



Transform Your IT Landscape with VMware Cloud Foundation

Transform Operations with Aria Suite Enterprise

Nick Wager

Sr. PreSales Engineer | Carahsoft

8/21/2024

vmware[®]
by **Broadcom**

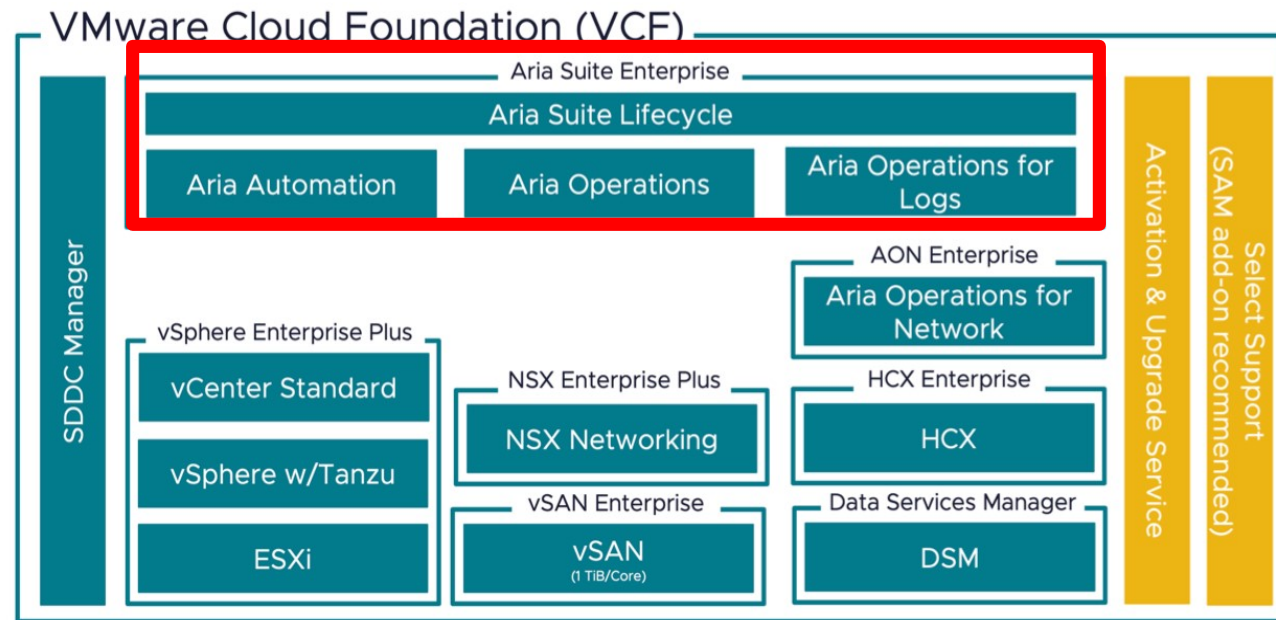
Broadcom Proprietary and Confidential. Copyright © 2024 Broadcom.
All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries.

carahsoft.

Transform Your IT Landscape with VMware Cloud Foundation Series

Today's Session: Integrated Infrastructure Management with SDDC Manager

- SDDC Manager (7/31/2024)
- NSX Network Virtualization (8/7/2024)
- HCX Enterprise (8/14/2024)
- **Aria Suite Enterprise (8/21/2024)**
- Tanzu Platform (8/28/2024)



Agenda

- VMware Cloud Foundation (VCF) Overview
- Aria Suite Overview
 - Aria Operations
 - Aria Operations for Logs
 - Aria Automation
- Aria Suite 8.18 Updates (Aligns with VCF 5.2)
- Demo



Modernize Private Cloud

Introducing VMware Cloud Foundation



VMware Cloud Foundation 5.2



Modernize Infrastructure

Infrastructure transformation and modernization



Build or modernize a private cloud infrastructure



Automate to provide IaaS via a self-service catalog

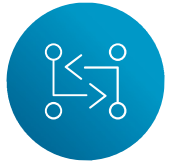


Extend your data center into the cloud



Cloud Experience for Developers

Modern application support and Private AI



Deliver Infrastructure-as-Code



Run business critical and modern workloads in production



Implement Private AI with NVIDIA (Private AI Foundation with NVIDIA)



Security and Resilience

Build, protect, and recover systems and data



Protect and recover from ransomware



Design and implement a disaster recovery-ready infrastructure



Build and integrate security, compliance and resilience into IT*

* Presales use case only, no discrete deliverable. Outcome leads back to cloud infrastructure capabilities relevant to security, compliance and resilience, also needs external mapping to ANS for any non-VCF Division security considerations (microseg, DFW, etc.)



Driving Modernization, Developer Productivity and Security

Key Outcomes of VCF 5.2



Improved Resource Utilization



Enhanced Developer Speed



Secure and Reliable



Faster Time to Value

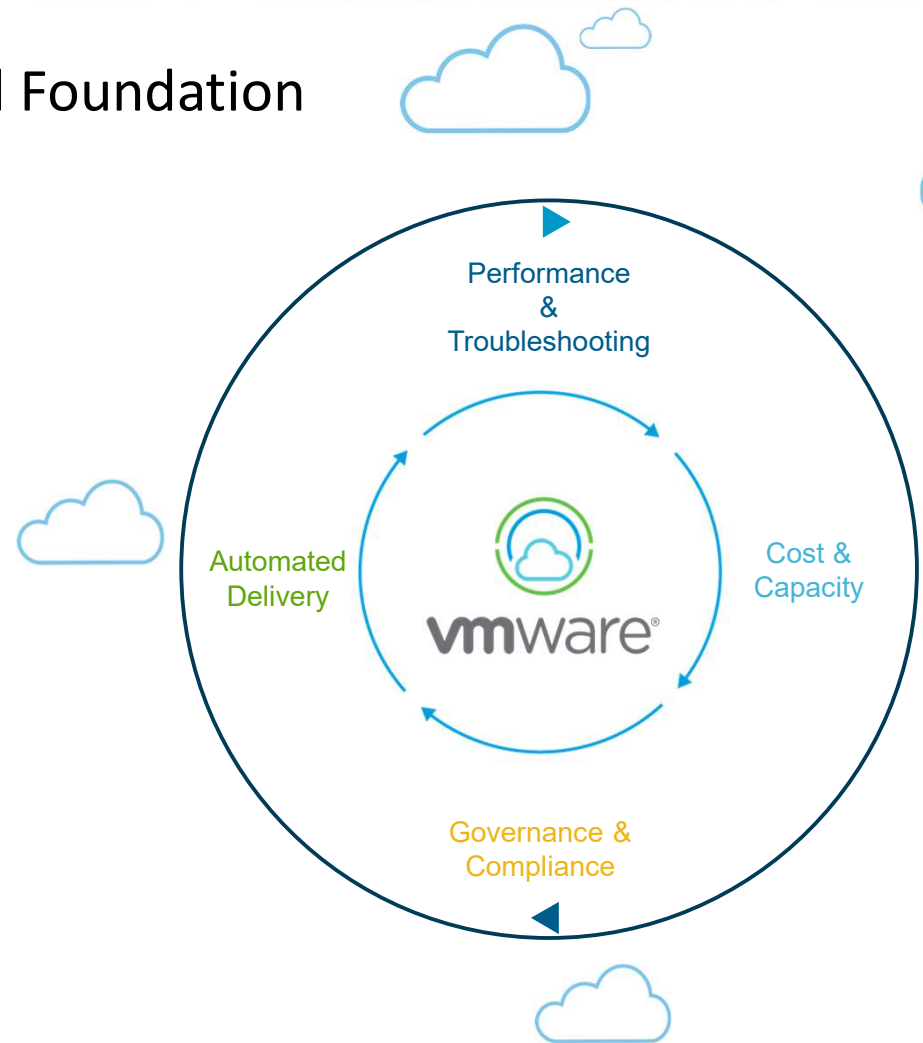
Aria Suite Overview

Cloud Management for VMware Cloud Foundation

Accelerate your transition to a true cloud experience with intuitive automation and optimization tools in a single offering.

VMware Aria delivers:

- Key cloud management disciplines of automated delivery, cost & capacity, performance and troubleshooting, and governance & compliance of infra and app services
- Seamless integration with VMware Cloud platforms, enhancing your private and hybrid cloud management capabilities
- VMware Aria Automation, VMware Aria Operations, VMware Aria Operations for Logs, VMware Skyline



Cloud Management for VMware Cloud Foundation

Delivering a True Cloud Experience with a Cloud Operating Model

Automated Delivery: Self-Service Consumption for App/Infra Teams

Unlock innovation by speeding up the delivery of infrastructure, platform, and app services with a self-service consumption experience.

Cost & Capacity: Maximize Utilization at Minimal Cost

Manage the cost and capacity of infra and apps by predicting future demand, leveraging recommendations, fixing potential flaws, and automating reclamation and rightsizing.



Performance & Troubleshooting: Maximize Visibility into App and Infra Health

Monitor and manage with full-stack visibility and intelligent remediation to predict, prevent, and troubleshoot faster with actionable insights.

Governance & Compliance: Ensure control and reduce risk through policy management

Define and enforce policies and automate remediation from compliance drifts across best practices, sustainability, and regulatory requirements.

Aria Operations

Cost & Capacity

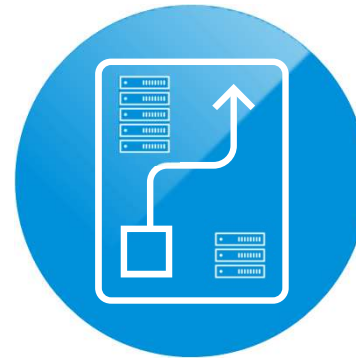
Maximize Utilization at Minimal Cost



Assess Capacity and Address Shortfalls



Reclaim Capacity and Automate Cost Savings



Infrastructure and Workload Planning



TCO with Showback & Chargeback

Infrastructure and Workload Planning



What-If Analysis

Overview Saved Scenarios

Workload Planning: Traditional Workload ?

Setup a scenario to 'deploy applications' by adding new workload or 'deprecate applications' by removing existing workload. You can also evaluate the impact of 'reclaiming inefficient workload' by using remove workload scenario.

ADD VMS REMOVE VMS

Workload Planning: Hyperconverged Workload ?

Plan for 'future workload' to be deployed in VMC on AWS or vSAN environment with VMs associated with specific storage policy related factors (such as FTT, RAID), to evaluate if the usable capacity can cater to workload to be deployed. You can also evaluate the impact of 'reclaiming inefficient workload' on vSAN cluster by using remove VMs scenario.

ADD VMS REMOVE VMS

Infrastructure Planning: Traditional Infrastructure ?

Determine the impact of adding or removing specific capacity in your environment. If you are planning to upgrade the hosts in a cluster, setup a stacked scenario to 'Refresh hardware' with combination of remove existing capacity from cluster and add new capacity to cluster.

ADD HOSTS REMOVE HOSTS

Infrastructure Planning: Hyperconverged Infrastructure ?

Determine the impact of adding specific hyperconverged capacity in your vSAN environment. You can plan to add new vSAN ready nodes to your vSAN cluster to evaluate the impact of increase in HCI capacity.

ADD HCI NODES REMOVE HCI NODES

Migration Planning: VMware Cloud Migration ?

Evaluate the possibility of moving workloads across different VMware clouds. You can compare capacity and cost of workload across VMC for AWS, AVS and GCVE.

PLAN MIGRATION

Migration Planning: Public Cloud Migration ?

Evaluate the possibility of moving workloads across different public clouds. You can compare capacity and cost of workload across vSphere, AWS, Azure, GCP, IBM Cloud by default or any cloud provider of choice by uploading the rate card as prerequisite.

PLAN MIGRATION

Datacenter Comparison: Private Cloud Comparison ?

Evaluate the possibility of moving workload across different datacenters and clusters in your private cloud. You can compare cost of workload across various datacenters so as to optimize and decide best fitting datacenter for the workload under consideration.

COMPARE DATACENTERS

Capabilities

“What If” scenario planning for future capacity requirements

Highlights cost implications and potential savings

Combine multiple capacity plans to meet real world scenarios

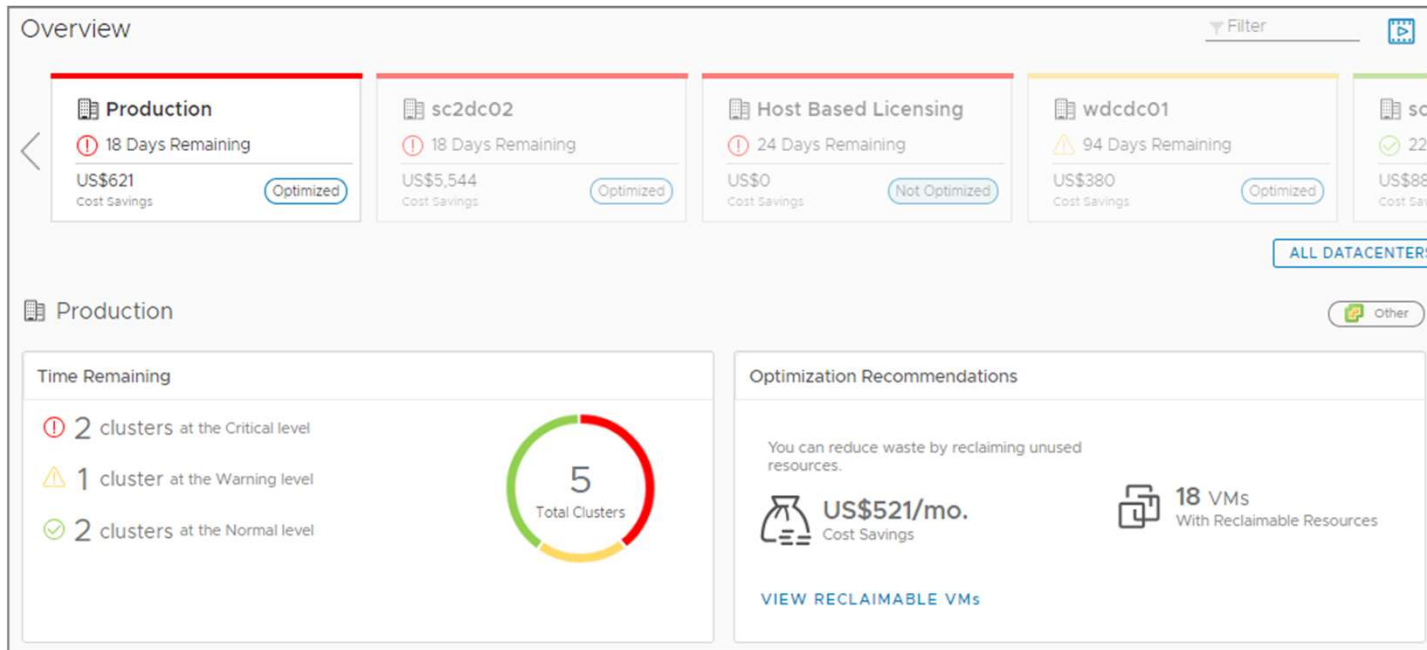
Benefits

Plan properly for anticipated and unexpected capacity requirements

Determine most cost-effective environment to run applications

Help drive long-term cloud strategy based on capacity and cost plans

Access Capacity and Address Shortfalls



Capabilities

Capacity assessments leveraging AI driven real-time predictive analytics

Capacity visibility across all cloud environments

Capacity projections using demand and allocation models

Benefits

Maximize your infrastructure utilization

View current and future utilization needs

Predict upcoming capacity shortfalls to highlight critical resource constraints

React in real-time to capacity changes in your clouds

Reclaim Capacity and Automate Cost Savings



Production

How much you can potentially save.

US\$621/mo. Cost Savings

18 VMs With Reclaimable Resources

5 Orphaned Disks To Reclaim

Total Reclaimable Capacity

Resource	Reclaimable Capacity	% Reclaimable
CPU	7 vCPUs	
Memory	6.43 GB	
Disk Space	186.59 GB	

Duration older than: [dropdown] Filter

Powered Off VMs US\$249/mo. Idle VMs US\$28/mo. Snapshots US\$21/mo. Orphaned Disks US\$101/mo.

Calculated based on: Allocation Demand

VM Name	Cost Savings / mo ↓	Reclaimable Disk Space	Duration
phoenix-pwo	US\$7/mo.	1.65 GB	48 Days
secret-web-S	US\$7/mo.	1.65 GB	16 Days

1 - 2 of 2 items

Production_North US\$151/mo. 32 GB

Production_West US\$71/mo. 16 GB

Production_South US\$11/mo. 12.59 GB

Reclaim and Save

Capabilities

Identify unused resources like powered off VMs, idle VMs, old snapshots and orphaned disks

Measure cost savings based on capacity wastage

Run reclamation workflows to optimize cost and reclaim unused capacity

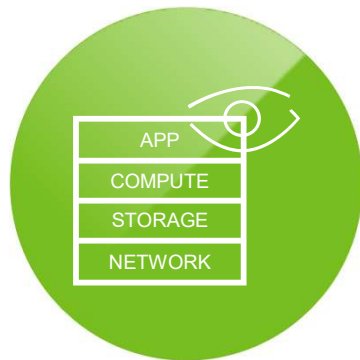
Benefits

Reclaim wasted capacity instead of buying additional infrastructure

Have a lean operating model enabling reprioritization of reclaimed resources

Performance & Troubleshooting

Maximize visibility into App and Infra operations



Full Stack Visibility

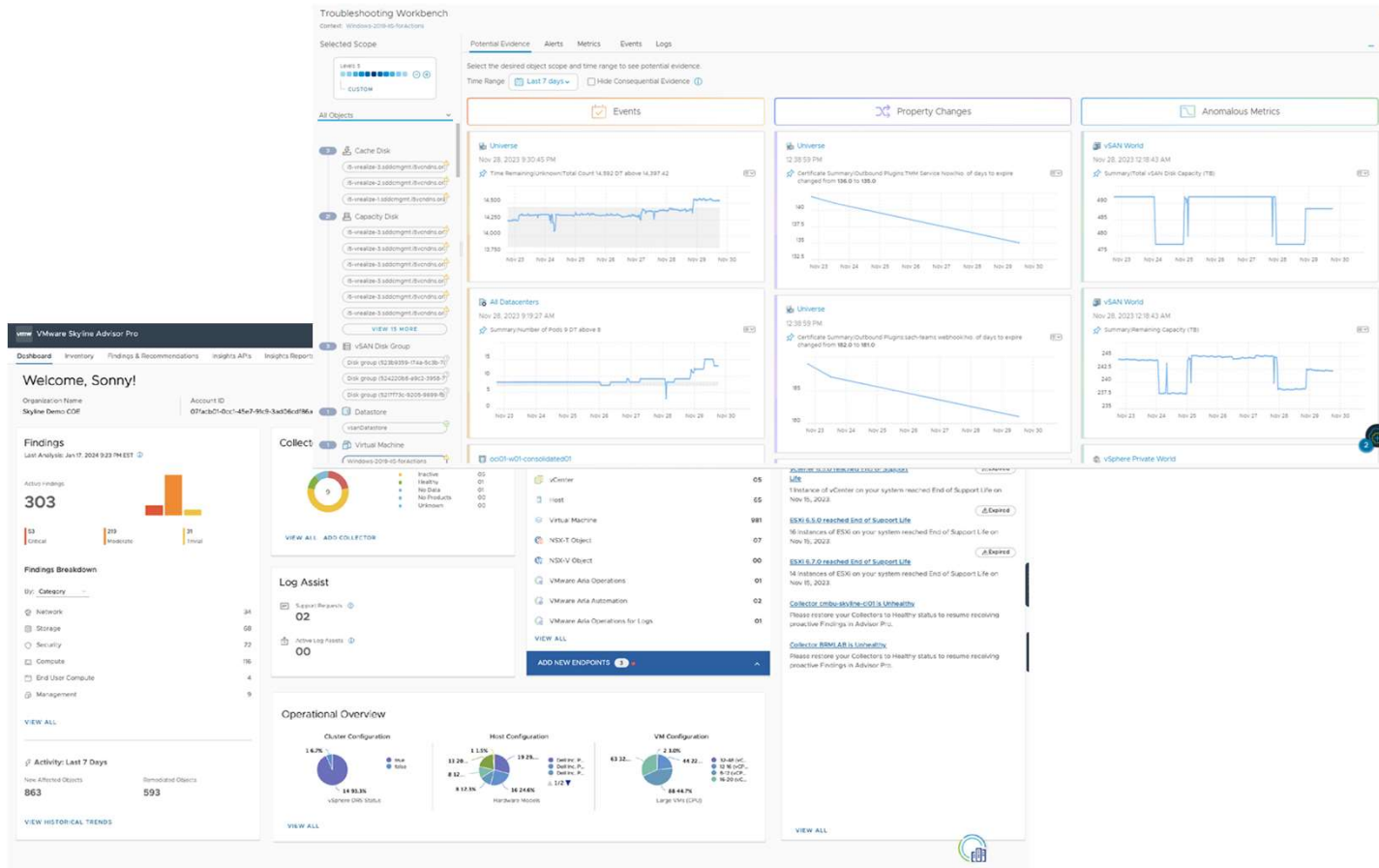


Application and
Container Monitoring



AI-Driven Proactive Troubleshooting
and Streamlined Remediation

AI-Driven Troubleshooting & Streamlined Remediation



Capabilities

Single place to fix problems (AI-driven Troubleshooting Work-bench with Metric Correlation)

Highlights notifications, events, property changes and anomalous metrics

Ties in logs for last mile root cause analysis (RCA)

Predictive AI to identify potential vulnerabilities

Automate log bundle creation and delivery

Benefits

Lower Mean Time to Resolution (MTTR)

Meet your SLA/SLOs

Keep IT and LOB stakeholders informed via notifications or shared dashboards

Reduce costly downtime



Broadcom Proprietary and Confidential. Copyright © 2024 Broadcom. All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries.



Regulatory and Hardening Guideline Compliance



Capabilities

Leverage OOTB compliance benchmarks for industry and best practice standards (e.g., ISO, PCI, CIS, FISMA, HIPAA, DISA)

Create custom compliance benchmarks to meet your specific business needs

Automate remediation for many compliance issues

Benefit

Understand your compliance posture across clouds and benchmarks

Reduce organizational and business risk by remediating out-of-compliance issues

Aria Operations for Logs

Logging Landscape



```

Jan 22 08:51:20 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:29 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:28 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:24 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:23 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:19 thessaloniki method[49]: name servers done?
Jan 22 08:51:14 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:13 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:50:17 thessaloniki MacFw: [76]: Debug: LogTime: 2013-Jan-22 08:50:17 x86k_P2D: 1
    
```

Physical Infrastructure Logs



```

Jan 22 08:51:20 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:29 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:28 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:24 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window(s)
Jan 22 08:51:23 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:19 thessaloniki method[49]: name servers done?
Jan 22 08:51:14 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:13 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:50:17 thessaloniki MacFw: [76]: Debug: LogTime: 2013-Jan-22 08:50:17 x86k_P2D: 1
    
```

Virtual Infrastructure Logs



```

Jan 22 08:51:20 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:29 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:28 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:24 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window(s)
Jan 22 08:51:23 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:19 thessaloniki method[49]: name servers done?
Jan 22 08:51:14 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:13 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:50:17 thessaloniki MacFw: [76]: Debug: LogTime: 2013-Jan-22 08:50:17 x86k_P2D: 1
    
```

OS and Application Logs

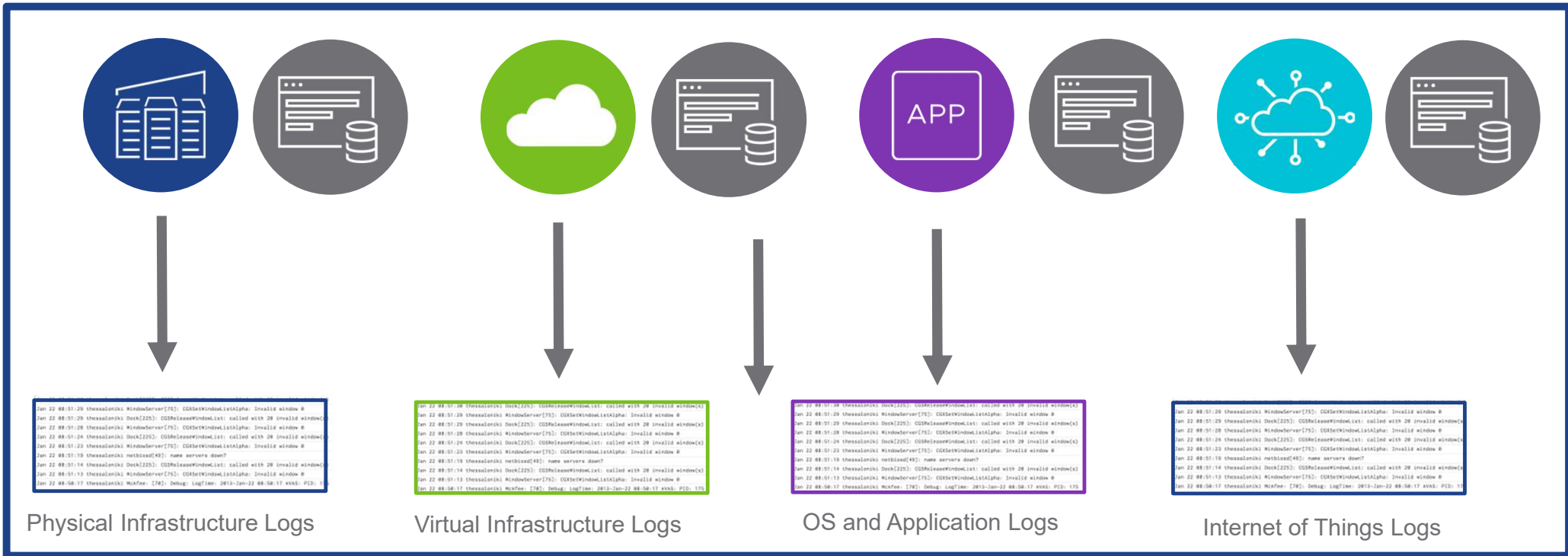


```

Jan 22 08:51:20 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:29 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:28 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:24 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:23 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:51:19 thessaloniki method[49]: name servers done?
Jan 22 08:51:14 thessaloniki Dock[225]: CGSReleaseWindowList: called with 28 Invalid window(s)
Jan 22 08:51:13 thessaloniki WindowServer[75]: CGSEWWindowListAlpha: Invalid window #
Jan 22 08:50:17 thessaloniki MacFw: [76]: Debug: LogTime: 2013-Jan-22 08:50:17 x86k_P2D: 1
    
```

Internet of Things Logs

Logging Landscape



Aria Operations for Logs

Aria Operations for Logs Overview

Benefits

- Faster Troubleshooting (MTTR)

- Helps accelerate time-to-resolution; intuitive, GUI-based interface, intelligent querying, and intuitive visualizations enable fast time-to-value

- Data Warehouse

- Provides an economical, intelligent, easily searchable singular location to store all logs

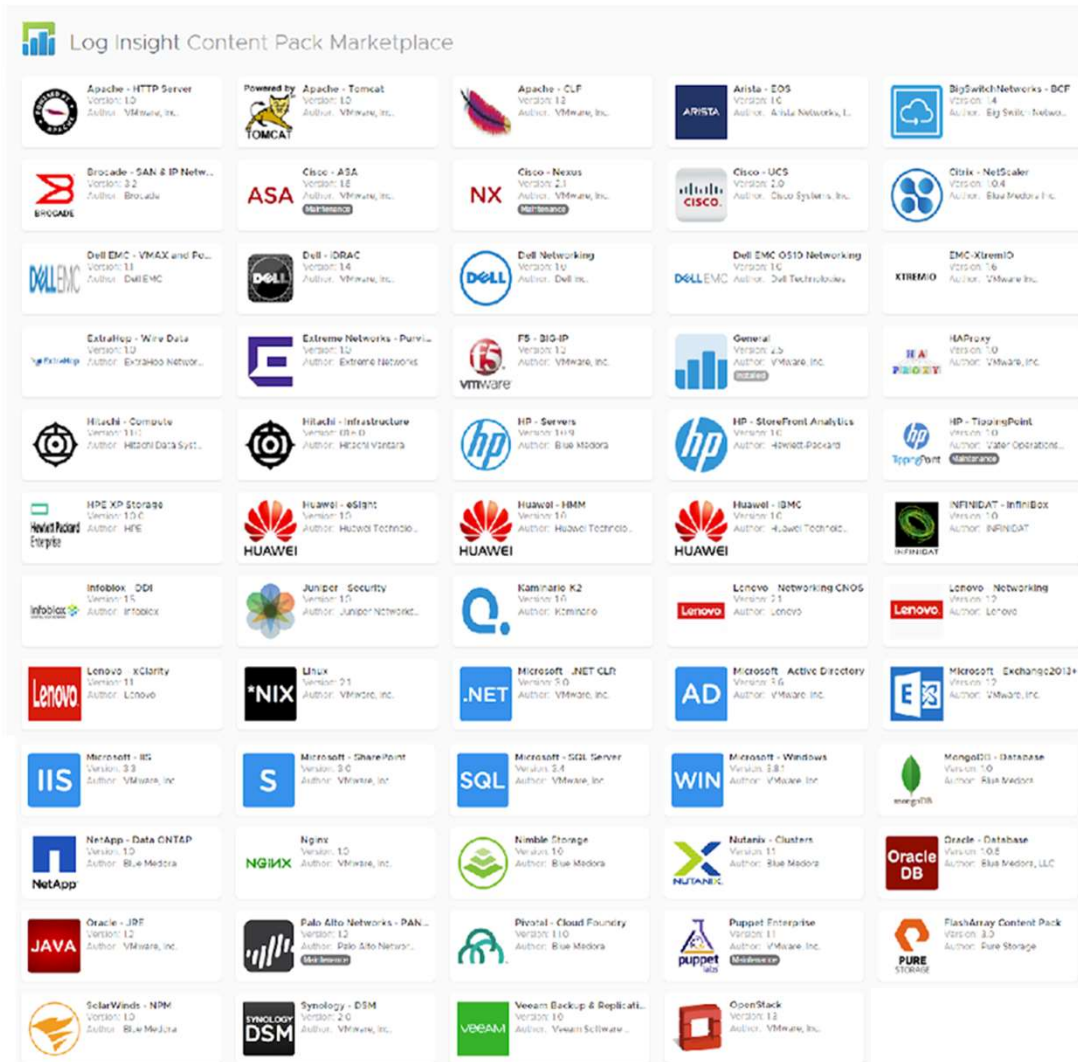
- Security/Compliance

- Gives visibility into wanted and unwanted activity by many users across multifaceted infrastructure

Built for VMware, Extensible far Beyond

50+ third-party content packs available today

- **VMware technologies supported:**
- Horizon View
- NSX-V
- NSX-T
- vCloud Director
- VMware Identity Manager
- VMware SRM
- Aria Automation
- Aria Operations for Networks
- Aria Operations
- Aria Automation Orchestrator
- Aria Suite Lifecycle Manager
- vSphere
- vSAN

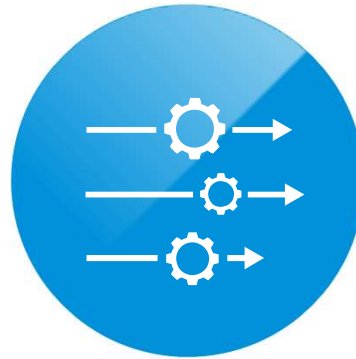


Aria Automation

Enabling Modern Automation Use Cases



Self Service
Private/Hybrid Cloud



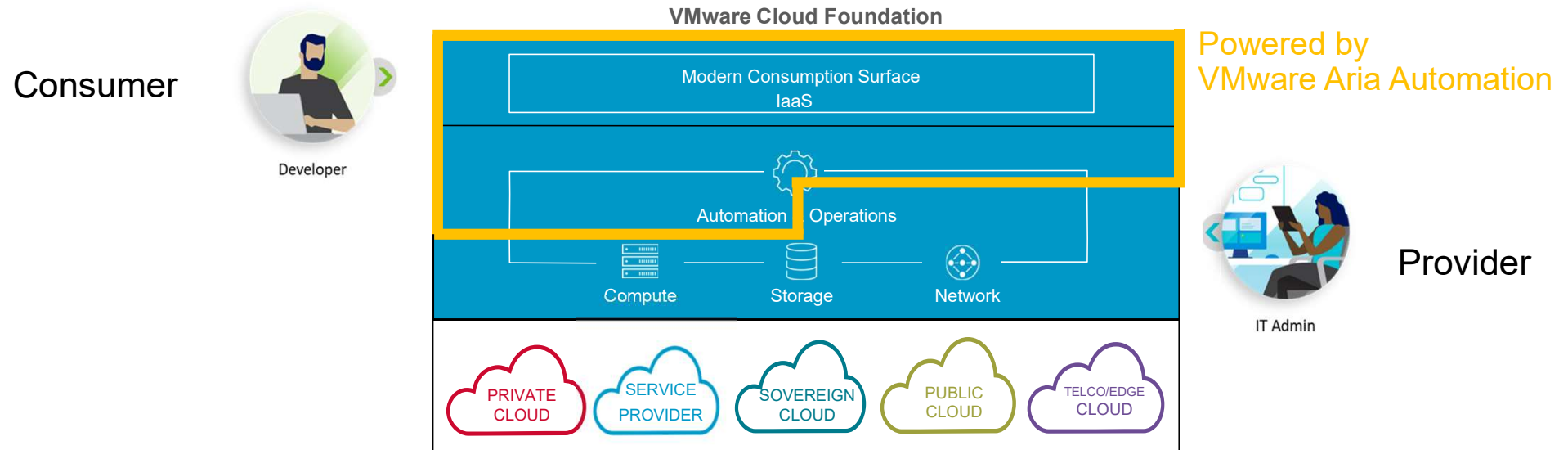
DevOps for
Infrastructure



Kubernetes
Automation

Automated Delivery: Self-Service Consumption for App/Infra Teams

Enabling IT Admins (Provider) to transform an on-prem DC into a modern self-service private cloud, providing Developers (Consumer) a modern IaaS consumption surface



VMware Aria Automation



VMware Aria Automation

Self-Service Catalog

Infrastructure as Code and Templates

Policy and Governance

Infrastructure Pipelines

Workload lifecycle management

Kubernetes Infrastructure Automation

SDDC Infrastructure Automation

Orchestration and Extensibility



Deliver a self-service private cloud across datacenters and certified public clouds



Self-Service Private/Hybrid Cloud



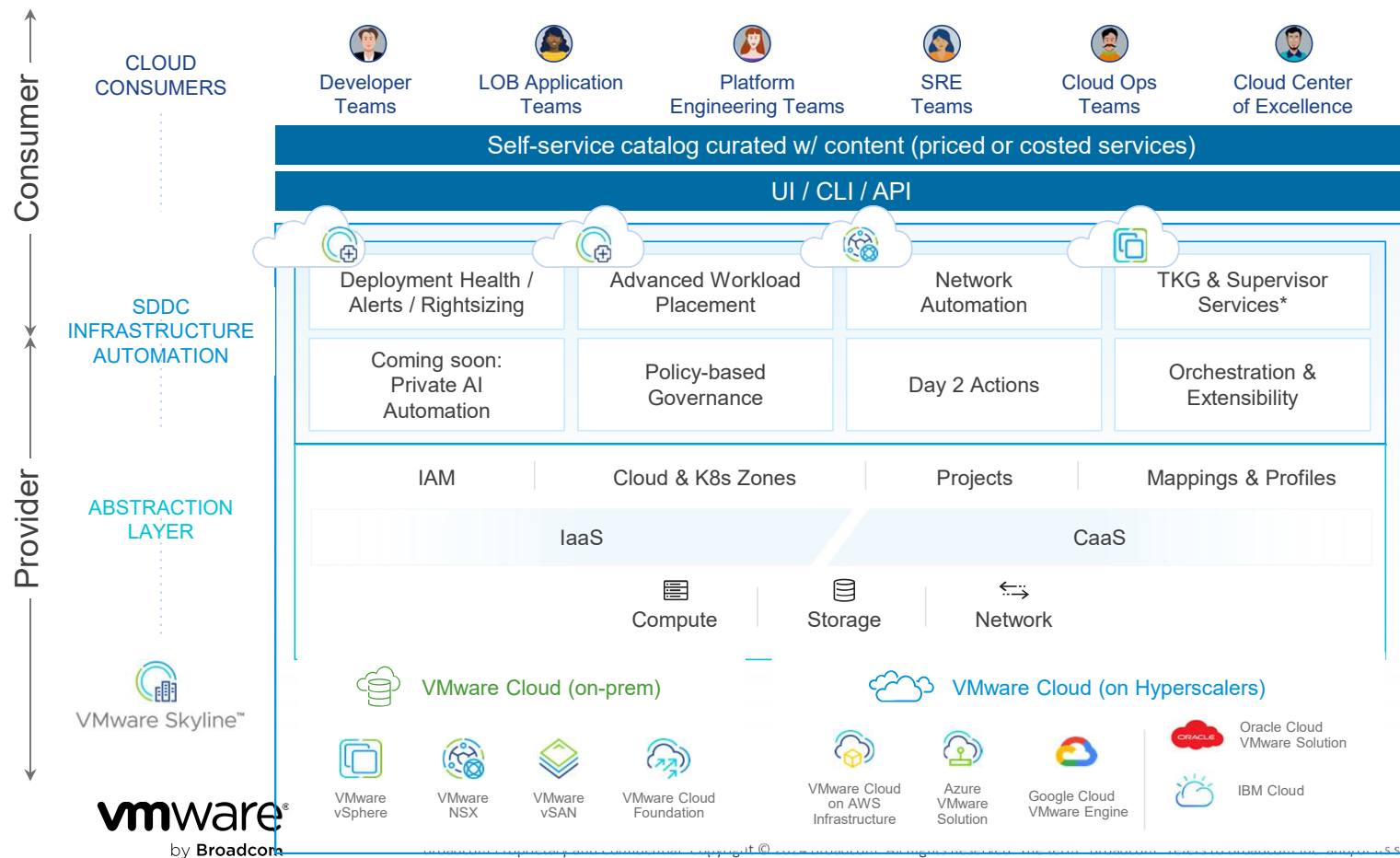
DevOps for Infrastructure



Kubernetes Automation

Self-Service Private Cloud / Hybrid Cloud

Deliver public cloud-like experience on-prem or via hyperscalers based on SDDC infrastructure



Outcome

Enable IT to transform on-prem data center infrastructure into a modern private cloud and/or a hybrid cloud with self-service consumption and delivery capabilities.

Benefit

Make private/hybrid cloud easy with a consistent operating, governance and consumption model.

Provide quick time to value by enabling consumption of the SDDC self-service with existing VMware skillsets.

Aria Suite 8.18 Updates

Aria Suite 8.18 (aligns with VCF 5.2)

Benefits

Configuration Drifts for vCenters

- Ability to derive desired configurations for vCenter using a golden standard vCenter that is configured with the required settings.
- Ability to associate these desired configurations with vCenters across the environment.
- Ability to check for drifts against the desired state and view a drift report across all vCenters connected to the VMware Cloud Foundation admin console.
- Support for on demand drift detection.

License Management & Consumption

- Ability to manage VMware Cloud Foundation and VMware vSphere Foundation licenses by adding them in VMware Aria Operations.
- Ability to access consumption for all your licenses across multiple vCenters from a single pane of glass.

Costing

- VMware Software License Cost Driver for Core Licenses
- Project Cost Management
- Business Application Cost Management
- Cost Analysis Enhancements



Thank You