

Aria Operations

EXPERIENCE DAYS

Bengt Grønås and Kate Rychlic

Cloud Management Specialists

onsdag 29. mars 2023



Introduction



BENGT GRØNÅS

- ❑ Senior Solutions Engineer
- ❑ 8 years in VMware
- ❑ Based in Oslo, Norway
- ❑ Covers Nordics and Baltics
- ❑ Often a Lab Captain at VMware Explore / VMworld
- ❑ Music production, long travels; hiking, motorcycle, chess
- ❑ @bgronas



Kate Rychlic

Senior MultiCloud Management Specialist Solution Architect

Aka. Kasia, Katia, etc

199 years in VMware

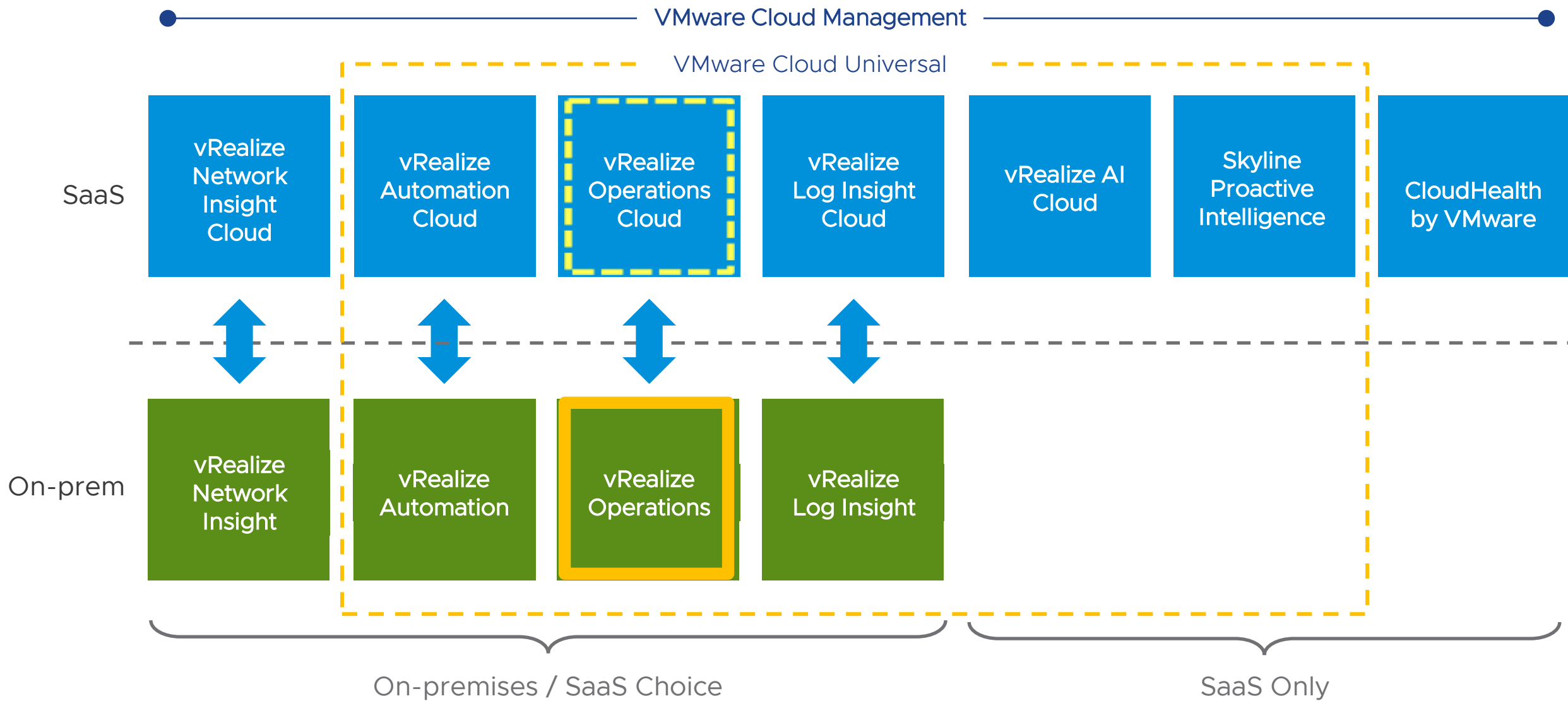
Based in Amsterdam, Netherland

Covers the world

Carc crashing, DIY, hobbies, interests, bla bla..

@krychlik

VMware Cloud Management: vRealize, Skyline, CloudHealth

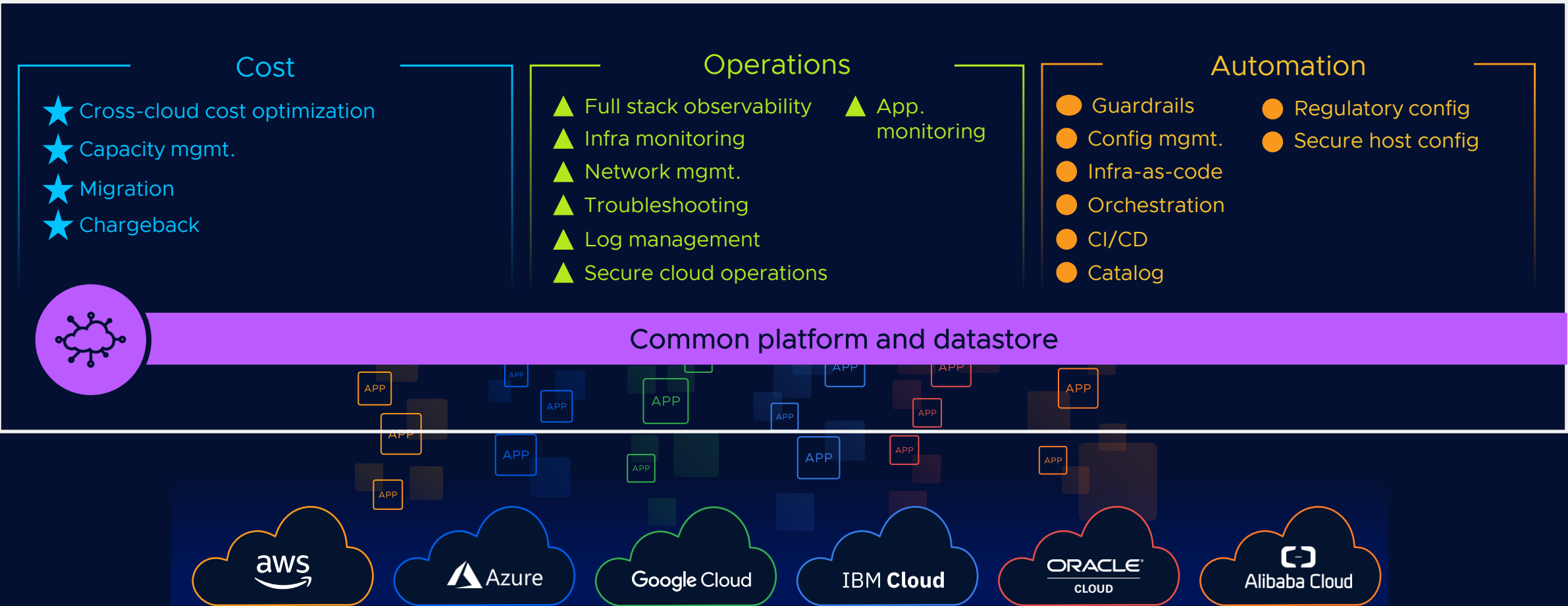


Cloud Management New Family Brand: VMware **Aria**

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

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



Why Aria Operations?

#1 in Operations Management



Powered by AI



Why Aria Operations Cloud?

Benefits of cloud service for cloud alignment



Powered by AI



Aria Operations / Aria Operations Cloud

Key Benefits

Accelerate service & innovation delivery	Reduce time to market and automate infrastructure delivery
Improve agility	No hardware and no maintenance
Increase Flexibility	Reduced risk and CAPEX to OPEX
Scale rapidly	Dynamic and reliable with VMware SRE support
Future Ready	Manage traditional and cloud-native workloads across private, hybrid and multi-cloud environments

Use Cases Unlocked by vRealize Operations



Hyperconverged
Infrastructure
Operations



Consistent
VMware Cloud
Operations



App-aware
Operations



Integrated
Compliance

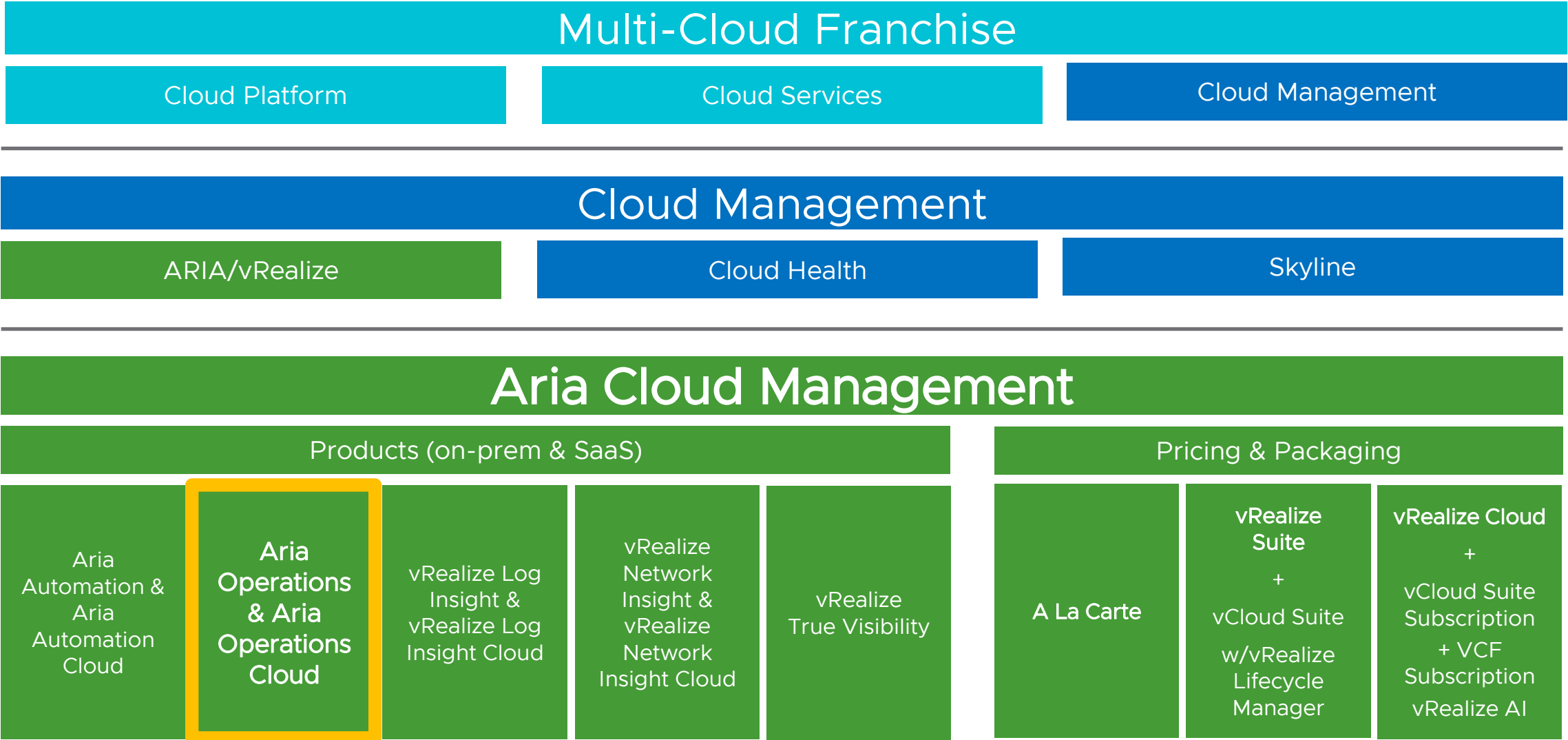


Unified Public
Cloud
Monitoring

Initial Recommendations / Quick win

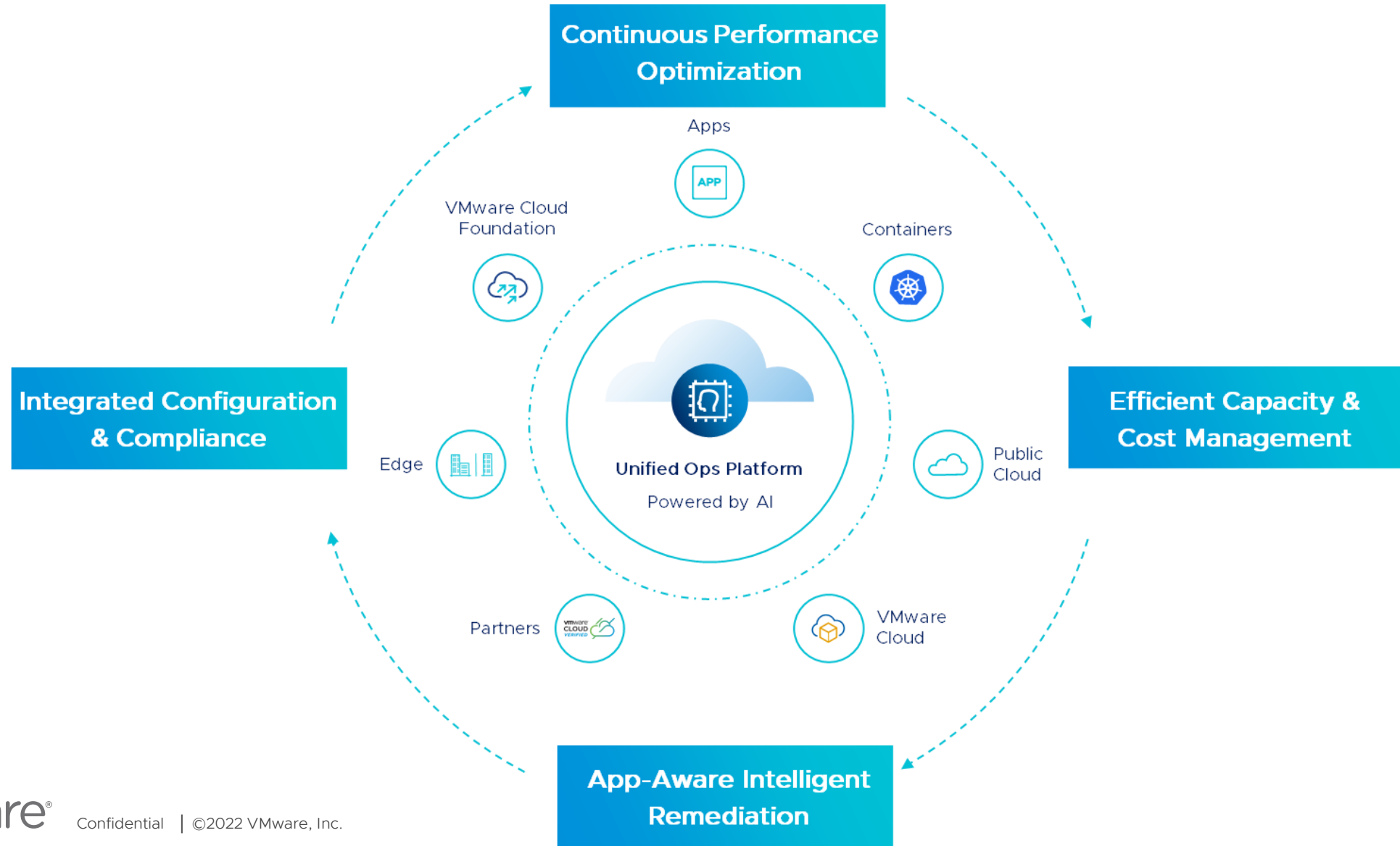
- ❑ **Recommendations.** Focus efforts on critical & recent.
- ❑ Declutter the environment with **Reclamation**
- ❑ **VM RightSizing** –Group Bronze Class VM's. Schedule rightsizing
- ❑ Common used dashboards – Good **OOTB** or custom dashboards
- ❑ Capacity Planning – Time Remaining. Set up policies on 1 particular cluster for capacity planning.
- ❑ Troubleshooting Proactive – Workbench
- ❑ Dashboard Folder – List your favs
- ❑ Custom Groups for application types etc.
- ❑ Adjust cost drivers to improve accuracy. Import env cost reports - Reports
- ❑ Showback and Sustainability (Waste Management) Reports to Senior Management + ESG Team
- ❑ Config/Compliance Management Reports: NTP, DNS, Power Management
- ❑ Integrate Storage Arrays from 3rd Parties – Management Packs
- ❑ Capture legacy O/S's using configuration dashboards and reports
- ❑ Outbound alert settings
- ❑ Change the default email payload to something more user friendly. See - Custom Aria Ops Content
- ❑ Change the Home landing page to a more useable dashboard e.g vSphere Inventory
- ❑ Skyline Data MP – Feed Security Vulnerabilities to Aria Ops. Send as report to SecOps
- ❑ Enable a compliance pack. vSphere Security Guide vs the 100's line excel document = good start!

VMware Cloud Management



Self-Driving Operations with vRealize Operations

Powered by AI, from apps to infra, across VMware Cloud and multiple public clouds, on-premises or SaaS



Feature Parity: vRealize Operations / vRealize Operations Cloud

vmw

VMware vRealize Operations Cloud

US West (Oregon)

Bengt Gronas

CMBU TMM

Search

>>

Home

Quick Start

Operations Overview

Optimize Performance

17

DATACENTERS
REQUIRING OPTIMIZATION

Workload Optimization

Run workload optimization to ensure consistent performance in your datacenters.

Rightsize

Rightsize workloads to ensure performance and reduce bottlenecks.

Recommendations

View and take recommendations to improve overall system performance.

Optimization History

See completed optimization actions.

Optimize Capacity

US\$21,195

TOTAL SAVINGS OPPORTUNITY

Assess Capacity

Determine if there is sufficient capacity in your environment.

Reclaim

Reduce waste by reclaiming unused resources.

Plan

Run scenarios to plan for future projects and changes.

Assess Cost

Analyze the costs of running your environment.

Optimize Cost

Get an overview of your Return on Investment.

Troubleshoot

ISSUES USING ALERTS, LOGS AND DASHBOARDS

Workbench

Troubleshoot by finding potential root causes in a given scope and time.

Alerts

Troubleshoot by reviewing active alerts in the system.

Logs

Troubleshoot by examining and analyzing logs.

Dashboards

Troubleshoot using dashboards

Applications

Troubleshoot with in applications boundaries

Manage Configuration

AND COMPLIANCE BY BENCHMARKS AND OBJECT TYPES

Compliance

Assess and Manage Compliance.

Configuration

Manage and assess configuration by object type:

Virtual Machine

Host

Cluster

Distributed Switch

Sustainability

View power consumption and carbon footprint, track decarbonization journey with VMware Green Score and receive actionable recommendations for further optimization.

SUPPORT

Continuous Performance Optimization

“

Can I achieve automated resolution of VM performance issues?

”

“

How do I prevent VMs from getting deployed to clusters that are full?

”

“

How can I make sure clusters don't get filled beyond target?

”

“

Can I learn to predict & avoid contention?

”

“

Can I limit VM movement to manage licensing costs?

”

“

Can I consolidate and reuse for a new project?

”

Intent-Driven Continuous Performance Optimization

vmw

VMware vRealize Operations Cloud

US West (Oregon)

Home

Data Sources

Environment

Visualize

Troubleshoot

Optimize

Plan

Configure

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- ❑ Automated Intent-driven Workload Optimization and balancing for **private cloud**
- ❑ **Host-based placement** for private cloud based on business and operational intent
- ❑ **Placement Optimization** for vSAN workloads that is Resync, slack-space & SPBM aware
- ❑ Intent-driven Workload Optimization and balancing for **VMware Cloud on AWS**
- ❑ **Integration with vRealize Automation** for initial placement and on-going balancing
- ❑ Next-gen CMP with **shared constructs** like cloud accounts, cloud zones and projects across Operations and Automation
- ❑ Workload **right-sizing** for hybrid cloud
- ❑ **Predictive DRS** to avoid contention

vmware

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Optimize & Plan Capacity across Private, Hybrid and Public Clouds

“

What is my total capacity and how much is used/remaining

”

“

How much capacity can I reclaim? Cost?

”

“

When will I run out and how much more is needed? Cost?

”

“

What is the cost of running VMs on private vs hybrid or public cloud?

”

“

What are the costs and usage in private/public clouds?

”

Efficient Capacity and Cost Management

Operations Overview

- ❑ Demand and Allocation
Aware Capacity Management and Planning
- ❑ Reclaim overprovisioned capacity, incl. from Orphan VMDKs
- ❑ What-If scenarios for: workload and h/w removal; HCI planning
- ❑ Stacked what-if scenarios
- ❑ Migration planning to public cloud and VCPP partners
- ❑ VMware Cloud on AWS migration assessment



Optimize Capacity

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TOTAL SAVINGS OPPORTUNITY



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Assess Cost

Analyze the costs of running your environment.

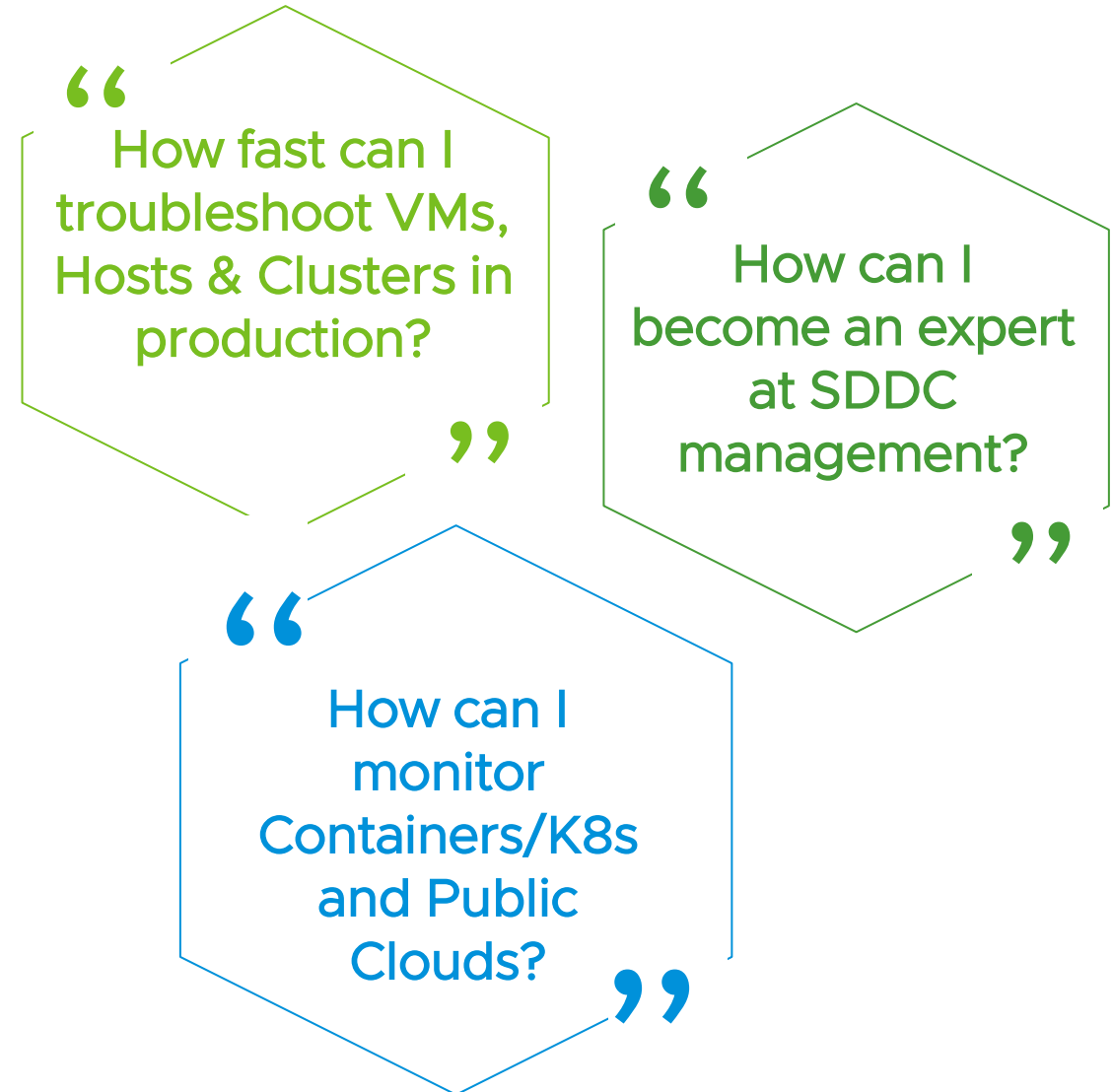


Optimize Cost

Get an overview of your Return on Investment.

- ❑ Cost drivers: vSAN costs, individual server costs, total monthly OpEX costs
- ❑ Enhanced Private Cloud Costing with per datacenter cost drivers
- ❑ Rate-card based pricing
- ❑ Private cloud cost comparison across data centers for new workload planning
- ❑ Monitor costs for VMware Cloud on AWS infrastructure
- ❑ Public cloud costing via CloudHealth integration

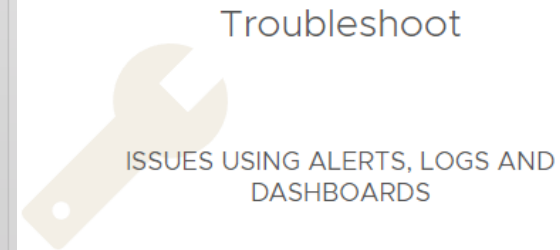
Intelligent Remediation



Intelligent Remediation

- ❑ Troubleshooting Workbench for expedited root cause analysis
- ❑ Kubernetes monitoring including vSphere 7 with Tanzu discovery, monitoring, troubleshooting, capacity management; support for Openshift, EKS, AKS, GKE, and downstream “Kubernetes anywhere”
- ❑ Line of sight from apps to Infra, including (cloud-exclusive) APM tool integration and near real-time monitoring
- ❑ Simplified alert creation, dashboard mgmt, consistent navigation & summary pages
- ❑ Metric Correlation (including logs-as-metrics and log/metric correlation) and Super Metrics workflows for faster troubleshooting
- ❑ OOB application monitoring (20 total) via Telegraf agents and custom script execution
- ❑ Native Service Discovery with support for top-n processes and one-time script execution

Investment.



Workbench

Troubleshoot by finding potential root causes in a given scope and time.



Alerts

Troubleshoot by reviewing active alerts in the system.



Logs

Troubleshoot by examining and analyzing logs.



Dashboards

Troubleshoot using dashboards



Applications

Troubleshoot within application boundaries

- ❑ AWS, Azure, and GCP monitoring, including capacity management for AWS
- ❑ vRealize Network Insight integration (including app discovery)
- ❑ vRealize Log Insight integration
- ❑ Service Now integration
- ❑ Slack integration
- ❑ Enhancement to management packs – SDDC, Cloud Pod, Container/PKS, vRO, NSX-T, VxRail, SNMP etc
- ❑ Enhanced insights via Skyline



View power consumption and carbon footprint, track decarbonization journey with VMware Green Scc and receive actionable recommendations for further optimization.

Integrated Compliance, Configuration, and Sustainability

“

What is my compliance stature against my org policies?

”

“

Am I meeting regulatory compliance needs?

”

“

How can I remediate drift?

”

“

Will I pass my compliance audit (PCI, HIPPA, DISA, CIS, ISO, FISMA)?

”

“

where are we in our sustainability journey?

”

Integrated Compliance & Configuration

The screenshot displays the VMware vRealize Operations Manager interface. The top navigation bar includes 'vm vRealize Operations Manager', 'Home', 'Dashboards', 'Alerts', 'Environment', and 'Administration'. On the right, there are icons for search, refresh, notifications, and user profile. The left sidebar shows a 'Quick Start' menu with options like 'Operations Overview', 'Optimize Performance', 'Optimize Capacity', 'Compliance', and 'Manage Applications'. The main content area is divided into two sections: 'Quick Start' and 'Manage Configuration'. The 'Quick Start' section features a 'Workload Optimization' card with a '4 DATACENTERS REQUIRING OPTIMIZATION' indicator, and 'Recommendations' and 'Optimization History' cards. The 'Manage Configuration' section includes a 'Compliance' card with a description 'Assess and Manage Compliance.' and a 'Configuration' card with a description 'Manage and assess configuration by object type:'. Below the 'Configuration' card, there are links for 'Virtual Machine', 'Host', 'Cluster', and 'Distributed Switch'. A 'Sustainability' card is also visible, describing power consumption and carbon footprint tracking. A central overlay box lists key features: Simplified Compliance Workflows, Regulatory and SDDC compliance content (vSphere, NSX-T, vSAN), Monitor compliance for VMs in VMware Cloud on AWS, Ability to create Custom Compliance standards, Automated configuration management with OOTB workflows and vRO integration, and View power consumption and carbon footprint, track decarbonization journey with VMWare Green Score and receive actionable recommendations for further optimization.

vm vRealize Operations Manager Home Dashboards Alerts Environment Administration

BACK Quick Start

Quick Start
Operations Overview

Optimize Performance
Workload Optimization
Rightsizing
Recommended Actions

Optimize Capacity
Overview
Reclaim
What-If Analysis

Compliance
Workbench
Virtual Machine
vSAN
Using Logs
Compliance

Manage Applications
Discover Services
Monitor Applications

Optimize Performance
4 DATACENTERS REQUIRING OPTIMIZATION

Workload Optimization
Run workload optimization to ensure consistent performance in your datacenters.

Recommendations
View and take recommendations to improve overall system performance.

Optimization History
See completed optimization actions.

- Simplified Compliance Workflows
- Regulatory and SDDC compliance content (vSphere, NSX-T, vSAN)
- Monitor compliance for VMs in VMware Cloud on AWS
- Ability to create Custom Compliance standards
- Automated configuration management with OOTB workflows and vRO integration
- View power consumption and carbon footprint, track decarbonization journey with VMWare Green Score and receive actionable recommendations for further optimization

Manage Configuration
AND COMPLIANCE BY BENCHMARKS AND OBJECT TYPES

Compliance
Assess and Manage Compliance.

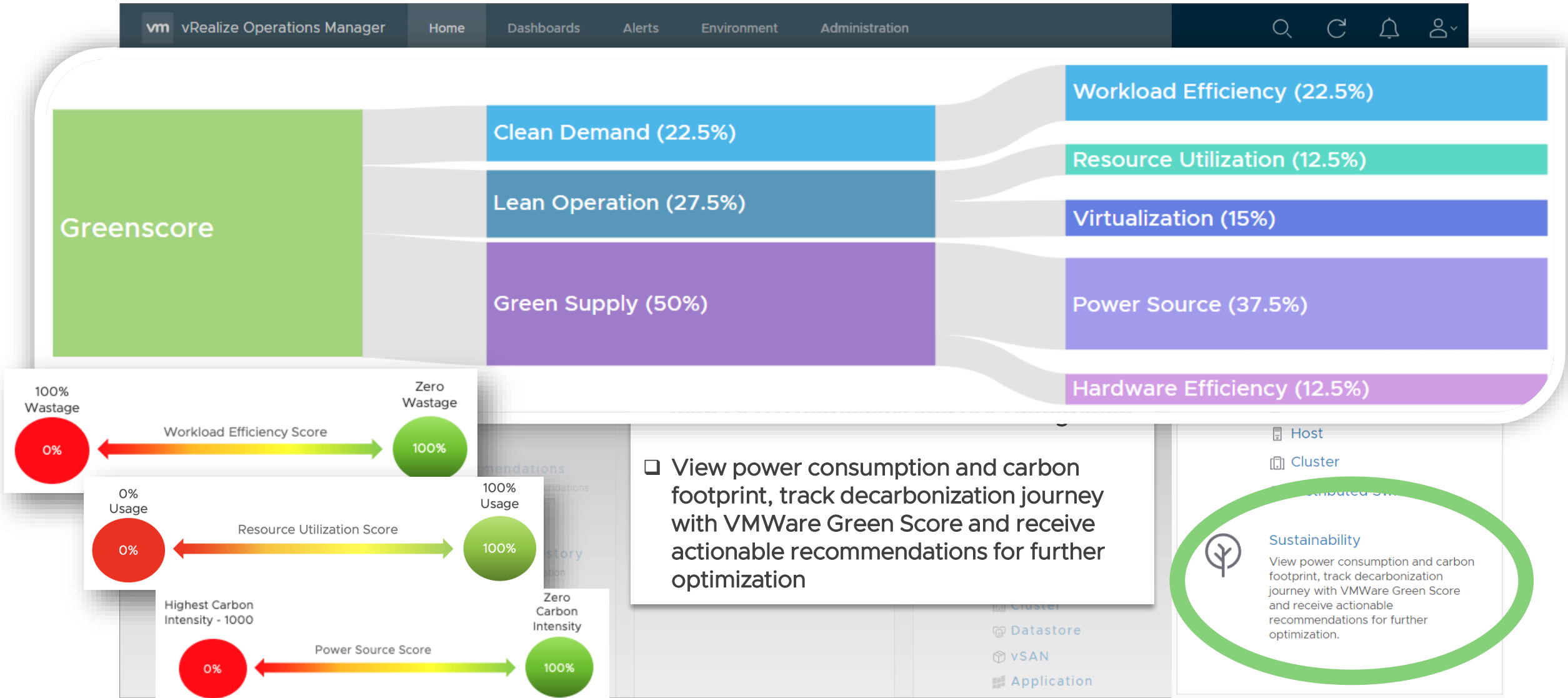
Configuration
Manage and assess configuration by object type:

- Virtual Machine
- Host
- Cluster
- Distributed Switch

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View power consumption and carbon footprint, track decarbonization journey with VMWare Green Score and receive actionable recommendations for further optimization.

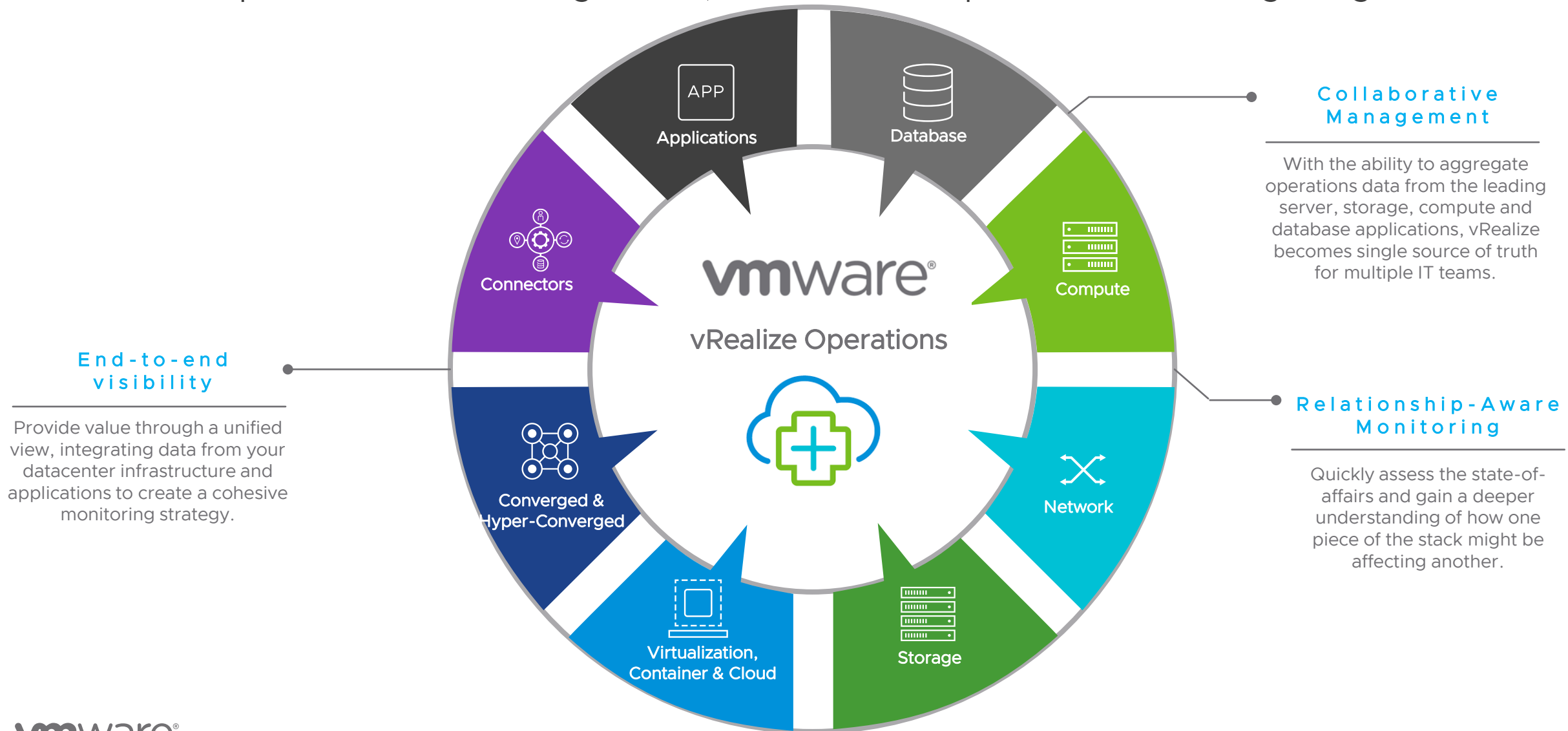
SUSTAINABILITY

Vmware Green Score



vRealize True Visibility Suite

Attain data depth & context in a single view, with relationship-aware monitoring integrations



Extending vRealize Operations

Adding the vRealize True Visibility Suite



vRealize Operations



Application-aware monitoring across SDDC and multiple clouds



Cloud planning, capacity optimization and compliance



Automated and proactive workloads management

vRealize True Visibility Suite



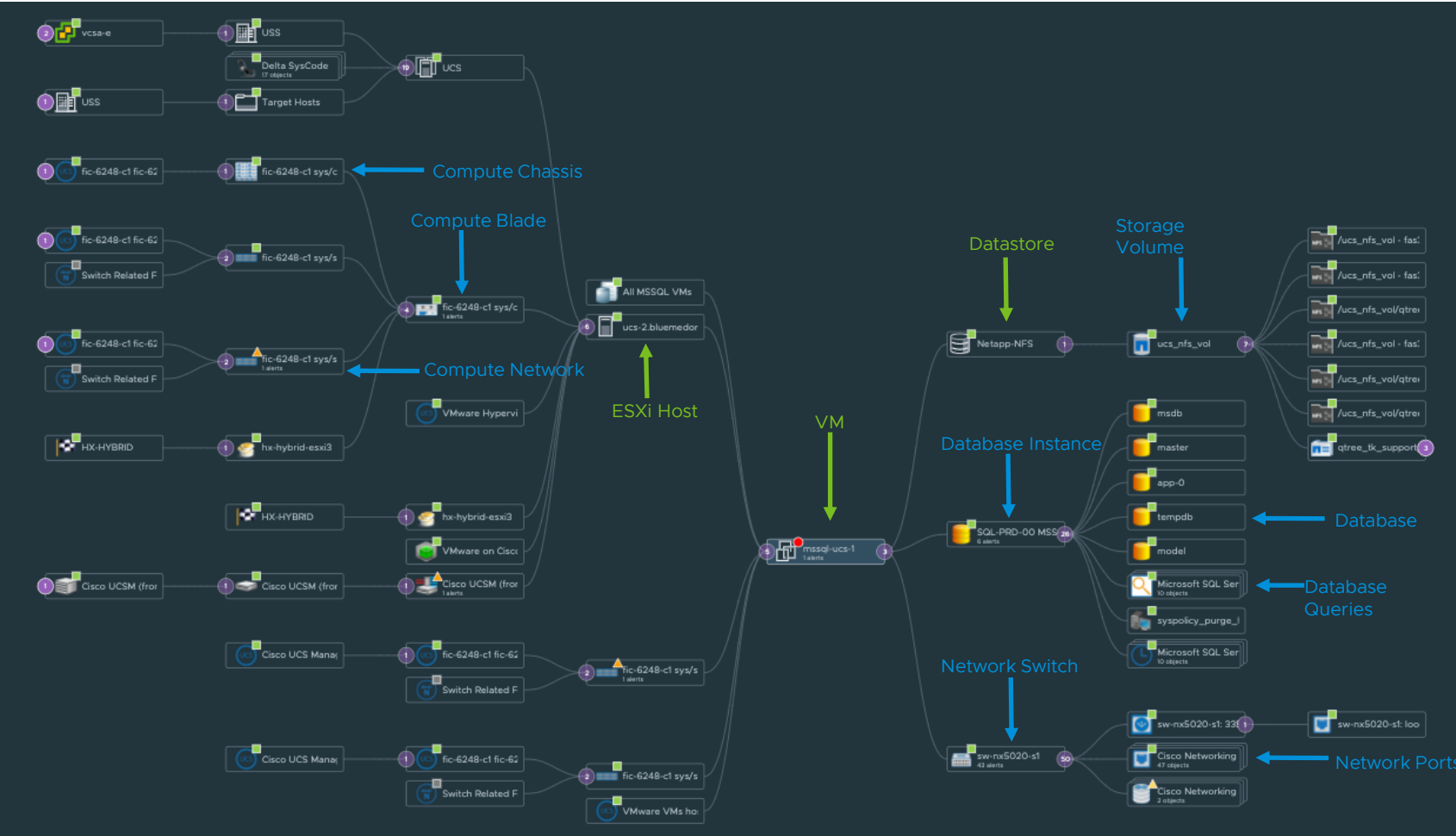
Deeper root cause analysis



Wider collaboration for hybrid cloud management

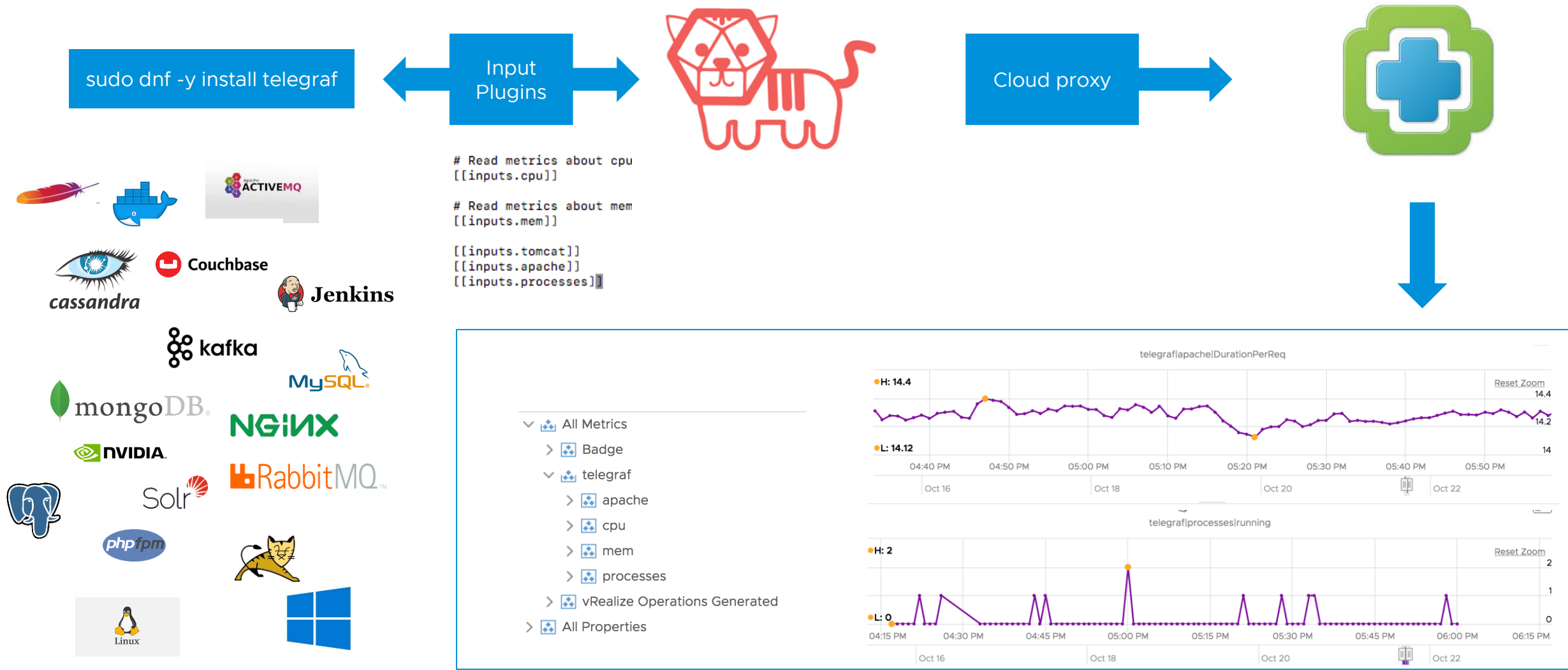


Full stack resource dependency mapping



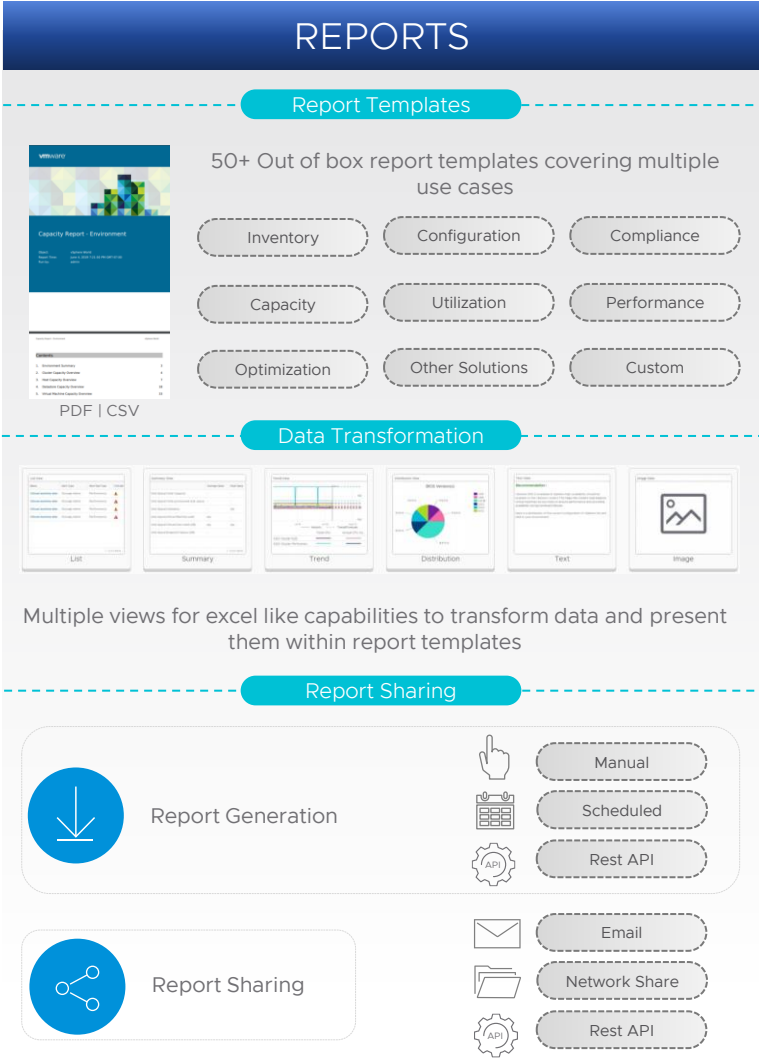
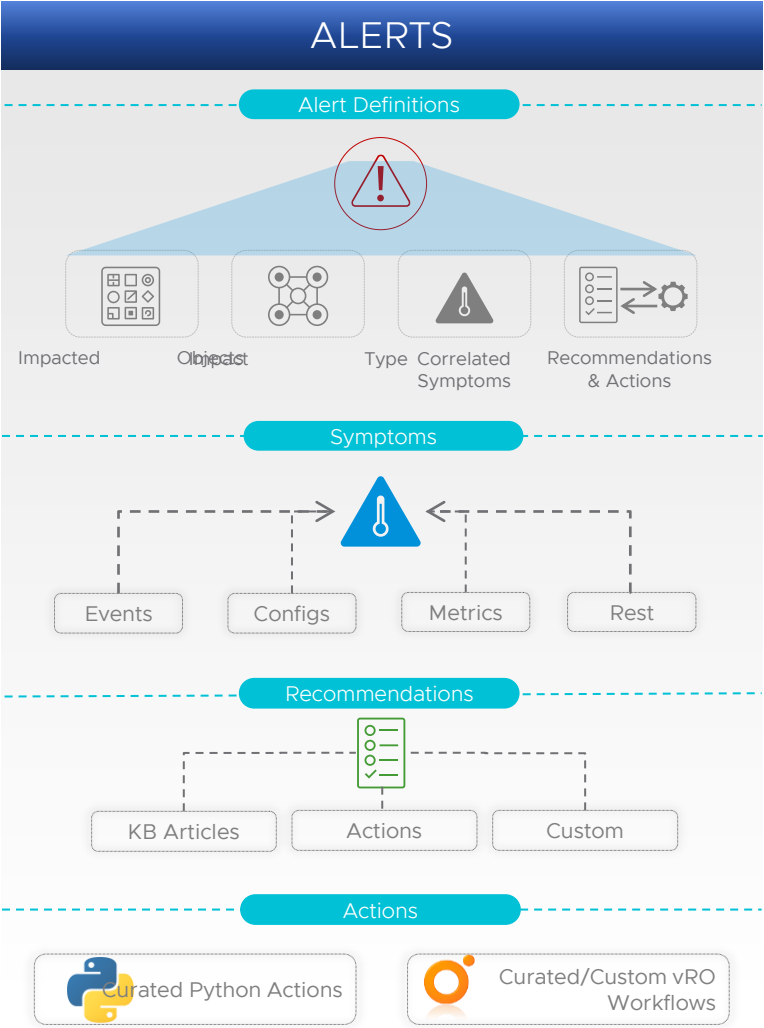
Open source telegraf support

Self-Service data collection supporting 200+ applications

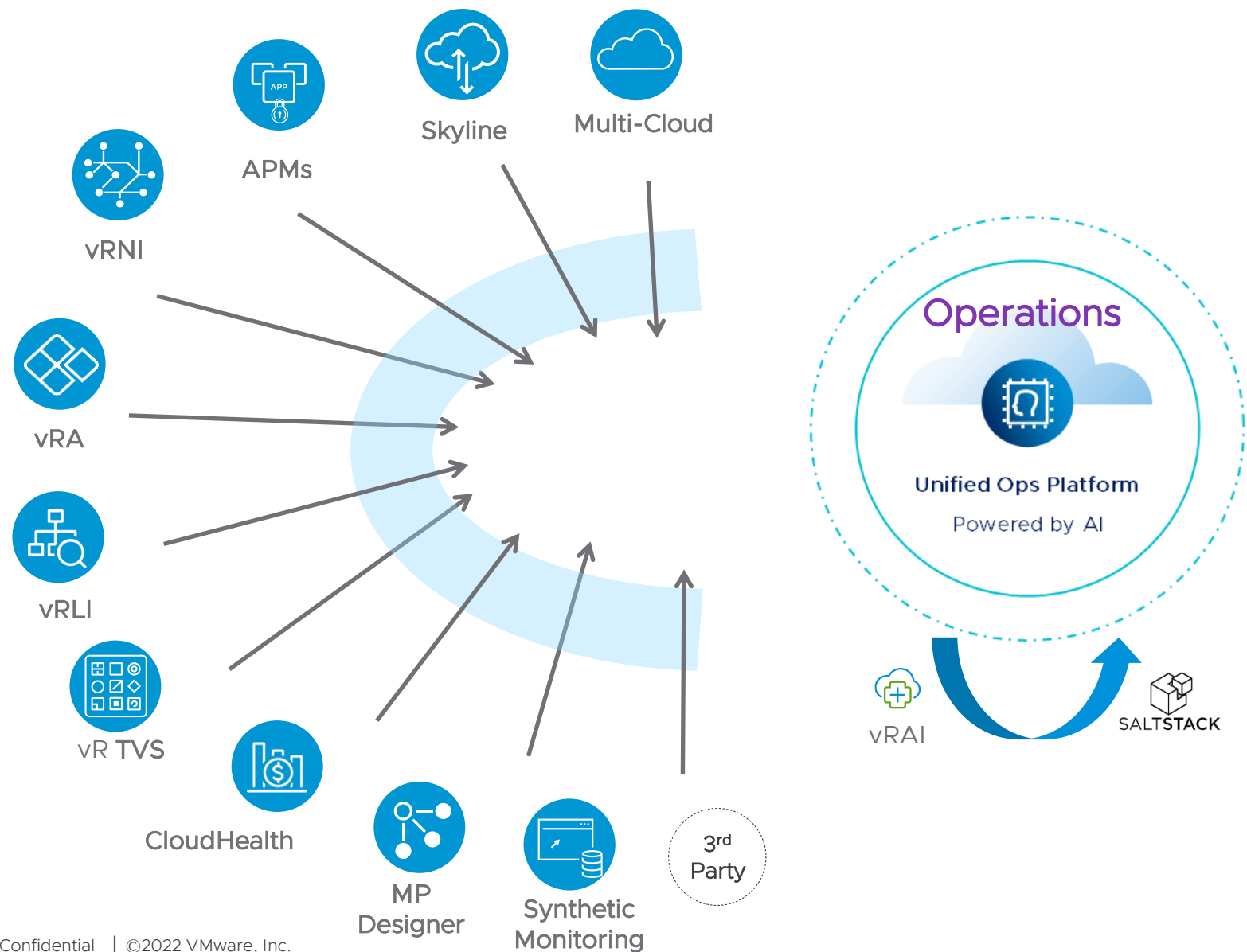


Enhanced visibility with predictive alerts, dashboard and reports

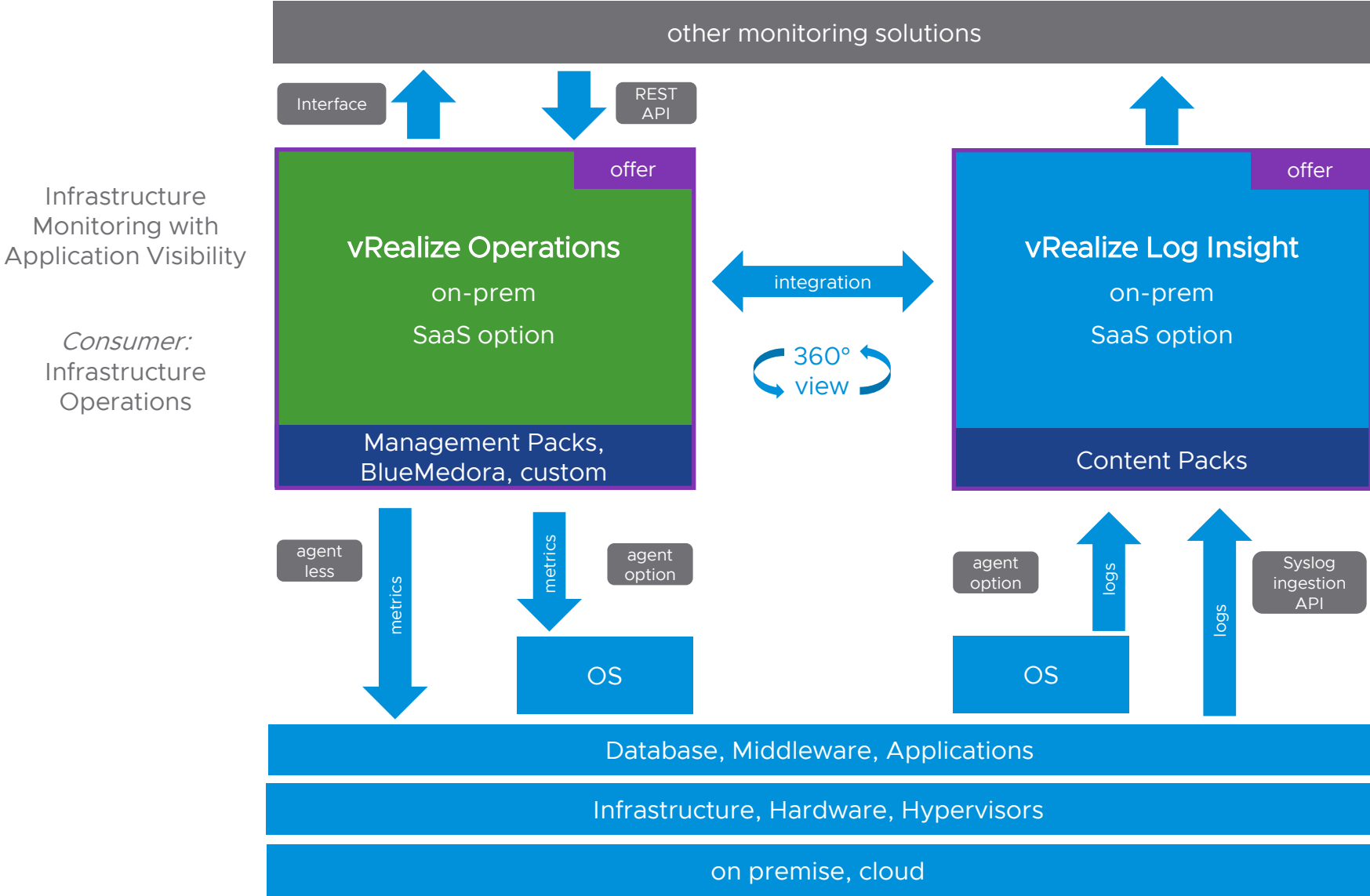
Increase monitoring efficiency with key operational tools



Connecting to Aria Operations



With Log Insight



Aria Operations and Aria Automation Integration

Public Cloud Deployments

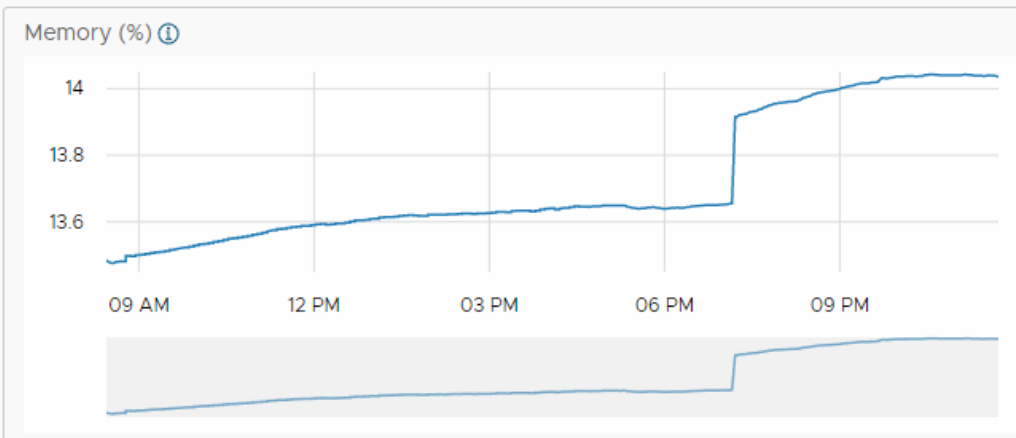
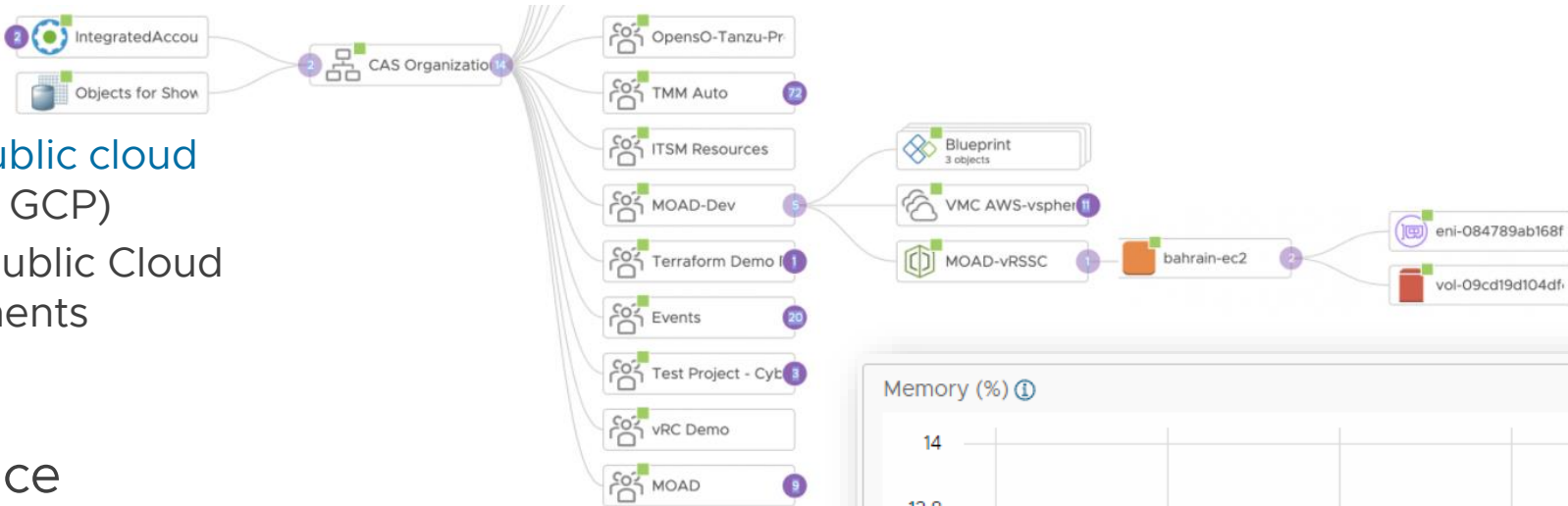
- Extend capabilities to **public cloud resources** (AWS, Azure, GCP)
- **OOTB Dashboards** for Public Cloud Resources and Deployments

Partial Deployments

- Costing, performance metrics, optimization recommendations in vRA

Project Level Limits

- Visibility to **vRA Project Limits**
- **Alerts** can be created for resource utilization or cost as limits approach



Rightsizable VMs

RIGHT SIZE

	Status	VM	Allocated CPU (vCPUs)	Recommended CPU (vCPUs)	Allocated Memory (MB)	Recommended Memory (MB)
●	Oversized	SRV-OSL-T3-063	2	2	4,096	3,072
○	Oversized	SRV-OSL-T3-071	2	2	4,096	3,072

Deep Troubleshooting Paths

Aria Operations for Applications – Aria Operations

AOA Dashboard

Launch in-context to Troubleshooting Workbench

Drill down into deep analysis of infrastructure component

Launch Object Browser

Understand topology and dependencies

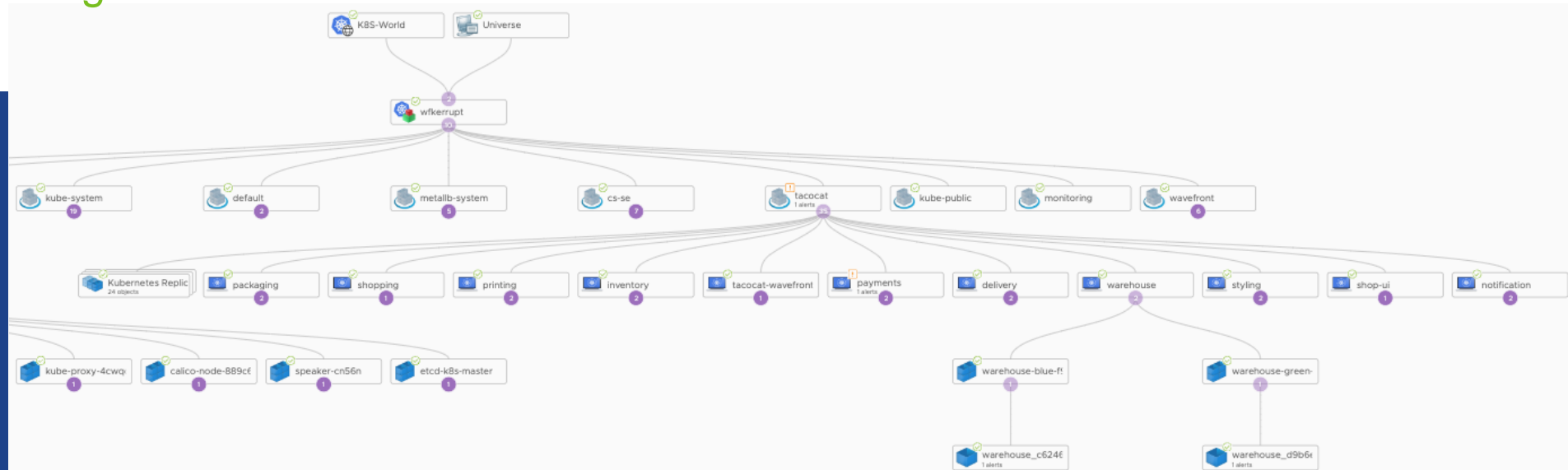
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The same application, two perspectives

Observability from all angles

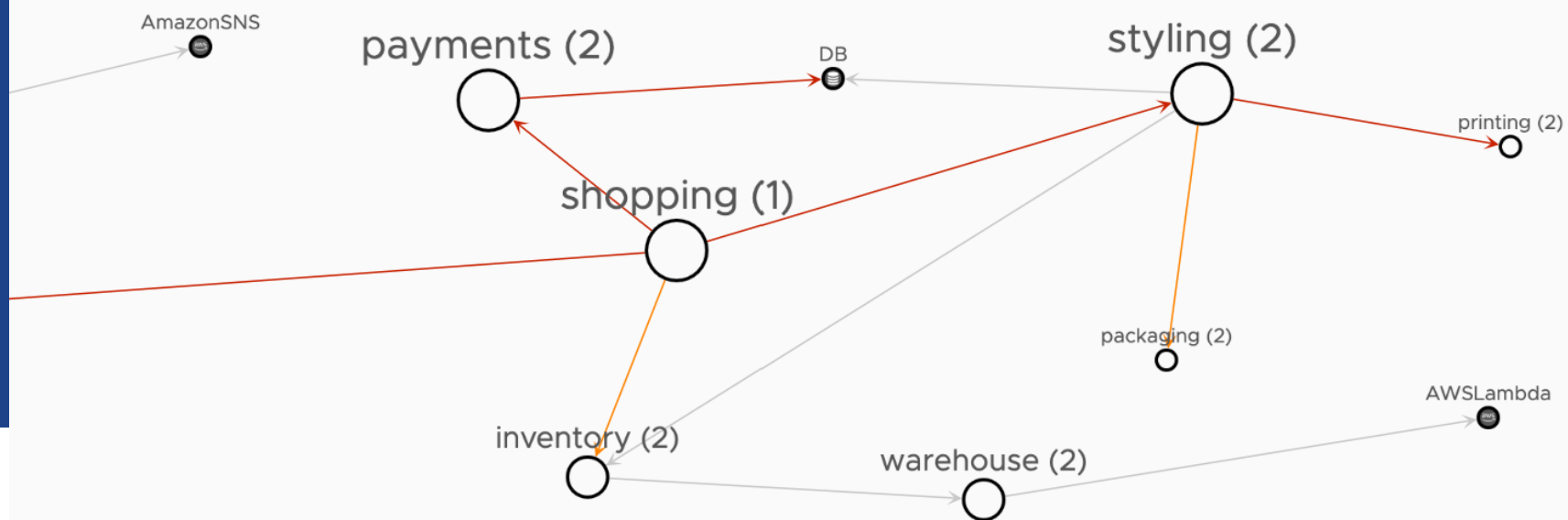
Aria Operations (AO)

- Topology
- Health
- Capacity
- Compliance



Aria Operations for Apps (AOA)

- App discovery
- Throughput
- Latency
- Error rate
- Correlation



Q&A

Account information

HOL-2201-01-CMP student check-in – LET'S GO!!!



Name: holadmin
(VMware identity manager)



Password: VMware1!