

VMUG

usercon

▶ 16 NOV

ITALY



Benvenuti! Un sondaggio per voi...





ACME CORPORATION

Cloud Management

Cesare G. Rossi - [@MasterVMware](#)
Lead Solution Architect - Multicloud Management

Nov 2023



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Cloud Management

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Nov 2023





ACME

CORPORATION

Storytelling

ACME

*Poco tempo fa,
in un paese vicino
vicino,
c'era una Corporate...*



ACME: la storia



ACME – L'incubo



ACME – L'incubo IP&NET

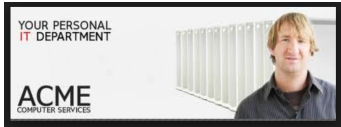


ACME – L'incubo software

ORACLE
Application Server

PostgreSQL

mongoDB



MySQL



Gmail
by Google



Acme computer Zimbra



Microsoft SQL Server



vmware

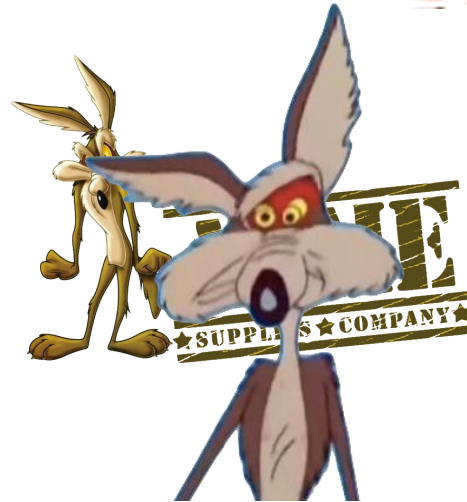
ACME – L'incubo cloud



Google Cloud



Google Cloud



Acme
computer



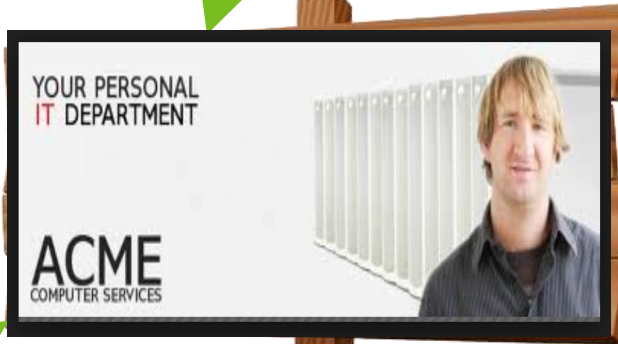
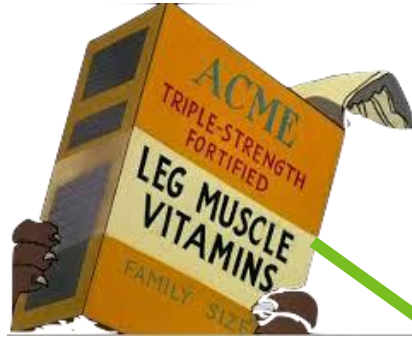
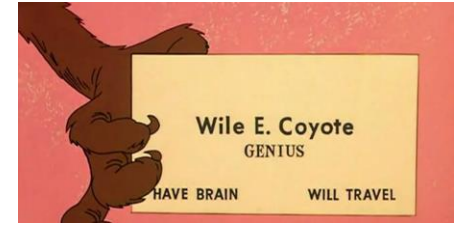
Google Cloud



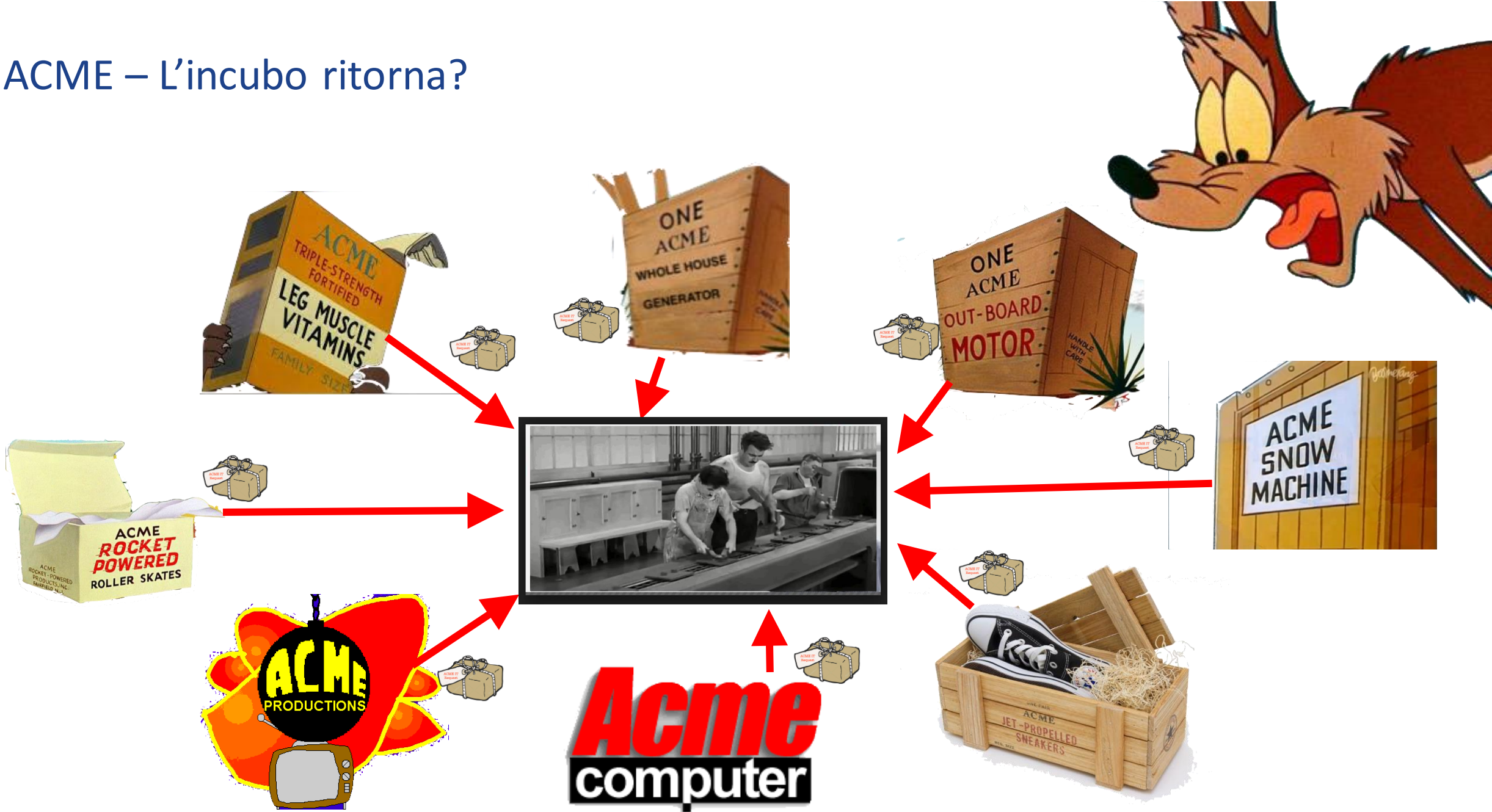
Alibaba Cloud

vmware®

ACME – IT Department (To Be on Cloud Nine...)



ACME – L'incubo ritorna?





...and **OUT** of
CONTROL!
(Hope it's a **BLAST!**)





ACME Pains & Dreams



ACME Pains & Dreams



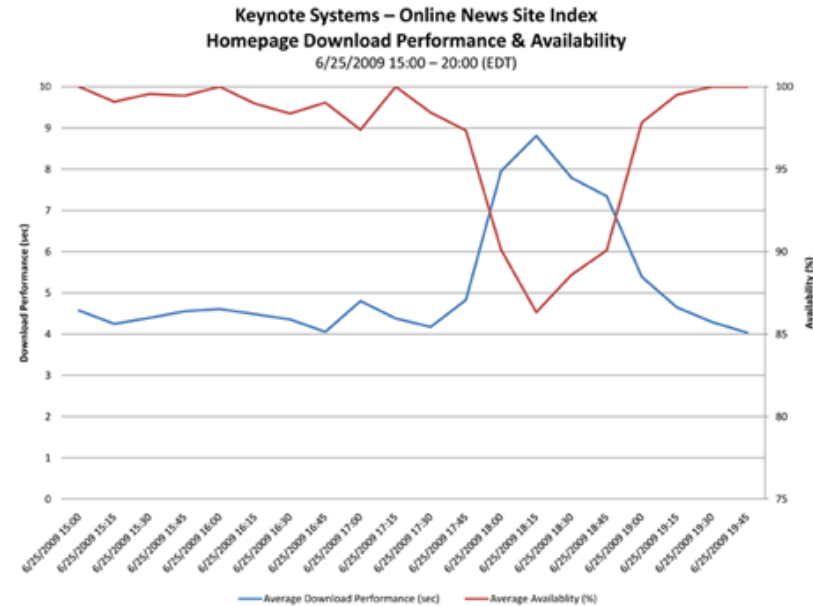
ACME Pains: Effetto “MJ”

How did Michael Jackson's death affect the internet's performance?



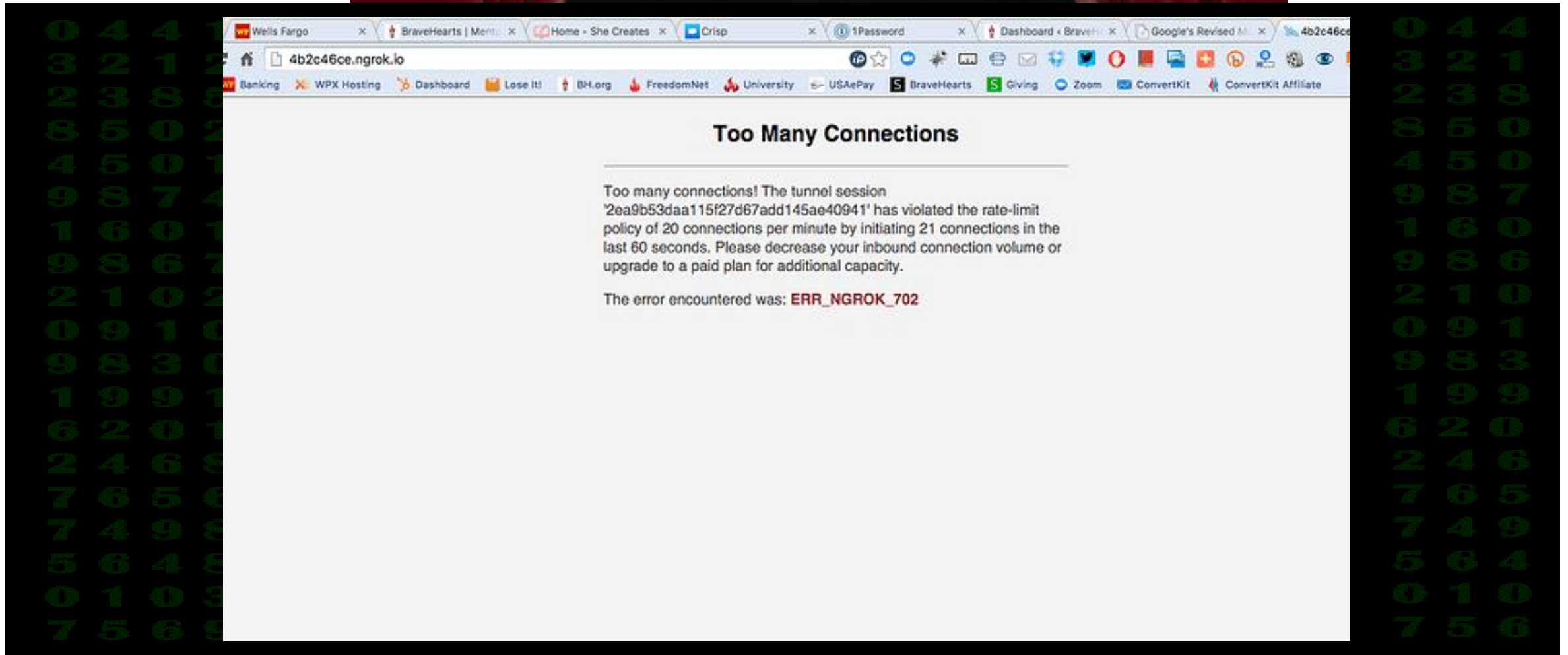
**Jackson dies, almost takes
Internet with him**

June 26, 2009 -- Updated 1902 GMT (0302 HKT)

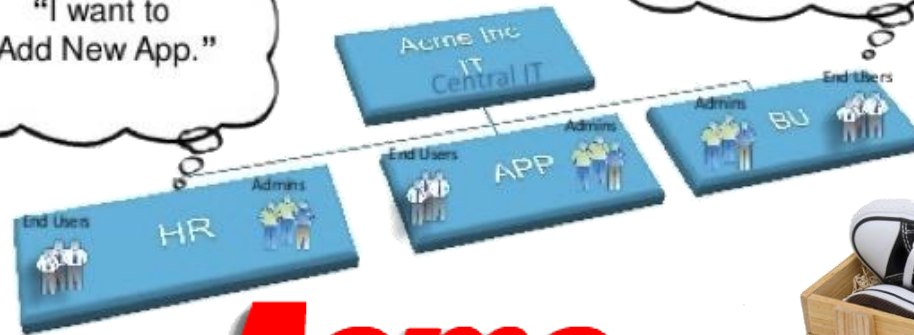
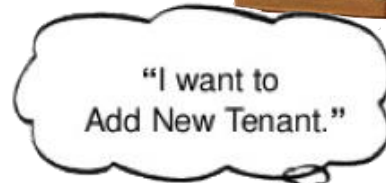
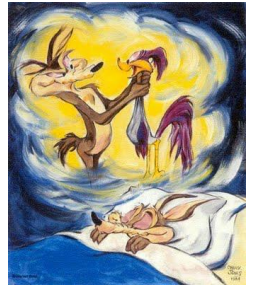


The Web Collapses Under The Weight Of Michael Jackson's Death

ACME Pains: "OnlyTwo"



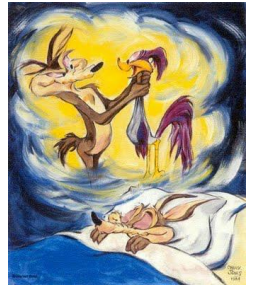
ACME – I Have A Dream!



Acme
computer



ACME – I Have A Dream!



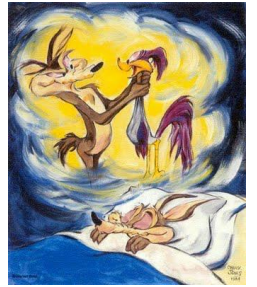
DOWNTIME

idle produced average non-functional waiting machine
costs due to equipment failure
labor goods business cannot work factory materials time
recovery failure



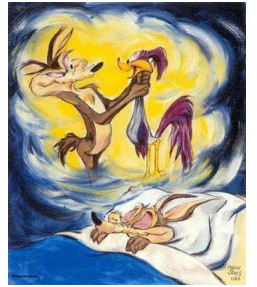
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ACME – I Have A Dream



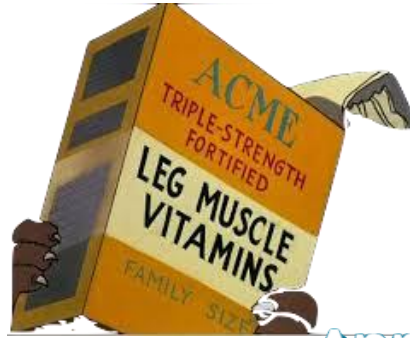
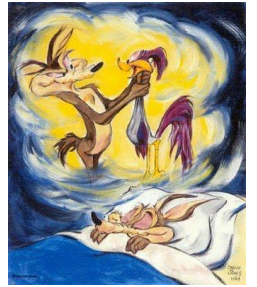
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ACME – I Have A Dream



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ACME – I Have A Dream

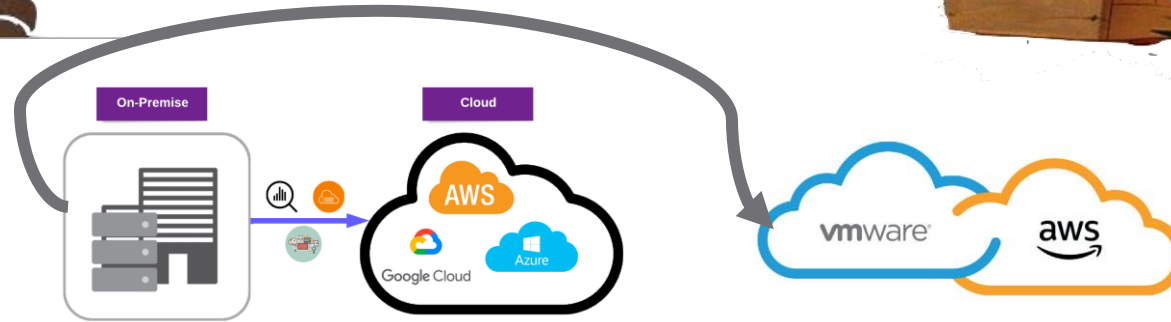
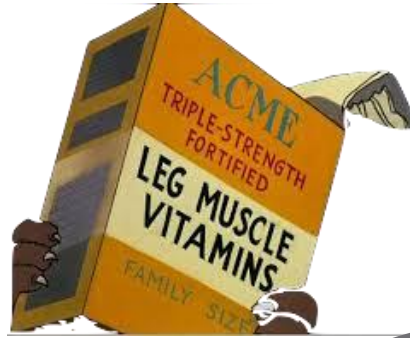
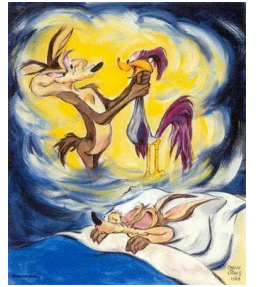


Application
Discovery
and
Dependency
Mapping



Acme
computer

ACME – I Have A Dream



INTRODUCING

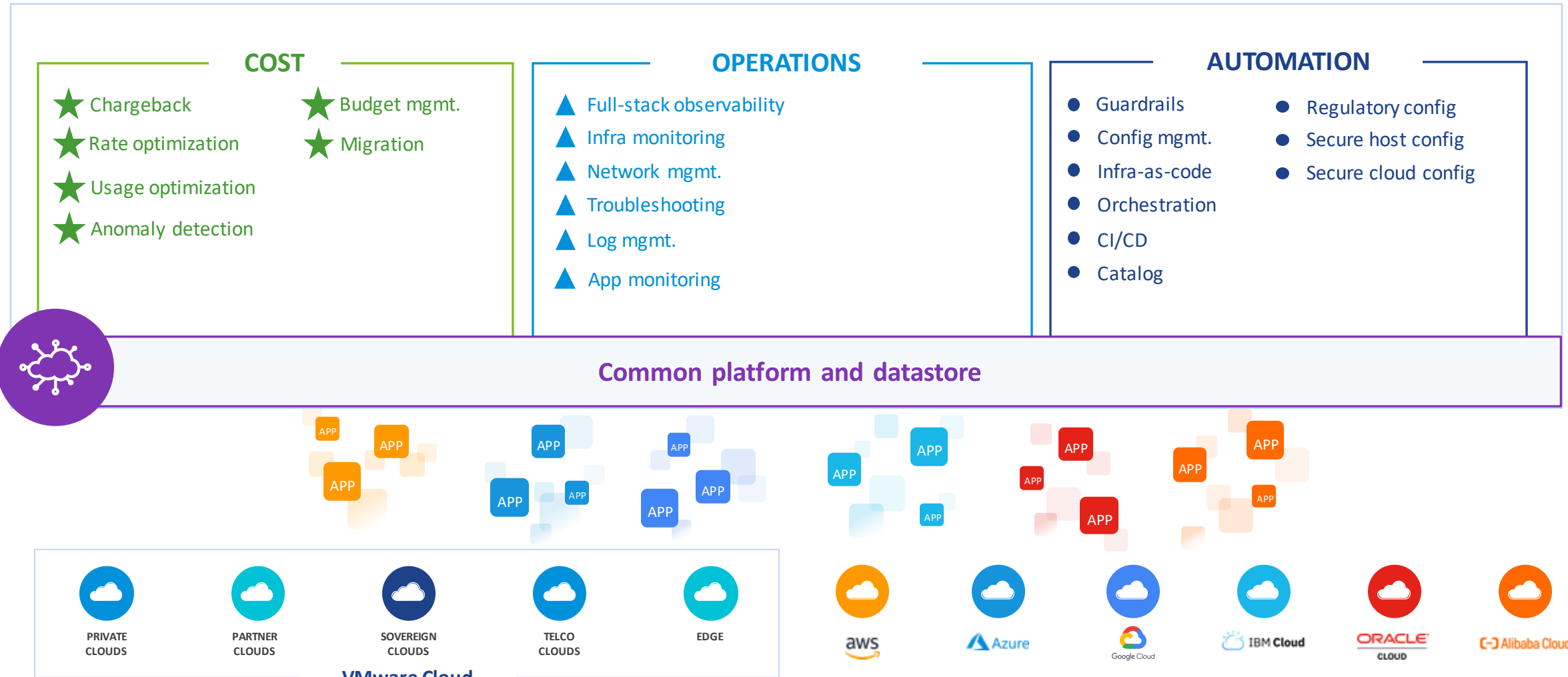
The next chapter in our multi-cloud management story

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

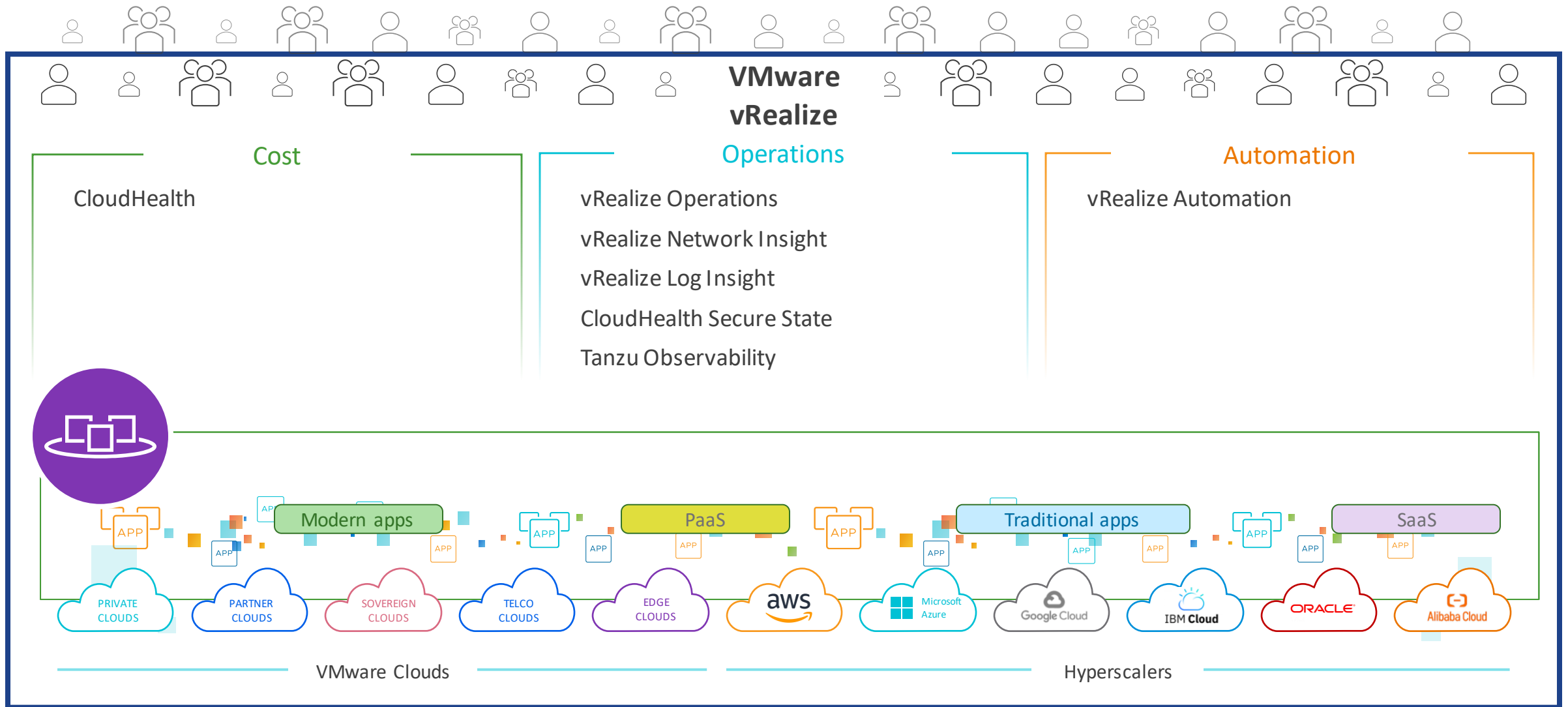


VMware Aria™

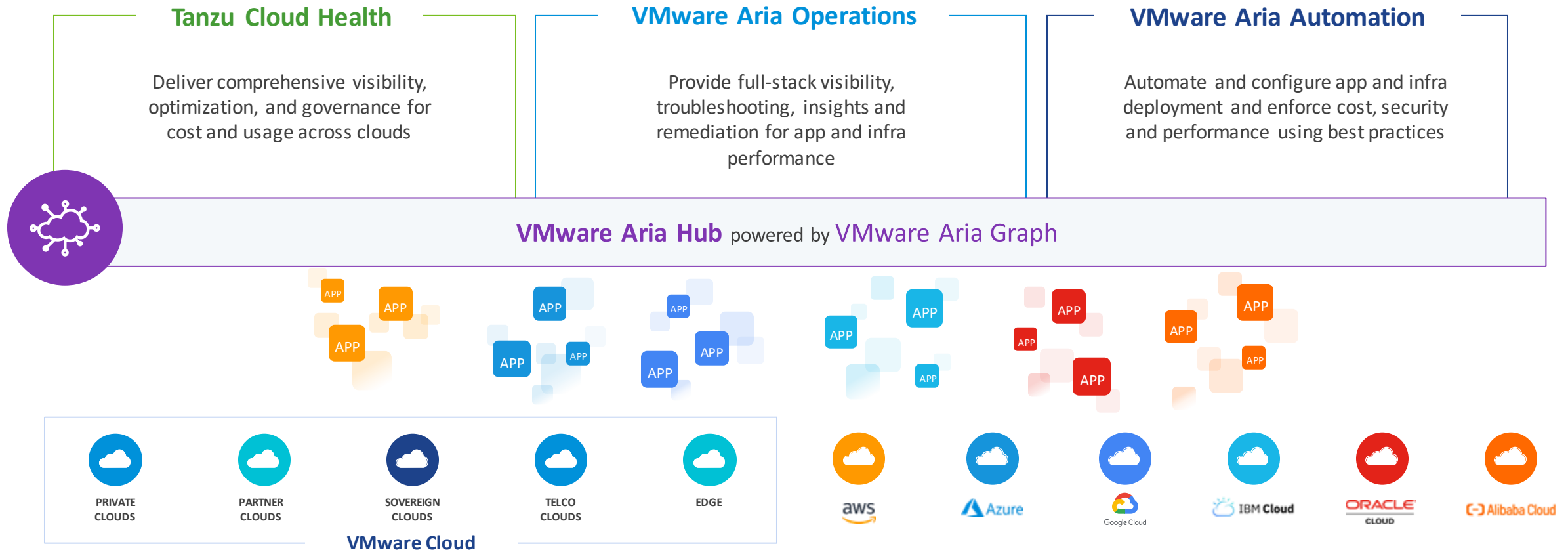
Tre Pilastri Fondamentali



Tanto tempo fa era... VMware vRealize



... adesso è VMware Aria!





“... ma VMware Aria è solo un rebranding di vRealize Suite!”

VMware Aria Graph & VMware Aria Hub



VMware Aria Guardrails



VMware Aria Migration



VMware Tanzu Insights



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



PRIVATE
CLOUDS



PARTNER
CLOUDS



SOVEREIGN
CLOUDS

VMware Cloud



TELCO
CLOUDS



EDGE



aws



Azure



Google Cloud



IBM Cloud



ORACLE
CLOUD



Alibaba Cloud

Capabilities to Support You at Every Level

VMware Aria Cloud Management

Aria Automation

Deploy with VMware Cloud templates. Consistently provision and orchestrate infrastructure and apps through UI, API, and as code

Aria Operations

Monitor, manage, and optimize health, cost, and capacity of infra and apps (rightsizing, reclamations)

Aria Operations for Logs

View and manage logs. Rapidly troubleshoot and perform root-cause analysis for apps

Aria Operations for Networks

Manage network flows. Discover, optimize, and troubleshoot app security and network connectivity



Tanzu CloudHealth

Simplify cloud financial management and streamline operations

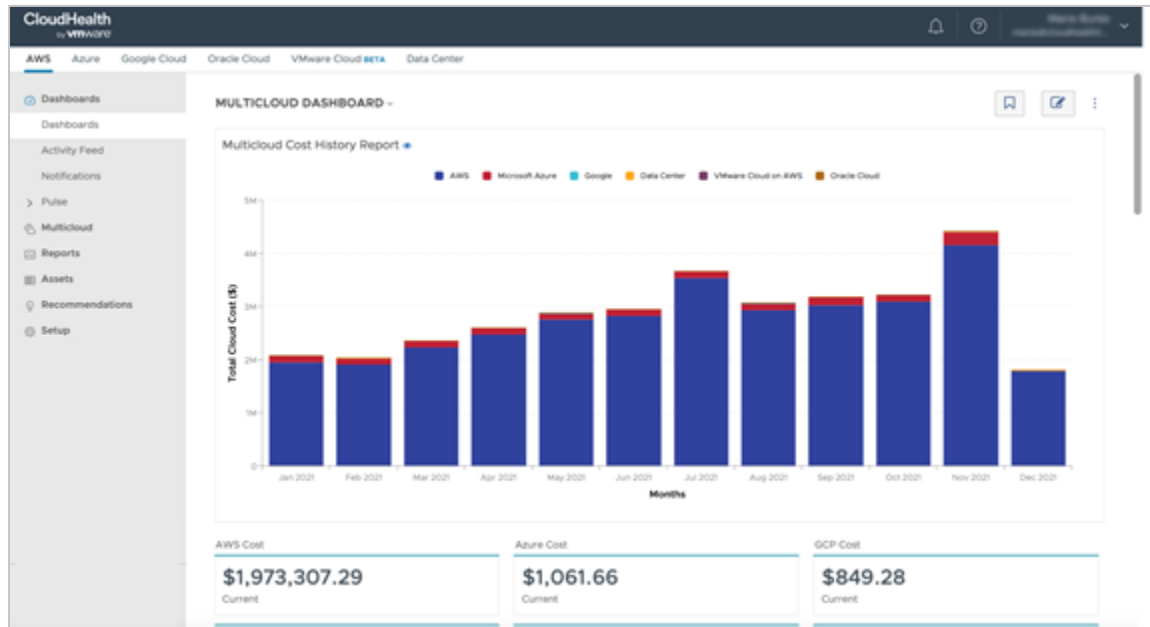
Aria Automation for Secure Clouds

Mitigate security and compliance risk through intelligent, real-time security insight

VMware Skyline

Prevent issues. Proactively identify and resolve potential issues before they occur.

Tanzu CloudHealth



Cost and Usage Visibility

Gain visibility into cloud spend and report by cost center. Drive accountability with accurate chargeback and budgeting.

Cost and Resource Optimization

Rightsize cloud infrastructure to eliminate wasted spending and get sophisticated recommendations for purchasing and managing commitment-based discounts.

Governance and Automation

Create custom policies and receive alerts or set automated actions when policy conditions are met to ensure continuous governance.

\$20B+

Cloud spend under management

150K+

Custom policies enabled

Dashboards

Dashboards

Activity Feed

Notifications

> Pulse

Multicloud

Reports

Assets

Recommendations

Governance

Setup

Dashboard / Dashboards / AWS Dashboard

AWS Dashboard

SWITCH DASHBOARD

AWS Cost Summary

\$3,875,235.38

Current

\$4,042,190.57

Last Month

\$4,672,045.57

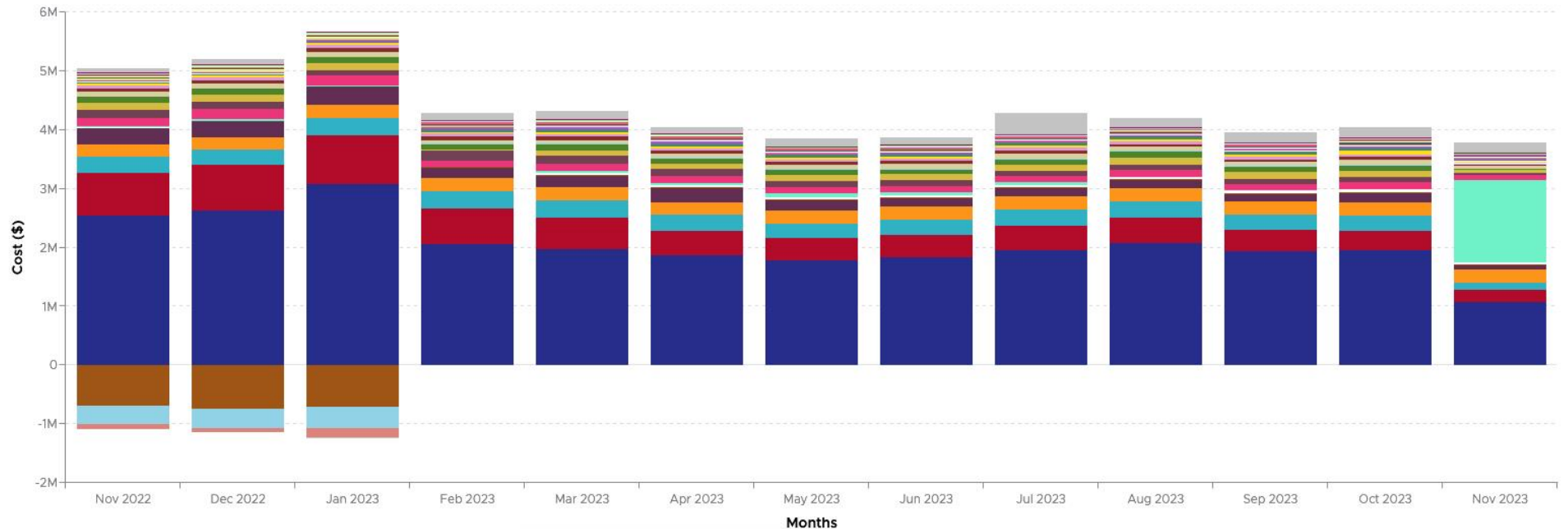
Projected for Month

99%

Current Month's EC2 Coverage ⓘ

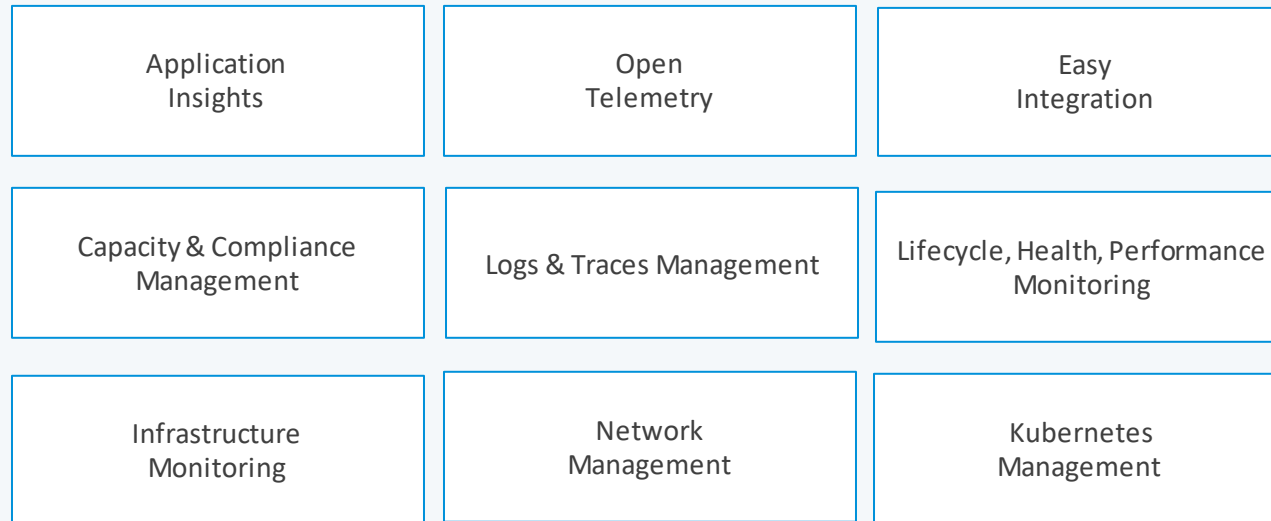
Cost History by Service Category

- EC2 - Compute
- S3 - Storage
- Amazon Elastic MapReduce
- Custom Line Item In AWS (Monthly Recurring - Flat Amount)
- S3 - API
- Savings Plan - EDP Credits
- Savings Plan - Unused
- EC2 - NAT Gateway Transfer
- EBS - Storage
- EC2 - Transfer
- AWS Premium Support
- AWS S3
- RDS - Compute
- CloudWatch Log Groups
- OpenSearch - Compute
- ElastiCache - Compute
- RDS - I/O
- AWS Config
- S3 - Glacier
- EC2 Usage
- CloudWatch - Other
- Demo Example (AWS) - Custom Line Item (Flat/Debit/Recurring)
- RDS - Other
- Neptune - Instance Hour
- Virtual Private Cloud - VPC Endpoint Usage
- 186 More



VMware Aria Operations Multi-Cloud Operations

VMware Aria Operations



Aria Operations Suite





Effetto “Febbre da Cavallo”



The impact of cloud allows us to stop paying for services within traditional data centers that we don't need to be on 24/7.



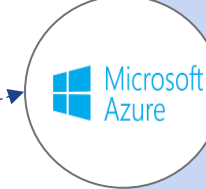
Cluster Applicativo Java – Cliente Mercato Enelgia ☺

1.1.1 Cluster/Host Utilization and Risk Summary

Cluster: EV088WMJ

	Details
No. of Virtual Machines	215
VM:Host Ratio	27
Capacity(Memory)	2.2 TB
HA/Buffer(Memory)	- / +-%
Usable Capacity(Memory)	2.2 TB
Capacity Remaining(Memory)	31% / 88 VMs
Time Remaining(Memory)	> 1 year
Capacity(CPU)	224 GHz / 112 Cores
HA/Buffer(CPU)	- / +-%
Usable Capacity(CPU)	224 GHz / 112 Cores
Capacity Remaining(CPU)	0% / Over by 1 VMs
Time Remaining(CPU)	0 days
Memory Stress(%)	0%
CPU Stress(%)	0%

Customers consume managed service or application across different clouds



Multi-Cloud Services

Hub Automation Costs Operations ...

VMC EC2 S3 REDSHIFT RDS LAMBDA ...

AVS VM SQL SEARCH APP FUNCTIONS ...

GCVE GCE BIG QUERY CLOUD SQL DNS APP ENGINE ...

VCD vSphere Tanzu NSX VSAN Carbon Black ...

SP Add-On Services: MIGRATION NETWORKING PROTECTION COSTING MONITORING

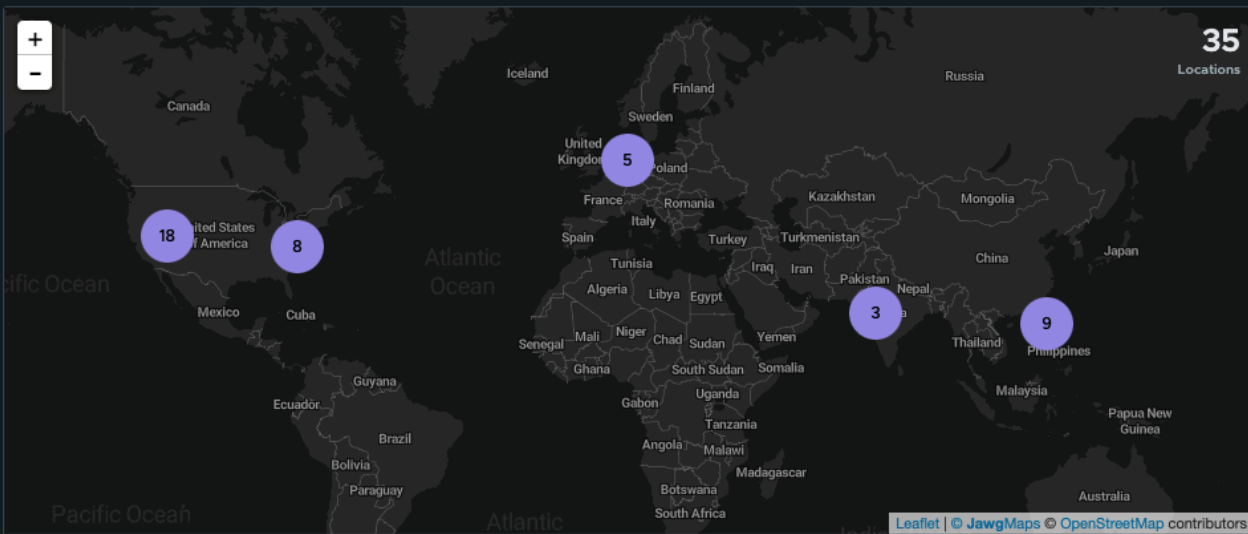
Search for an object, metric, dashboard and more...

- Home
- Data Sources
- Environment
- Visualize
- Troubleshoot
- Optimize
- Plan
- Configure
- Automation Central
- Administration
- Developer Center

Home

Launchpad **New** Multi-Cloud Overview **New**

- All Clouds Accounts: 25
- vCenter Accounts: 12
- VMware Cloud Foundation Accounts: 1
- VMware Cloud on AWS Accounts: 1
- Azure VMware Solution Accounts: 1
- Google Cloud VMwa Accounts: 1



Inventory

12 vCenter	3 AWS	3 Azure
2 GCP	1 VMC on AWS	1 VCF
1 AVS	1 OCVS	1 GCVE

2987 Compute	190 Applications	153 Storage
80	17	

VMware Cloud

Capacity Remaining

8 / 43 Clusters running out of capacity

CPU	90% (18945.12 GHz)
Memory	92% (177.02 TB)
Disk Space	93% (4033.77 TB)

● Used ● Remaining

Time Remaining

43 Total Clusters

- 27 Normal
- 8 Critical
- 0 Immediate
- 0 Warning

▲ 1/2 ▼

Cost

Month to Date

Total Cost of Ownership	US\$ 616962.73
Potential Savings	US\$ 37345.43
Realized Savings	US\$ 2373.94

La Rivelazione

(AKA *“La Sindrome del ristoratore”*)

Se prenotate un tavolo per quattro ad un ristorante...

... e poi, seduti al tavolo, solo voi pranzate...

... mentre gli altri tre che sono seduti stanno a guardare...

... il ristoratore, come minimo,
vi farà pagare i coperti “non utilizzati”!





Noi siamo infinito

(AKA “La Sindrome di Mario Brega”)

“Devo configurare il server per il blog aziendale interno...”

“Quante vCPU vuoi?”

“Quattro!”

“Mi sono venute un po’ di più... sono otto, lascio?”

“Lascia!”

“E per quanto riguarda la memoria RAM?”

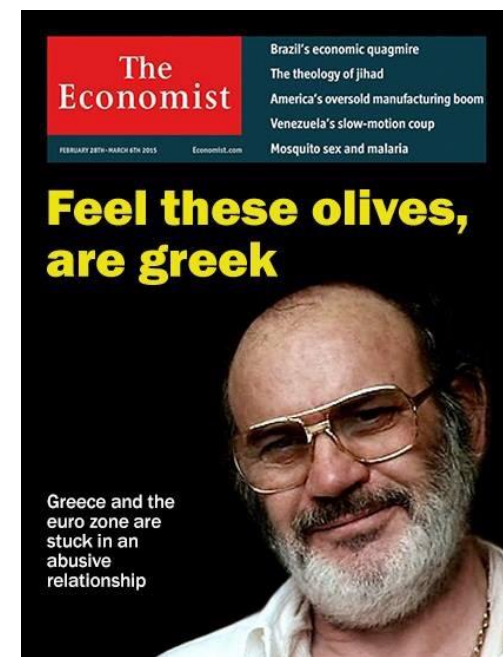
“Facciamo 64GB?”

“C’è l’offerta speciale 3x2, facciamo 128GB?”

“Ok!”



vmware®





Melius Abundare Quam Deficere

(AKA “Sindrome della corazzata Potemkin”)

“Uhm... questa applicazione sta andando malissimo... chiamo l’help-desk”

“Help Desk vSphere, cosa posso fare per lei?”

“Senta.. La mia applicazione sul server VirtApp01 sta andando lentissima, le chiederei di raddoppiarmi le CPU”

“Guardi che aumentando le vCPU potrebbe andare più lenta...”

“Ma cosa sta dicendo? Se aumenta le CPU andrà sicuramente più forte!!!”

“...le posso far dare una risposta dal nostro esperto in merito al raddoppio delle vCPU?”

“Certo!”



vmware®



Search for an object, metric, dashboard and more...

- Home
- Data Sources
- Environment
- Visualize
- Troubleshoot
- Optimize
- Capacity

Rightsize

All Datacenters 0 Days Remaining US\$18,063 Cost Savings Not Optimized	EMEA Datacenter 0 Days Remaining US\$624 Cost Savings Not Optimized	Hillsboro 0 Days Remaining US\$195 Cost Savings Not Optimized	PKS-DC-SOUTH 0 Days Remaining US\$556 Cost Savings Not Optimized	Production 0 Days Remaining US\$211 Cost Savings Not Optimized	sc2dc01 0 Days Remaining US\$1,252 Cost Savings Not Optimized
-------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------	----------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	----------------------------------------------------------------------------------

ALL DATACENTERS

VM Name	Allocated CPU	Recommended CPU Reduction	Allocated Memory	Recommended Memory Reduction
<input type="checkbox"/> vrops-fd-wdc3	16 vCPUs	8 vCPUs	48 GB	10 GB
<input type="checkbox"/> FieldDemo0122	4 vCPUs	2 vCPUs	8 GB	4 GB
<input type="checkbox"/> vrops80-weekly	4 vCPUs	2 vCPUs	16 GB	0 KB
<input type="checkbox"/> frontend-mcm685005-113148357707	2 vCPUs	0 vCPUs	4 GB	2 GB
<input type="checkbox"/> frontend-mcm729834-114810843866	2 vCPUs	0 vCPUs	4 GB	2 GB

SUPPORT

Search for an object, metric, dashboard and more...

Migration Planning: Public Cloud

Home / Capacity Plan / What-If Analysis / Migrate Workload

Results:

Migrate to NPC

Private Cloud

US\$1,272



as-win-vm02

2 vCPU

4 GB

84.8 GB

Windows

1 virtual machine

Amazon Web Services

Select region:

eu-central-1 - EU (Frankfurt)

US\$3,720



t3a.medium

2 vCPU

4 GB

20.72 GB ⓘ

Windows

Instance Cost: US\$48

Total Cost: US\$48

IBM Cloud

Select region:

FRA02 - Frankfurt

US\$4,011



U1.2x4x25

2 vCPU

4 GB

25 GB ⓘ

Windows

Instance Cost: US\$94

Total Cost: US\$94

Microsoft Azure

Select region:

germany-central - Frankfurt

US\$3,773



B2S

2 vCPU

4 GB

136 GB ⓘ

Windows

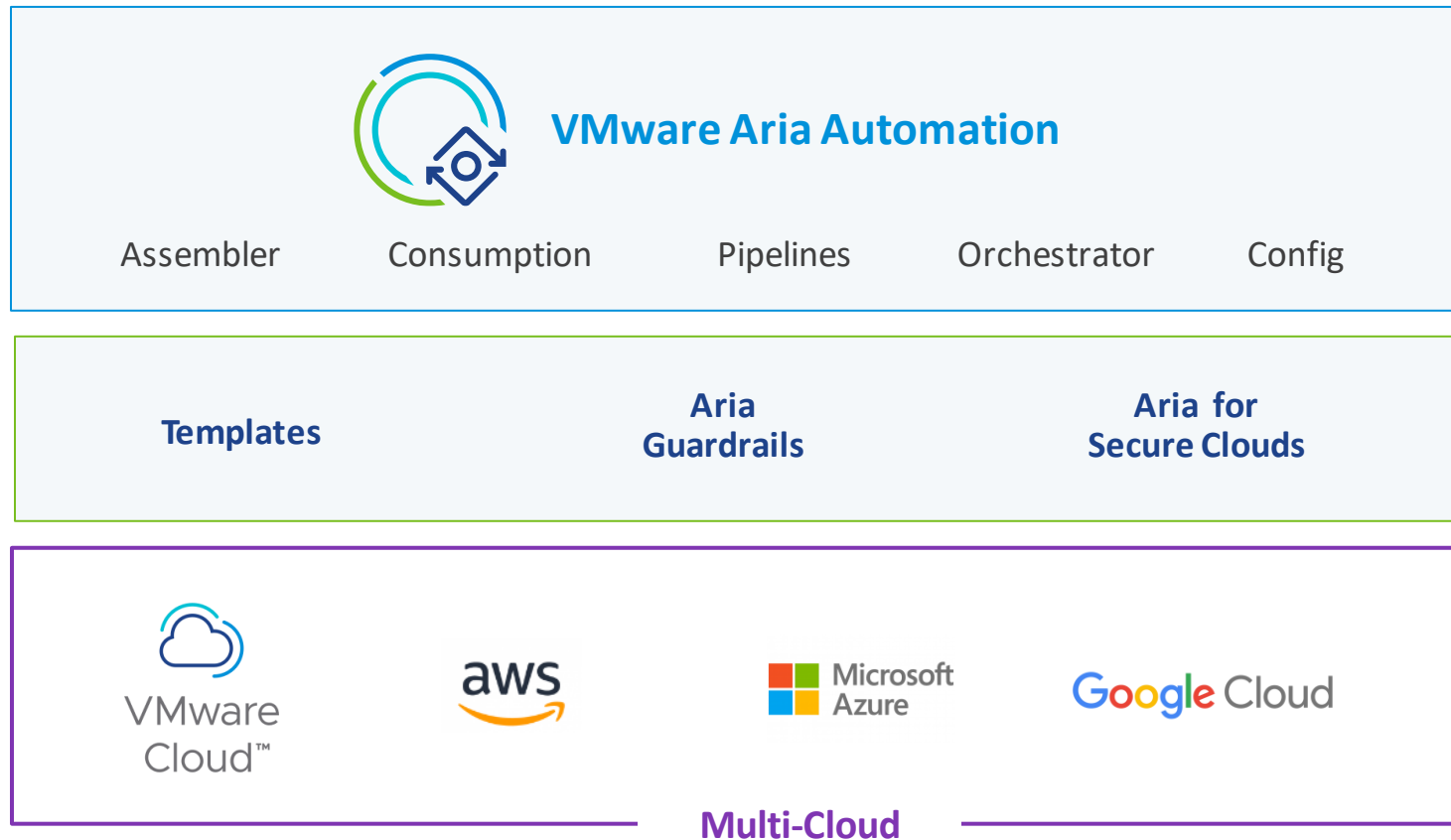
Instance Cost: US\$38

Total Cost: US\$38

- Home
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- Optimize
- Plan
- Capacity**
- Cost
- Configure
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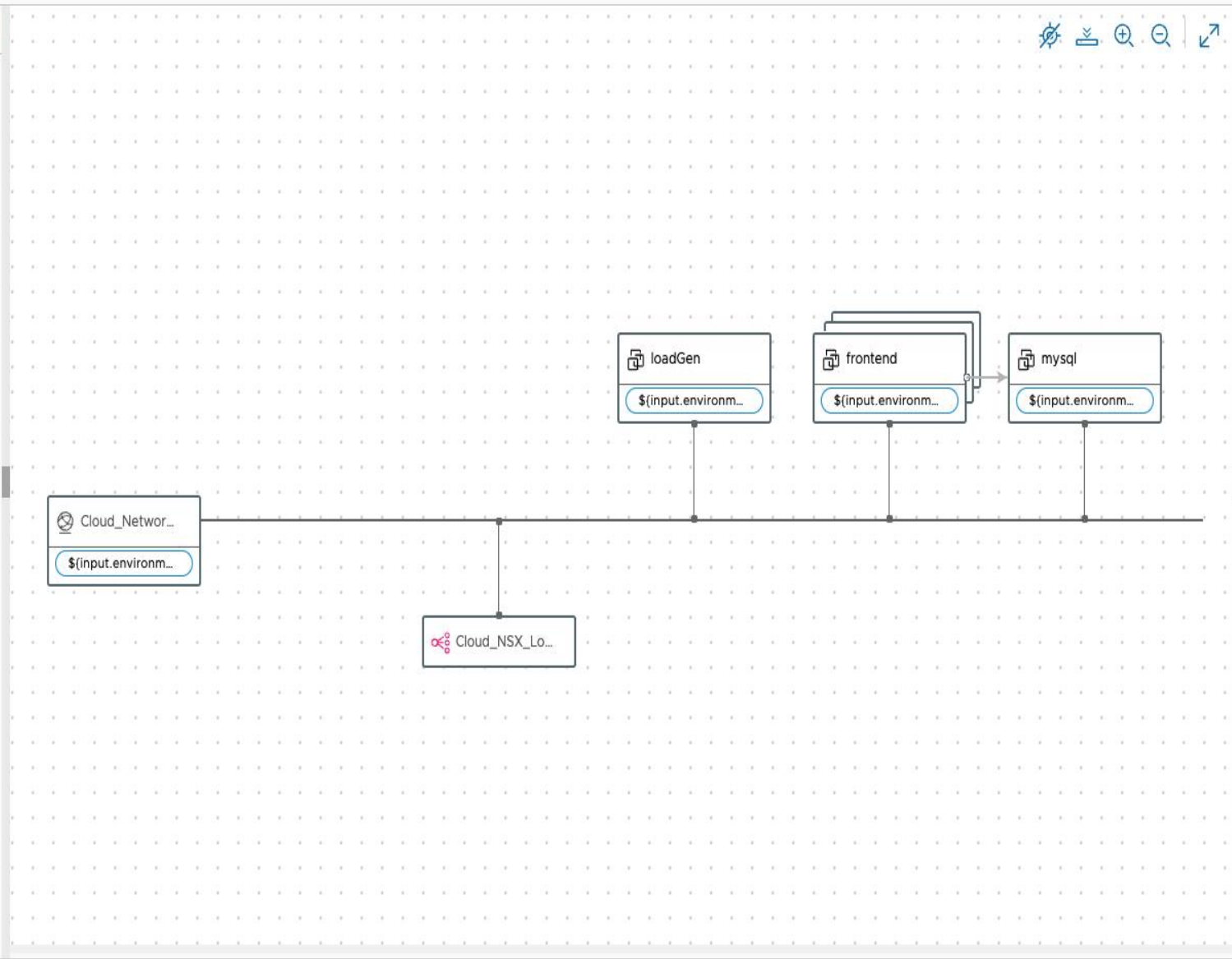
VMware Aria Automation – Multi-Cloud Infrastructure Automation Platform

Formerly vRealize Automation



- **VMware Aria Automation Assembler**
- **VMware Aria Automation Consumption**
- **VMware Aria Automation Pipelines**
- **VMware Aria Automation Orchestrator**
- **VMware Aria Automation Config**
- **VMware Aria Automation Templates**
- **VMware Aria Guardrails**
- **VMware Aria Automation for Secure Clouds**

- Search Resource Types
- Cloud Agnostic
 - Machine
 - Load Balancer
 - Network
 - Security Group
 - Volume
 - Allocation Helpers
 - Compute Helper
 - Custom Naming Helper
 - Flavor Helper
 - Image Helper
 - Network Helper
 - Security Group Helper
 - Storage Helper
 - Kubernetes
 - TKGi Cluster
 - K8S Namespace
 - Supervisor Namespace
 - K8S Cluster



```

Code Properties Inputs
1 FormatVersion: 1
2 name: MOAD-Retail-NO-LB
3 version: 1
4 inputs:
5   frontendcount:
6     type: integer
7   environment:
8     type: string
9     enum:
10      - vSphere
11      - AWS
12      - VMC
13   description: Target Environment
14   default: vSphere
15   title: Select Environment for Deployment
16   username:
17     type: string
18     description: The username you would like
19     to have for the installation.
20     default: demouser
21     title: System Admin Account Username
22   password:
23     type: string
24     description: The password you would like
25     to use for the ocuser account.
26     default: vRealiz3!
27     title: OpenCart Admin Account Password
28     pattern: '[a-z0-9A-Z@#\$]+'
29     encrypted: true
30   stressThreads:
31     type: string
32     description: Number of user threads
33     generated to simulate traffic load on
34     the shopping cart website.
35     default: '25'
36     title: Workload Threads
37     minLength: 1
38     maxLength: 3
39     format: ''
40     pattern: '[0-9]{1,3}'
41 resources:
42   frontend:
43     type: Cloud.Machine
44     dependsOn:
45       - mysql
    
```

Catalog
















64 items



My resource usage 0 VMs 0 CPUs 0 Storage (GB) 0 Memory (GB)

Search

Sort: Name (ascending)

 <h3>ACME LZ (AWS)</h3> <p>VMware Aria Automation Templates</p> <p>Deploy EC2 instances, subnets and VPC for ACME Fitness Kubernetes platform</p> <p>Projects ACME Fitness</p> <p>REQUEST</p>	 <h3>Aria Config Ansible</h3> <p>VMware Aria Automation Templates</p> <p>Aria Config using Ansible playbooks to build a LAMP host</p> <p>Projects SLIM</p> <p>REQUEST</p>	 <h3>Aria Config Ansible</h3> <p>VMware Aria Automation 8.x Template</p> <p>Template for Salt + Ansible</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Aria Config PhotonOS De...</h3> <p>VMware Aria Automation Templates</p> <p>Aria Config Environment built on the PhotonOS release that is deployed by Aria Lifecycle</p> <p>Projects SLIM</p> <p>REQUEST</p>	 <h3>Aria Demo 1</h3> <p>VMware Aria Automation 8.x Template</p> <p>Projects TMM Auto</p> <p>REQUEST</p>
 <h3>Autoscale OpenCart</h3> <p>VMware Aria Automation Templates</p> <p>For use with autoscale with vROps.</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Azure Native Service</h3> <p>VMware Aria Automation 8.x Template</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Deployment Approval Exa...</h3> <p>Extensibility actions</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Deployment Limit Template</h3> <p>VMware Aria Automation Templates</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Deploy Terraform</h3> <p>Extensibility actions</p> <p>Projects TMM Auto</p> <p>REQUEST</p>
 <h3>Deploy Via Terraform</h3> <p>Extensibility actions</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Docker-Builder-Do-Not-M...</h3> <p>VMware Aria Automation 8.x Template</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Events - Shopping Cart Ap...</h3> <p>VMware Aria Automation Templates</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>Events Shopping Cart App...</h3> <p>VMware Aria Automation Templates</p> <p>Projects TMM Auto</p> <p>REQUEST</p>	 <h3>GCP-GCP-VM-1</h3> <p>VMware Aria Automation Templates</p> <p>Projects TMM Auto</p> <p>REQUEST</p>

Application Summary Last updated at Nov 14, 20:30



Alerts
No open alerts

Incoming Traffic
52.3 KB
No changes

Outgoing Traffic
62.8 KB
No changes

Flows
50
41 Unprotected/Den...

Intents
2

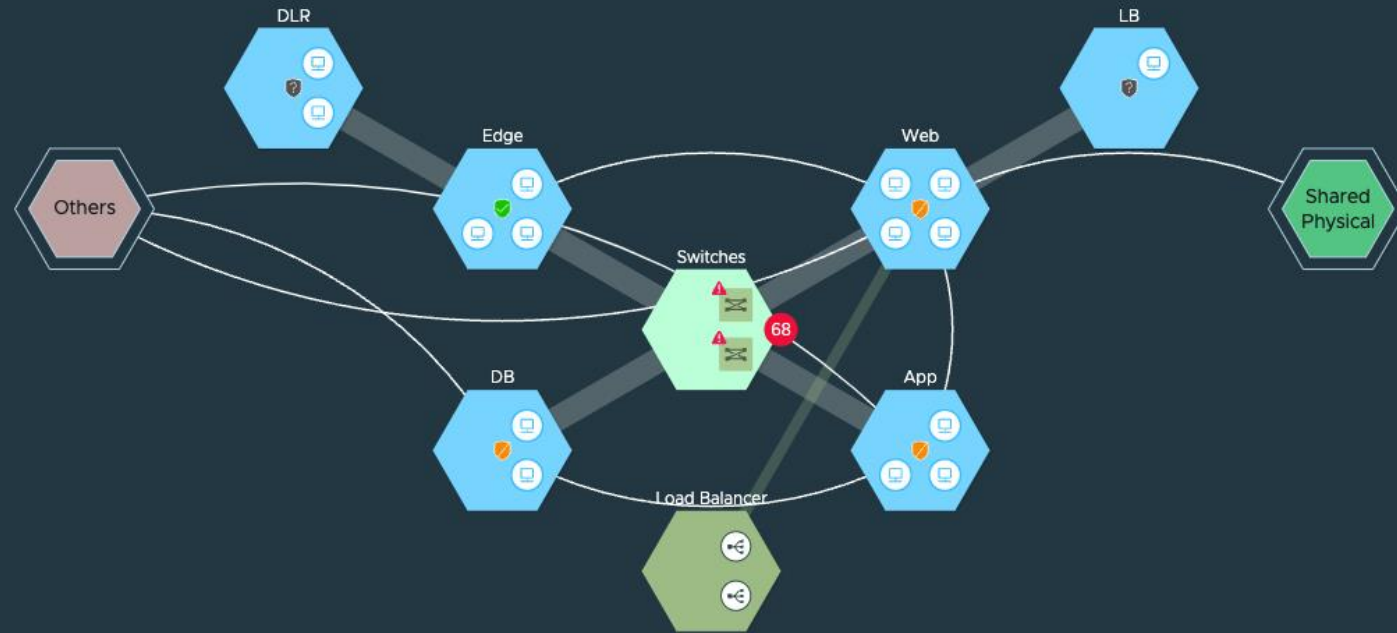
Countries
1
No changes

VMs
15

Physical IPs
--

Kubernetes Services
--

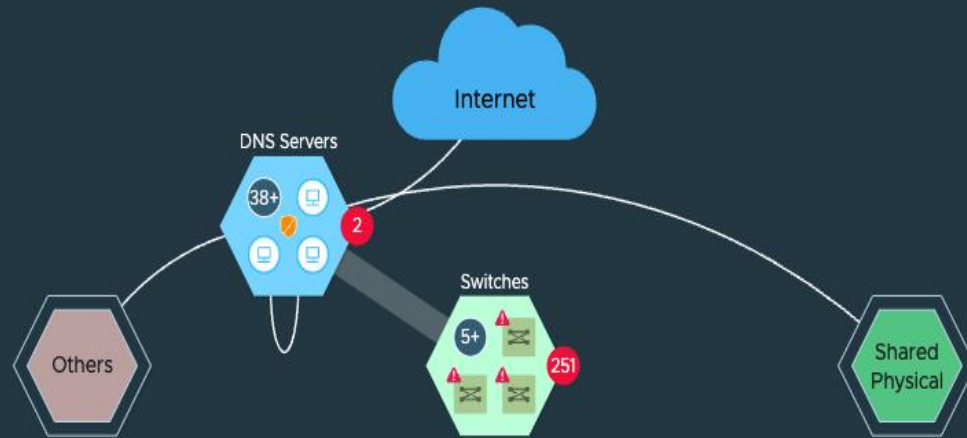
Application Topology



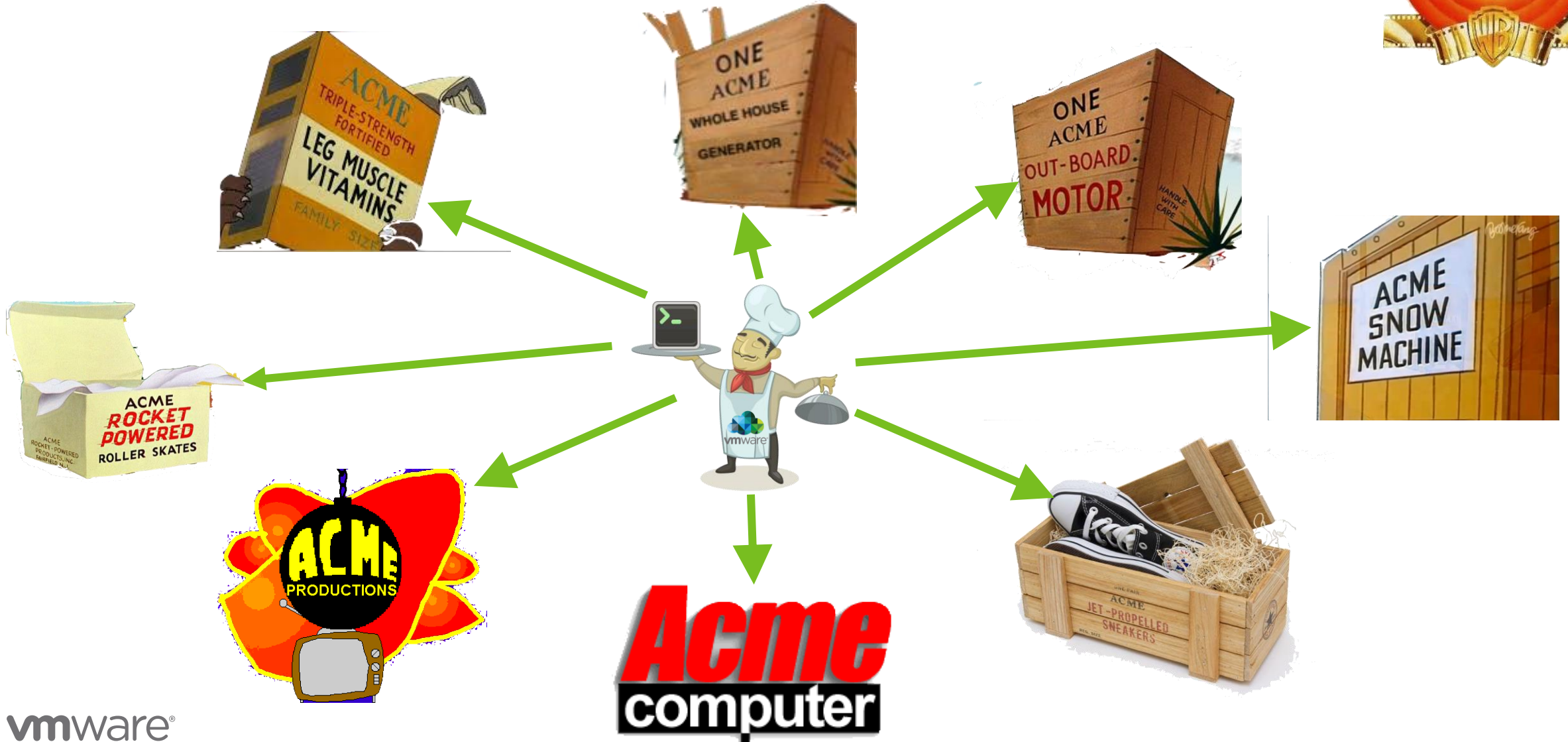
Application Summary Last updated at Nov 15, 18:30



Application Topology

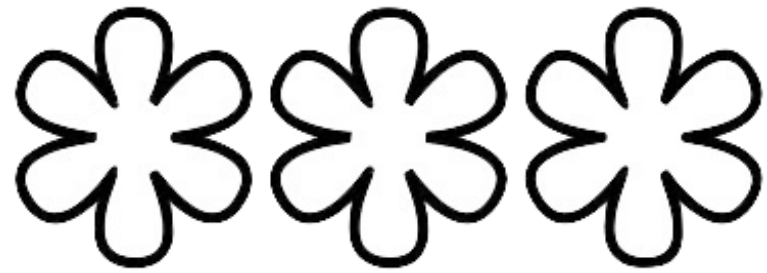


ACME – e vissero per sempre flessibili e contenti





VMware Aria Suite™



**Star-Rated
Management**



