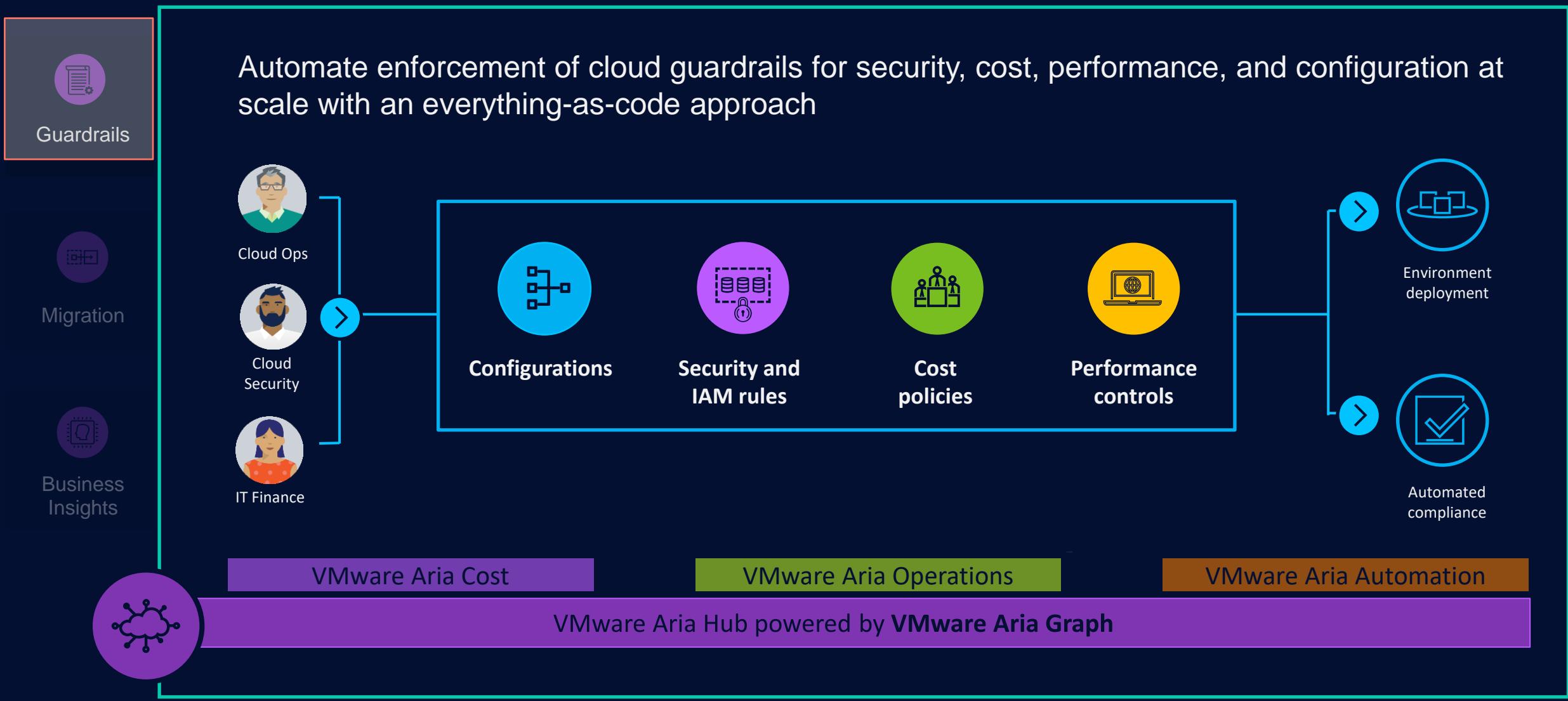
Single, global API access **for dev and ops**



End-to-end solutions that cut across disciplines

New end-to-end solutions to address overarching management challenges





VMware Aria Migration



Guardrails

Accelerate and simplify the multi-cloud migration journey by automating assessment, planning, and execution



Cloud Ops



DevOps



IT Finance



Migration



Business Insights



VMware Aria Cost

VMware Aria Operations

VMware Aria Automation

VMware Aria Hub powered by **VMware Aria Graph**

Any-cloud to any-cloud migration



Optimized / modernized apps



Cloud Ops



DevOps



IT Finance



Migration



Business Insights



VMware Aria Cost

VMware Aria Operations

VMware Aria Automation

VMware Aria Hub powered by **VMware Aria Graph**

VMware Aria Business Insights



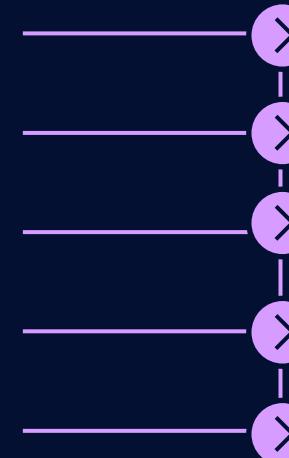
Guardrails



Migration

Business
Insights

Discern relevant business insights from full-stack event correlation leveraging AI/ML analytics

Aria Operations for
ApplicationsAria Operations for
NetworksAria Operations for
LogsAria Operations for
OperationsThird-party
monitoring toolsDomain-specific
event
management

Source de-duplication

Correlation /
pattern
detection

Insights



Cloud Ops



DevOps

VMware Aria Cost

VMware Aria Operations

VMware Aria Automation

VMware Aria Hub powered by **VMware Aria Graph**



Introducing VMware Aria Hub Free Tier

Get Started with Multi-Cloud Management

- Manage two native public cloud accounts for free with support for AWS and Azure
- Capture, filter and search your multi-cloud inventory
- Real-time, event-based inventory for first 90 days
- Manually curate applications to better understand dependencies relationships
- Gain visibility into:
 - Resource relationships and dependencies via **VMware Aria Graph data store**
 - CIS Benchmark violation data from **VMware Aria Automation for Secure Clouds**
 - Per account costing and list prices for some resources from **VMware Aria Cost powered by CloudHealth**
 - Operational metrics directly from native public cloud sources, e.g., AWS CloudWatch, Azure Monitor



The screenshot displays the VMware Aria Hub interface across three main sections:

- Top Right:** Shows a network diagram titled "MOAD App with Load" connected to the "Internet". It includes resource groups like "frontend Group", "MOAD App with Load Group", "mysql Group", and "loadgen Group", each containing specific VM instances.
- Middle Left:** A "Search" interface for "entityType = AWS.EKS.Cluster" showing a tree view of AWS resources including State, Subnets, Clusters, NodeGroups, and Security Groups.
- Bottom Right:** An "Inventory" table listing AWS services with their resource counts:

Service	Resource Count
AWS.ACM	188
AWS.AccessAnalyzer	100
AWS.ApiGateway	35
AWS.AppSync	1
AWS.Athena	98
AWS.AutoScaling	33
AWS.CloudFormation	1017
AWS.CloudFront	6
AWS.CloudTrail	17
AWS.CloudWatch	1976

Features updated monthly

Investment in new capabilities across cost, operations and automation

VMware Aria Cost

Powered by CloudHealth

CONTROL COSTS

- **Anomaly detection:** AWS, Azure, and GCP

SCALE PARTNER BILLING

- **Billing and invoicing enhancements:** AWS, Azure, and GCP

DRIVE DEEPER SAVINGS

- **Savings Automator:** Convertible RI management on auto-pilot
- **AWS Rightsizing engine:** revamped EC2 & new RDS recommendations

VMware Aria Operations

SECURE CLOUD CONFIG

- Threat detection and entitlements visibility for AWS
- VMware Aria Operations for Secure Clouds

FREE TIER

APP AWARENESS

- **Unified observability:** correlated metrics, traces, and logs
- App synthetic monitoring
- App networking dashboard

DRIVING INSIGHTS

- Log root cause analysis
- No-code Management Pack builder: pull data into Aria Ops from nearly any source

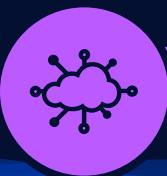
VMware Aria Automation

MULTI-CLOUD GOVERNANCE

- **VMware Aria Guardrails:** AWS landing zone provisioning & compliance

DEVOPS AND K8S

- **Cloud Consumption Interface:** K8s-based interface for vSphere 8
- Simplified K8s infrastructure automation INCLUDED FREE Tanzu Mission Control integration
- Idem open-source project - infrastructure-as-data cloud automation platform for SRE simplification



VMware Aria Hub powered by VMware Aria Graph

VMware Aria

Drive business **agility** with
solutions that make **multi-cloud**
complexity invisible





VMware Aria

Delivering value today and for the future



Unified view of Apps Across
Clouds



No More Swivel Chair
Management



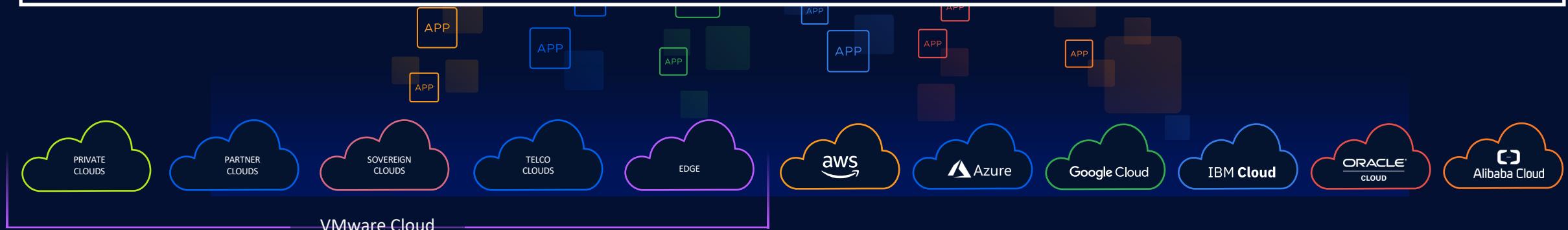
Federation Across
Multiple Tools



New End-to-End
Services

Existing Cloud Management customers will receive the equivalent VMware Aria offering

1. vRealize Cloud Universal customers are entitled to VMware Aria Universal Suite, which now includes multi-cloud inventory and visibility through VMware Aria Hub and VMware Aria Graph
2. vRealize, CloudHealth by VMware Suite, or Tanzu Observability customers are entitled to the equivalent VMware Aria offerings.
3. Changes will occur from now through early 2023, including product branding, documentation, support systems and new VMware Aria SKUs



VMware Aria Products Naming Chart

 @bgronas



Cloud Management New Family Brand: VMware Aria

Old Name	New Name
Automation	
vRealize Automation / Cloud	VMware Aria Automation
VMware Cloud Assembly	VMware Aria Automation Assembler
VMware Service Broker	VMware Aria Automation Consumption
VMware Code Stream	VMware Aria Automation Pipelines
VMware Cloud Templates	VMware Aria Automation Templates
vRealize Orchestrator	VMware Aria Automation Orchestrator
vRealize Automation SaltStack Config	VMware Aria Automation Config
vRealize Automation SaltStack SecOps	VMware Aria Automation for Secure Hosts
CloudHealth Secure State	VMware Aria Automation for Secure Clouds
Operations	
vRealize Operations / Cloud	VMware Aria Operations
vRealize Log Insight / Cloud	VMware Aria Operations for Logs
vRealize Network Insight / Cloud	VMware Aria Operations for Networks
Tanzu Observability by Wavefront	VMware Aria Operations for Applications
vRealize True Visibility Suite	VMware Aria Operations for Integrations
Cost	
CloudHealth	VMware Aria Cost powered by CloudHealth

Old Name	New Name
Suites	
vRealize Cloud Universal	VMware Aria Universal Suite
vRealize Suite	VMware Aria Suite
vCloud Suite	VMware vCloud Suite
CloudHealth by VMware Suite	Discontinued Name
CloudHealth Partner Platform	Discontinued - see Aria Cost powered by CH
Platform & Cross-Cloud Services	
Project Ensemble	VMware Aria Hub
New	VMware Aria Graph
vRealize Migration Manager	VMware Aria Migration
vRealize Automation Cloud Guardrails	VMware Aria Guardrails
Project Ensemble Insights	VMware Aria Business Insights
Other	
Skyline	VMware Skyline
vRealize Suite Lifecycle Manager	VMware Aria Suite Lifecycle
vRealize Cloud Subscription Manager	VMware Aria Hub Subscription
vRealize AI Cloud	Functionality part of Aria Hub; name discontinued

Thank You



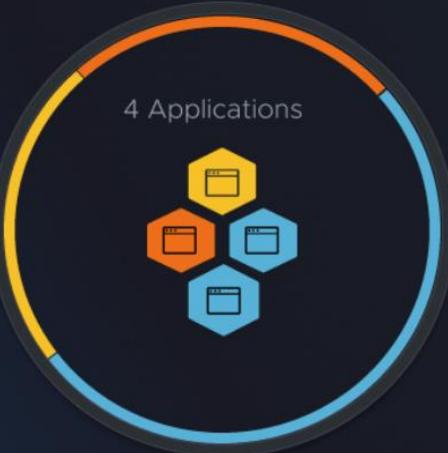
https://pathfinder.vmware.com/v3/activity/aria_hub_vision_demonstration_walkthrough

Aria Hub home page

customized for an application owner

FILTER
Filter by: Favorite Applications

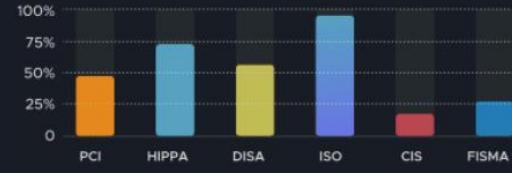
Results
4 Applications



Cost
Total cost of ownership **\$3,044,293.03**
Potential Savings **\$37,495.00**
▲ + 2.43% up in last 7 days
Approximately 8.3% of your total cost



Security and Compliance
12/15
benchmarks are below the SLO line
2 Compliance benchmarks are critically low



Infrastructure
Availability: 98.9% (▼ 2.1% vs last week)
Performance: 95.21% (▼ 2.1% vs last week)



Customer Experience
MTTR: 35.12 mins (▲ 2.22% higher than last week)
Service Requests: 338 K (▼ 15% lesser than last week)



BUSINESS INSIGHTS

A significant change in East / West network traffic was detected in the Customer Billing application due to an increase in HTTP traffic.
Low Performance

The E-Commerce application has had a dramatic increase in cost. Click to see which components have increased in cost over the latest billing cycle.
Low Cost

The Customer Support application has reclaimable savings that can be realized by rightsizing the resources supporting the application. Click to see which resources are oversized.
High Capacity

The Inventory Mgmt application has high risk configuration violations that have been detected. Click for recommendation and remediation opportunities.
Critical Configuration

Setup A New Use Case:

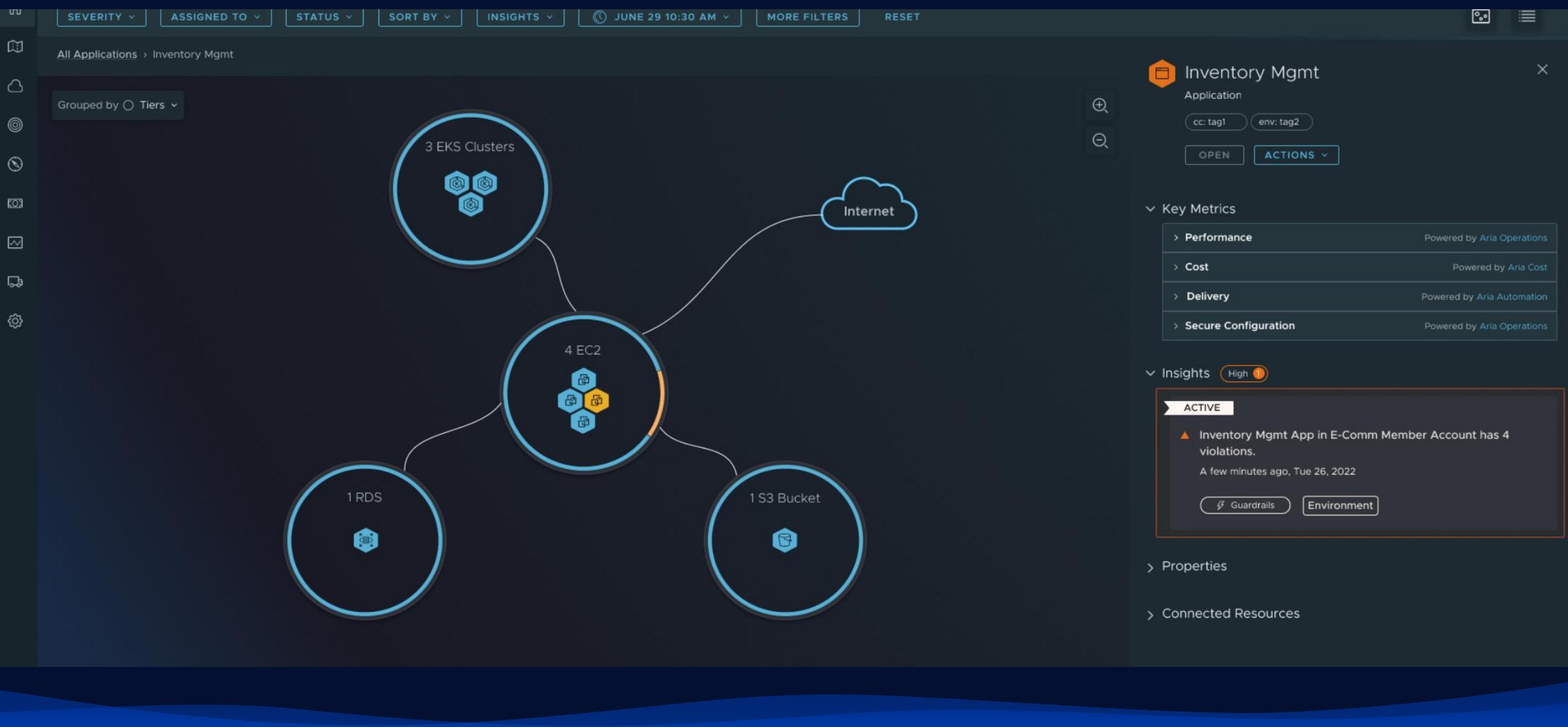
Automate DevOps Infrastrcuture Delivery Pipelines **SET UP**

Enable Logging and Log Analytics **SET UP**

Enable event-driven host configuration and compliance **SET UP**

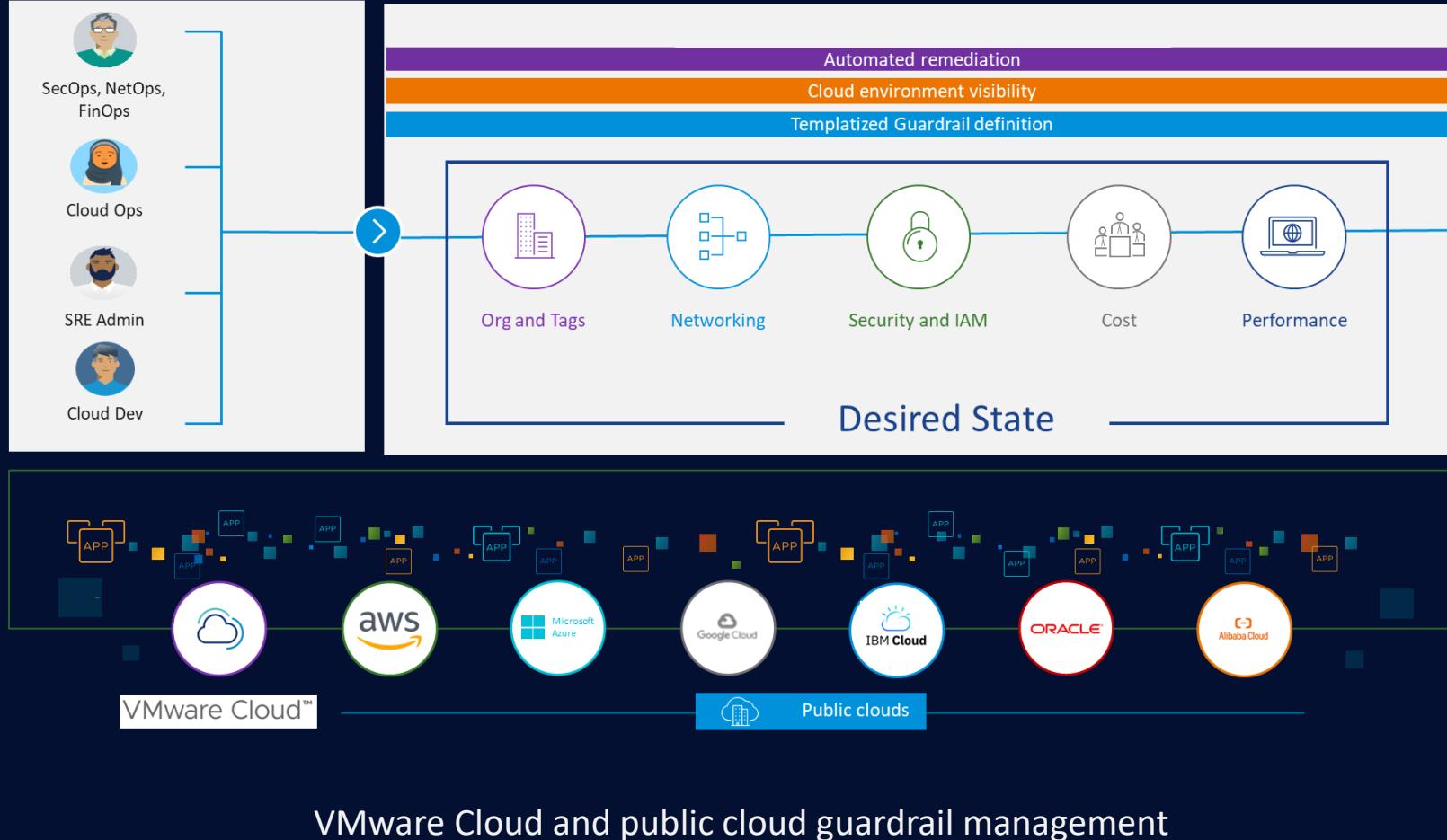
Aria Hub Topology

The Inventory Mgmt application running in AWS



Aria Guardrails

Foundation for VMware Cloud and public cloud governance and policy management



Capability

Automate enforcement of cloud guardrails for networking, security, cost, performance, and configuration at scale for multi-cloud environments with an everything-as-code approach. Powered by Idem Project.

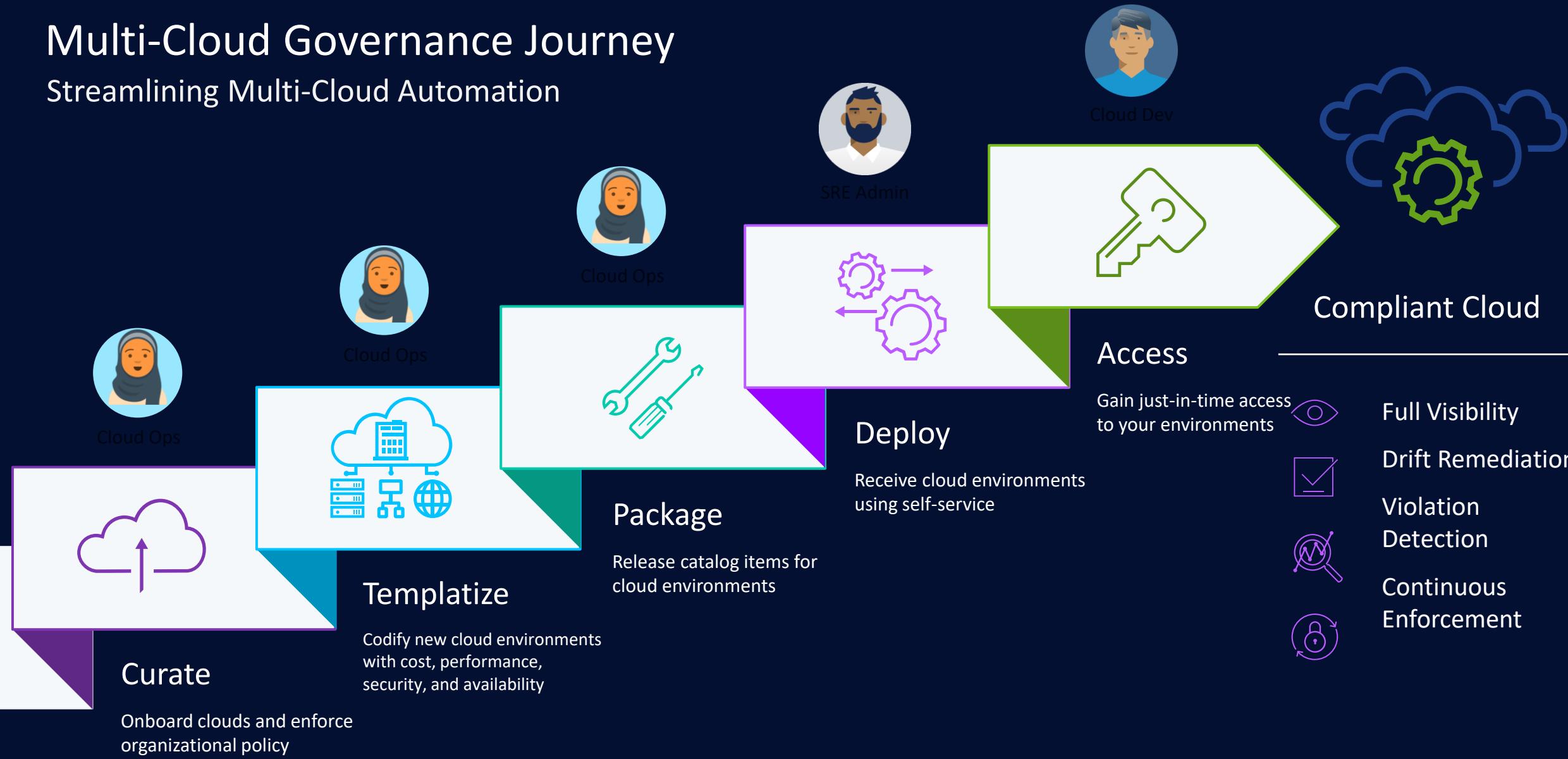
Outcome & Benefits

Security & Cost Optimization. Ensure cloud environments and apps are more secure, and costs are better optimized across VMware and public clouds

Speed & Simplicity. Make provisioning, policy enforcement, and continuous management of multi-cloud environments easier, and quicker

Multi-Cloud Governance Journey

Streamlining Multi-Cloud Automation



Define, monitor and continuously enforce cloud guardrails

Templatized Cloud Guardrail Definition

Create template by importing from library

Select the library template to customize. You can select multiple library templates in one category or cross categories to create a composite template

Bootstrap
Create new cloud environments and resources.
SELECT TEMPLATE

Network
Create network policies
SELECT TEMPLATE

Security
Create security policies
SELECT TEMPLATE

Cost
Create cost policies
SELECT TEMPLATE

Performance
Create performance policies
SELECT TEMPLATE

Config
Create configuration policies
SELECT TEMPLATE

Create AWS Landing Zone ACTION -

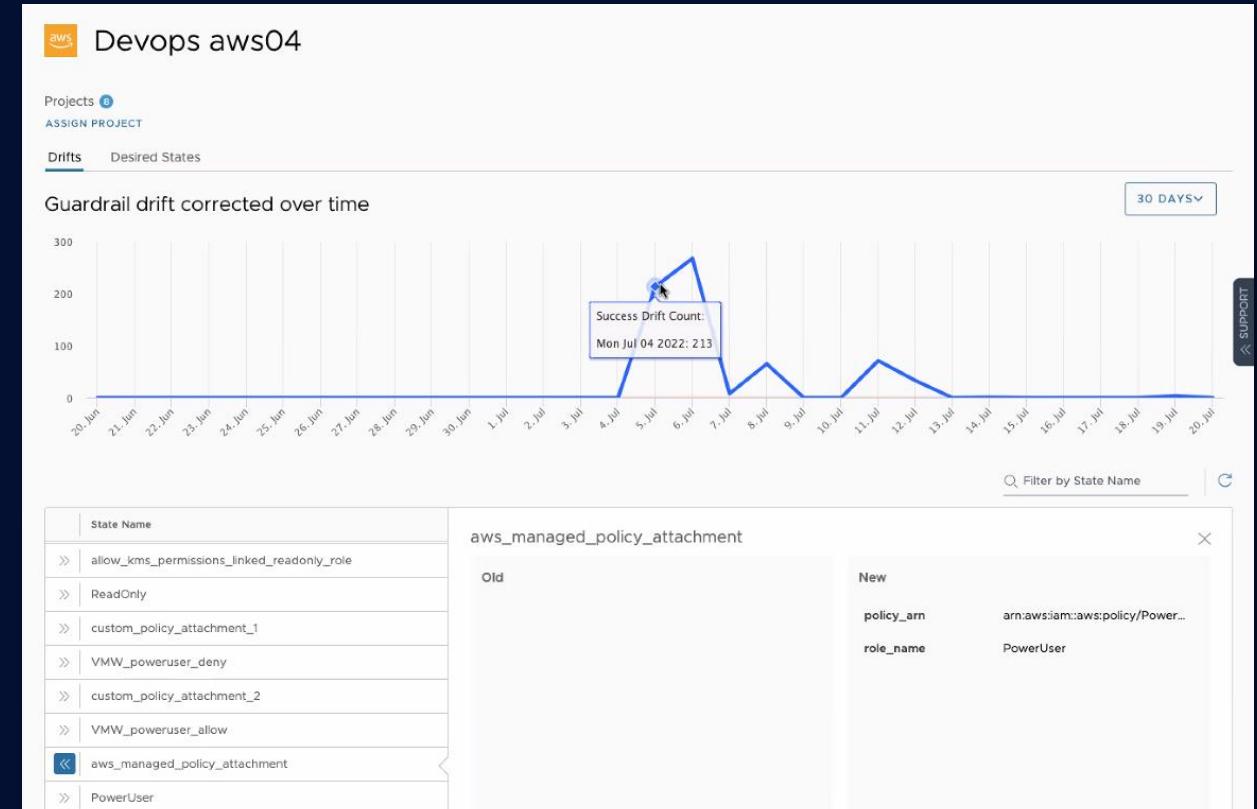
AWS Landing Zone helps customers more quickly set up a secure, multi-account AWS environment based on AWS best practices.

Category	Bootstrap	Project
Last Updated	13/07/2022	Updated By
	mod	hernandez@vmware.com

Old

```
1- {{ params.get('member_account_name') }}:  
2-   META:  
3-     name: "Create member account"  
4-     parameters:  
5-       member_account_name:  
6-         name: "Account Name"  
7-         uilement: "text"  
8-         description: "The friendly name of the member account."  
9-       member_account_role:  
10-      name: "Role Name"  
11-      uilement: "text"  
12-      description: "The name of an IAM role that Organizations automatically preconfigures in the new member account. This role trusts member accounts."  
13-      member_account_email:  
14-      name: "Email"  
15-      uilement: "text"  
16-      description: "The email address of the owner to assign to the new member account."  
17-      description: "An account in Organizations is a standard AWS account that contains your AWS resources and the identities that can access them. The account must be present."  
18-      require:  
19-        - organization:  
20-          organization_unit: {{ params.get('organization_unit_3', 'R&D') }}  
21-          account_name: {{ params.get('member_account_name') }}  
22-          role_name: {{ params.get('member_account_role') }}  
23-          email: {{ params.get('member_account_email') }}  
24-          iam_user_access_to_billing: "Allow"  
25-          parent_id: ${{aws.organizations.organization_unit:[{ params.get('organization_unit_3', 'R&D') }].resource_id}}  
26-
```

Visibility & Continuous Enforcement



powered by



Aria Universal (vRCU) Edition to Capabilities

What's possible with the version I have?

Standard	Advanced	Enterprise*	Enterprise Plus
<ul style="list-style-type: none">• Aria Operations Advanced• Aria Operations for Logs• VMware Skyline	<ul style="list-style-type: none">• Aria Automation Advanced• Aria Operations Advanced• Aria Operations for Logs• VMware Skyline	<ul style="list-style-type: none">• Aria Automation Enterprise• Aria Operations Enterprise• Aria Operations for Logs• Aria Cost• Aria Operations for Secure Clouds• VMware Skyline	<ul style="list-style-type: none">• Aria Automation Enterprise• Aria Operations for Networks• Aria Operations Enterprise• Aria Operations for Logs• VMware Skyline

Application View

- User curated

Explore View

- On-Prem vSphere
- VMC
- Public Cloud Accounts
- Personalization (Homepage)
- Centralized Cloud Account Management

Aria Hub Capabilities

- Deployment Actions – On-Prem
- Deployment Properties – On-Prem
- Deployment Stitching – On-Prem

- AWS CIS Compliance
- AWS Base Rate Costs
- Deployment Actions – Multi-Cloud
- Deployment Properties – Multi-Cloud
- Deployment Stitching – Multi-Cloud

- Application View
 - Auto-discovered
- Network Flow Insights and Visualization

*Richer Multi-Cloud capabilities are available in Enterprise only (not Enterprise Plus)