



nic
2019
Artificial Edition
6-8 February



“You can’t control what you can’t measure”

Speaker: Stefano Gioia
Oslo - Feb 2019

The changing application landscape

Existing apps

Modernize apps

Cloud native apps



PeopleSoft.



Environment



Data Center



Co-Lo



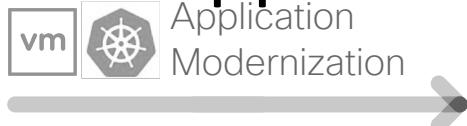
Private
Cloud



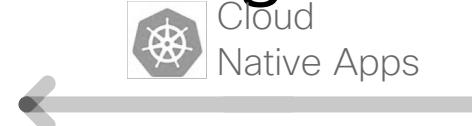
Hybrid
Cloud

NIC

New app innovations finding common ground



Application
Modernization



Cloud
Native Apps

Evolving
on-premises
environment

Adopting
public cloud



...this creates complexity



Evolving on-premises environment

“lack of **visibility and governance** across multiple clouds”

“inefficient methods to **monitor and optimize cloud consumption & costs”**

“to **develop fast** across multiple environments”

“to manage infrastructure for **both old and new** applications”

“**complex process for integration** with other ecosystem solutions”



Adopting public clouds

Multicloud challenges facing our customers

Complex deployment,
management and
governance



Poor app/workload
performance
and user experience

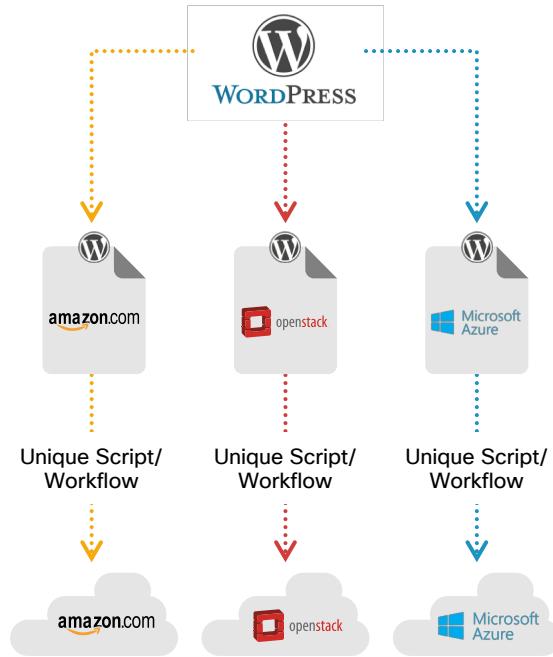


Cloud lock-in,
intelligent placement
and cost control



... are looking for governance policies and ease of use

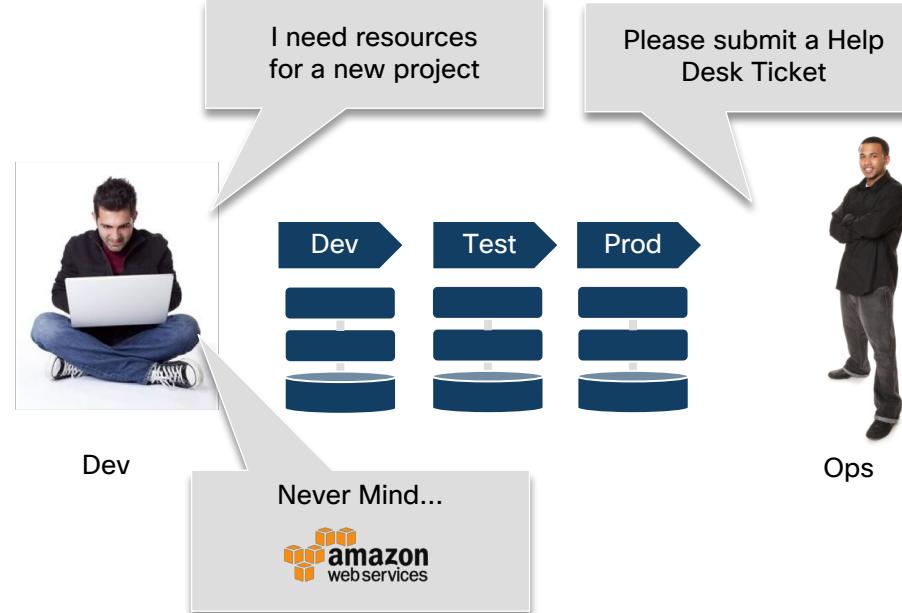
Complex deployment,
management and
governance



1. Infrastructure-centric
2. Cloud-specific workflows & scripts
3. Labor/services intensive

... are looking for governance policies and ease of use

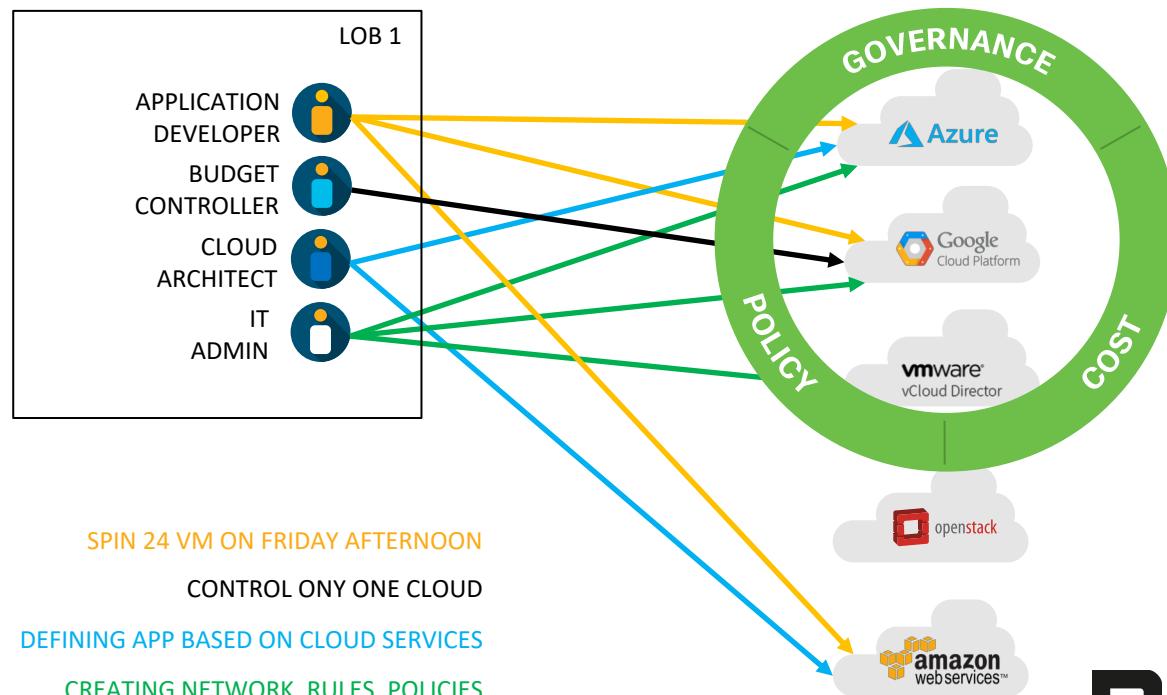
Complex deployment,
management and
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... are looking for governance policies and ease of use

Complex deployment,
management and
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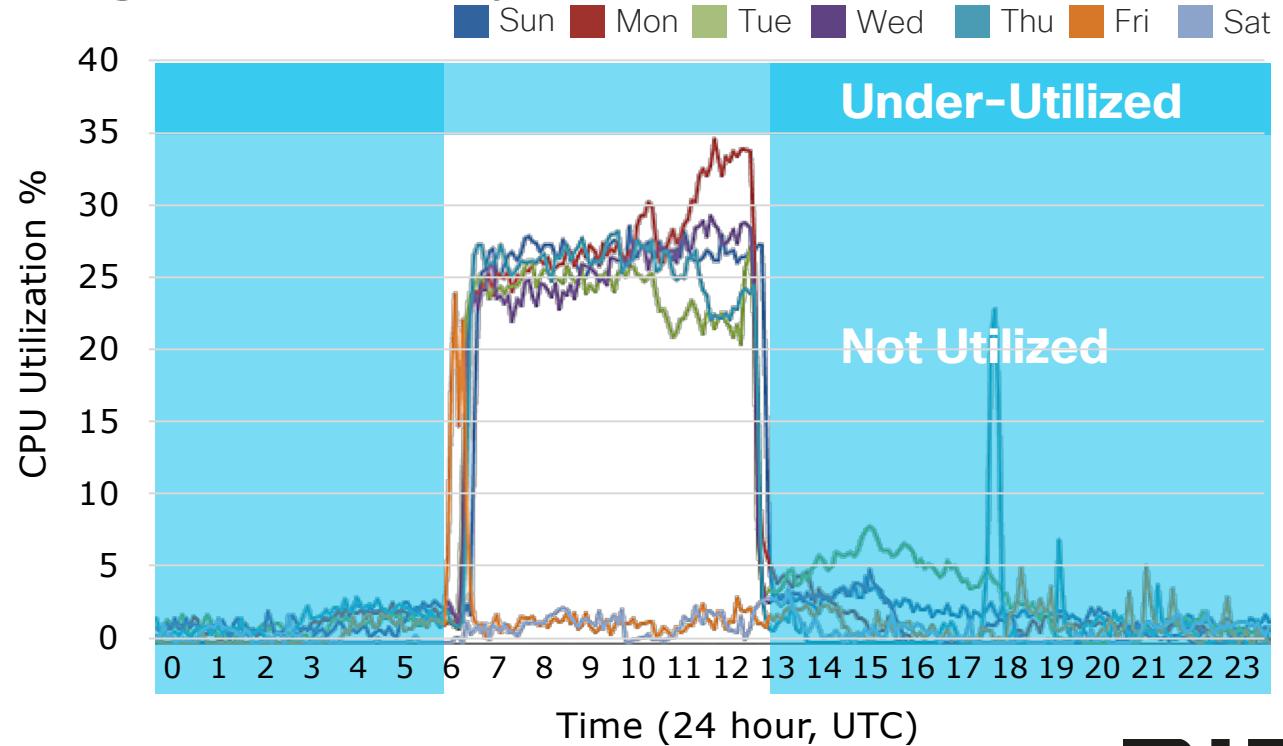


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... are looking for cost optimization



Cloud lock-in,
intelligent placement
and cost control



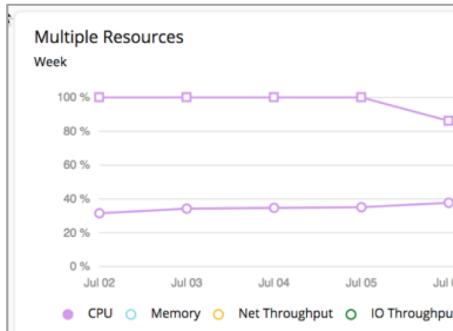
1. Turn off machines
2. Right-size machine
3. Use reserved instances
4. Scale when needed

Hold on! Why all the waste?

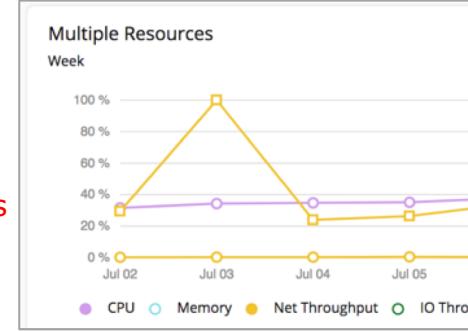
- Complexity of cloud pricing options
- Difficulty selecting the appropriate instance sizes
- Resource owners don't have full visibility into cost implications
- Lack of automation to optimize workloads
- Virtually every workload in a private data center is overprovisioned (as there is no cost-efficiency penalty)
- Cloud providers encourage enterprises to overprovision their workloads for performance reasons

.. are looking for workload optimization

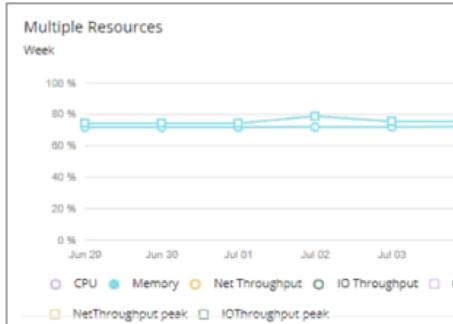
Poor workload performance



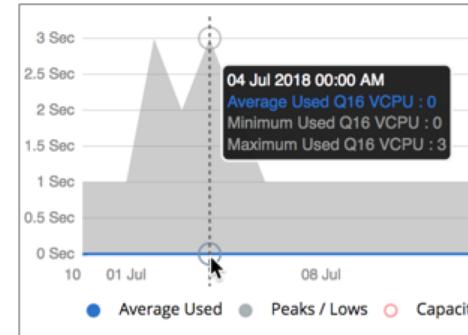
Peak CPU utilization consistently hits 100%



Network utilization peaks at 100%



Peak Memory utilization is 80%



3 seconds at peak for VMs to wait CPU cycles!!



.. and application complexity is exploding

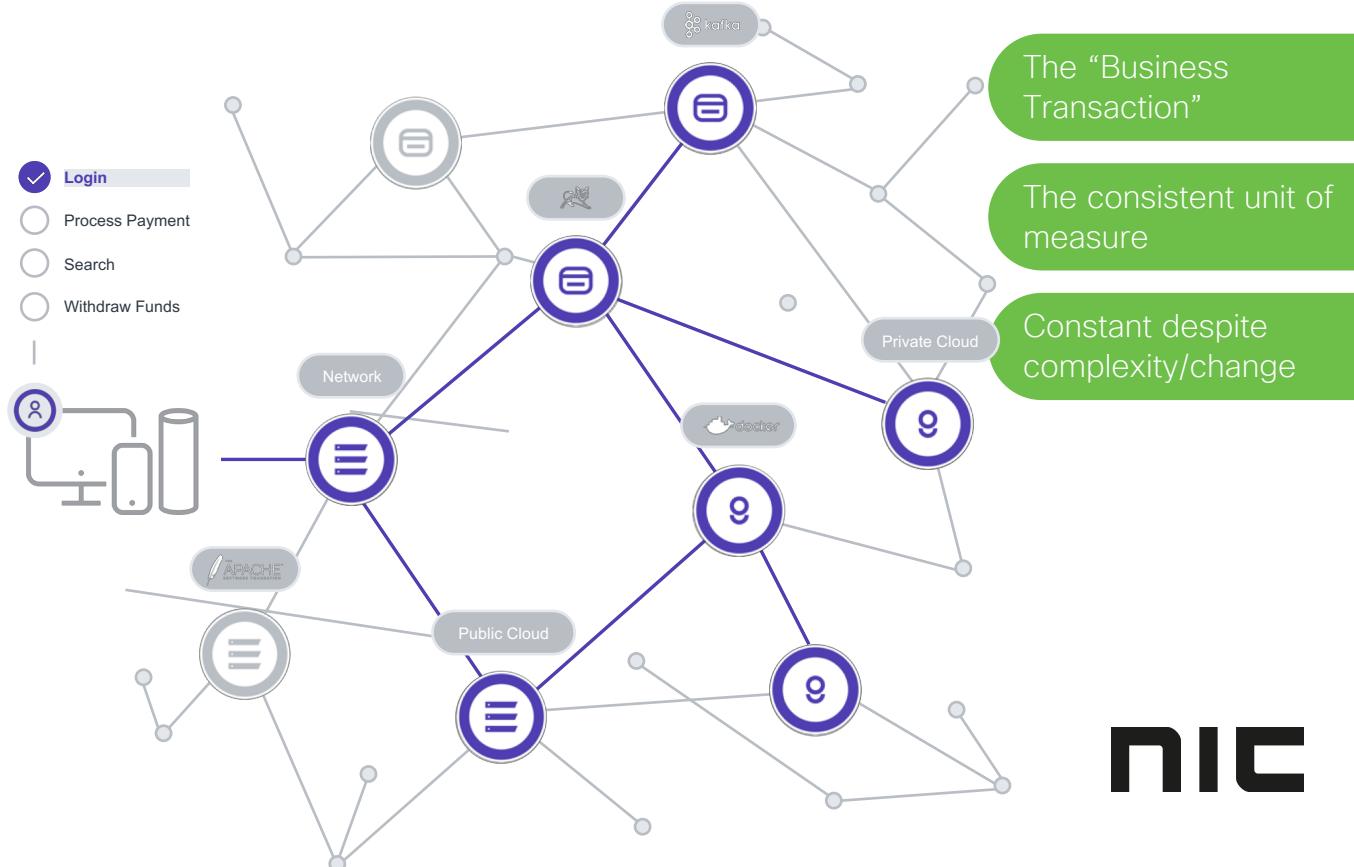
Poor application performance and user experience



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.. How Do You Follow The Customer?

Poor app/workload performance and user experience



Introducing Cisco Solution

Complex deployment,
management and
governance



CloudCenter
Suite



Workload
Optimization
Manager



CloudCenter
Suite

Poor app/workload
performance
and user experience



Workload
Optimization
Manager



AppDynamics

Cloud lock-in,
intelligent placement
and cost control



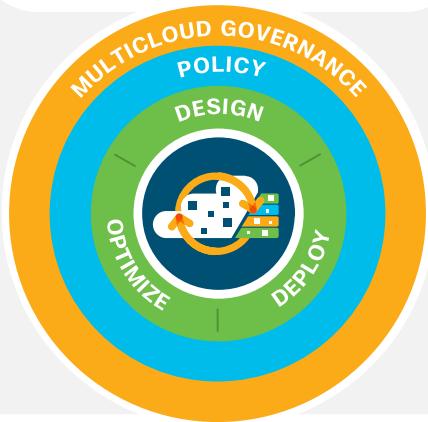
CloudCenter Suite

Design, deploy, and optimize anywhere



Evolving on-premises environment

CloudCenter Suite



One integrated platform

End to end lifecycle

New and existing applications



Adopting public clouds

CloudCenter Suite

Multicloud management platform securely design, deploy, and optimize anywhere



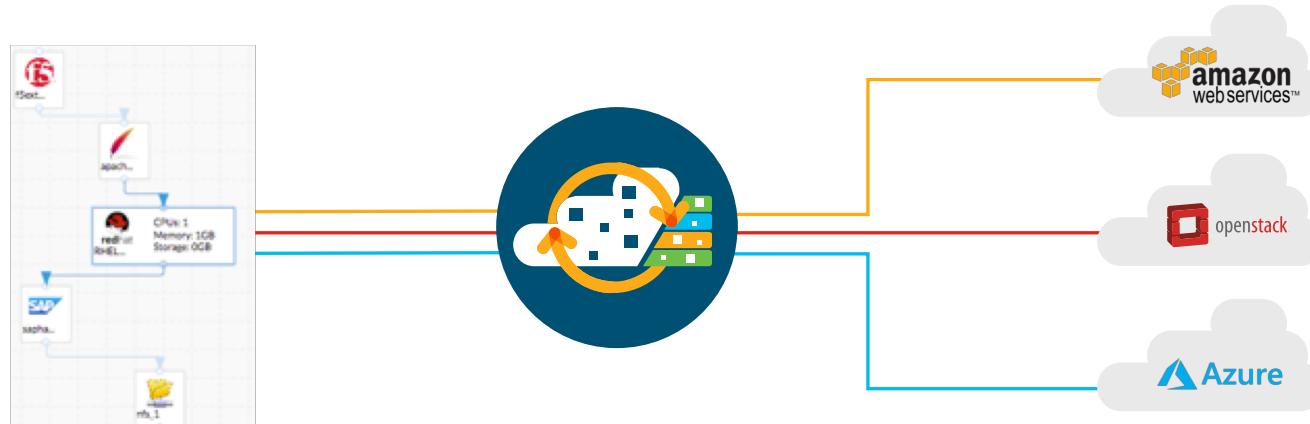
End to End Lifecycle

One Integrated Platform

New and Existing Applications



Unique approach to cloud scale Abstraction of application profile from infrastructure



Application-centric | Cloud agnostic | Low TCO

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CloudCenter Suite



Workload Manager

Provides existing CloudCenter functionality



Cost Optimizer

Provides public and private cloud cost visibility and optimization



Action Orchestrator

Enables workflow process orchestration and automation

Suite Admin

Administers modules, manages cloud personalities, licensing, logging, RBAC, monitoring, authentication

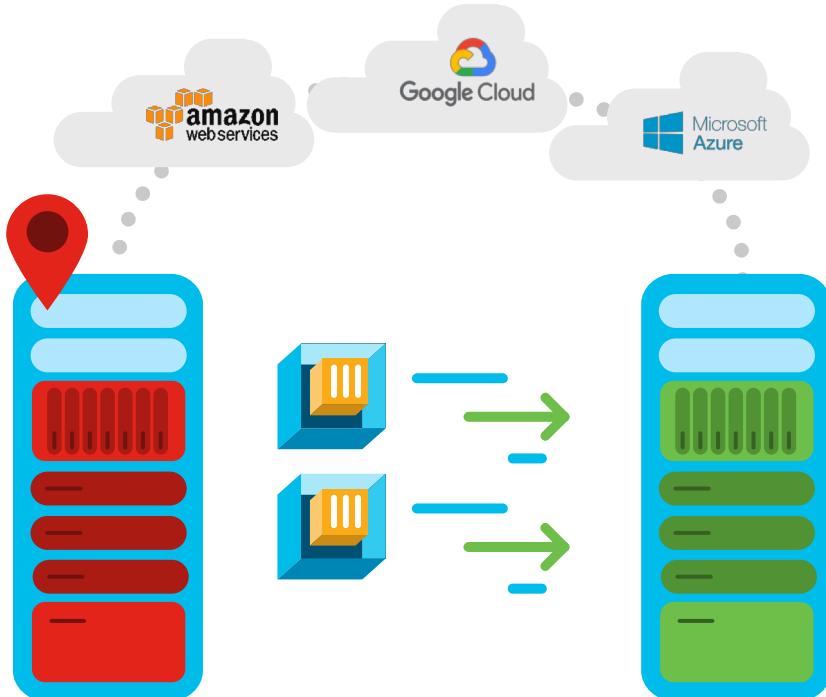
Modular Kubernetes Architecture

Demo

CloudCenter Suite



Continuous Resource Optimization



Cisco Workload Optimization Manager

Dynamic Workload Optimization

Automatically allocate resources to the workloads that need them the most

Increase infrastructure efficiency

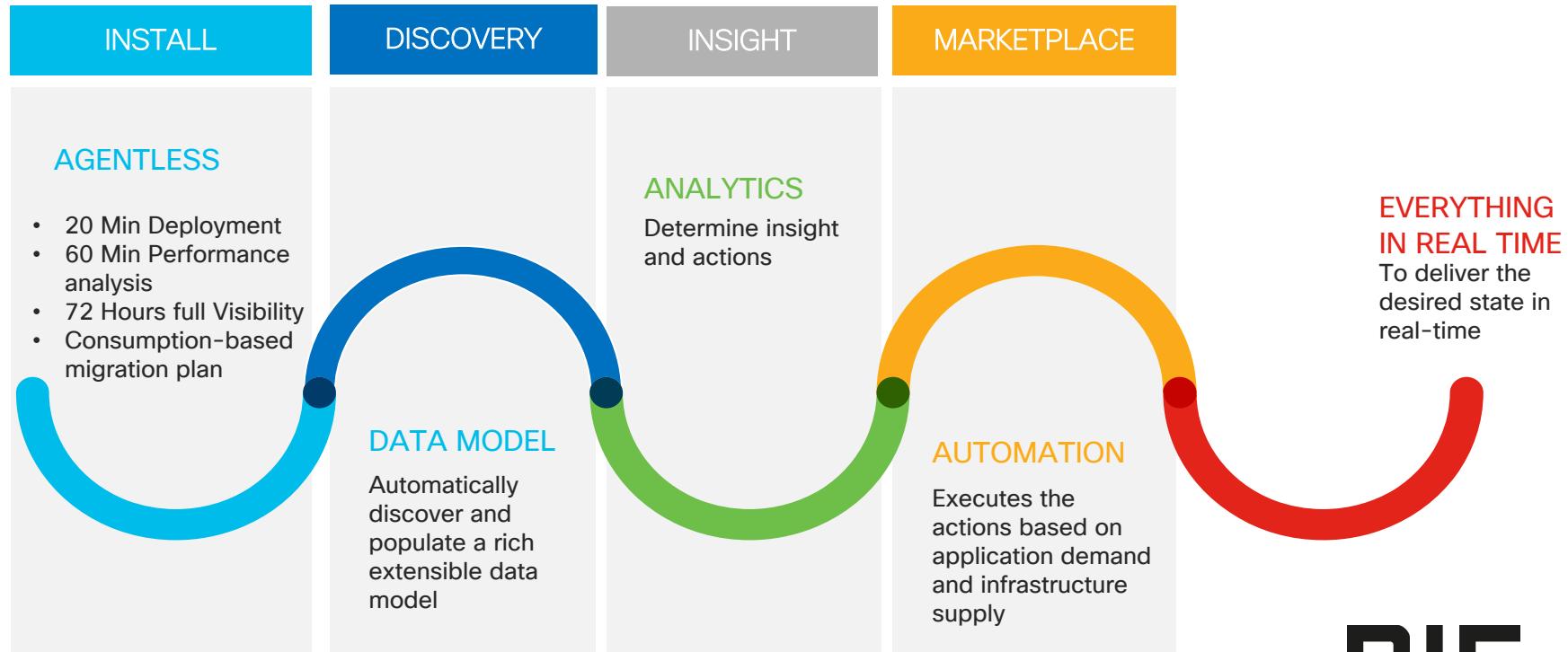
Automatically maximize workload density and resource utilization, minimizing waste

Workload Management

Automatically place, size, and move workloads across on-prem and cloud resources



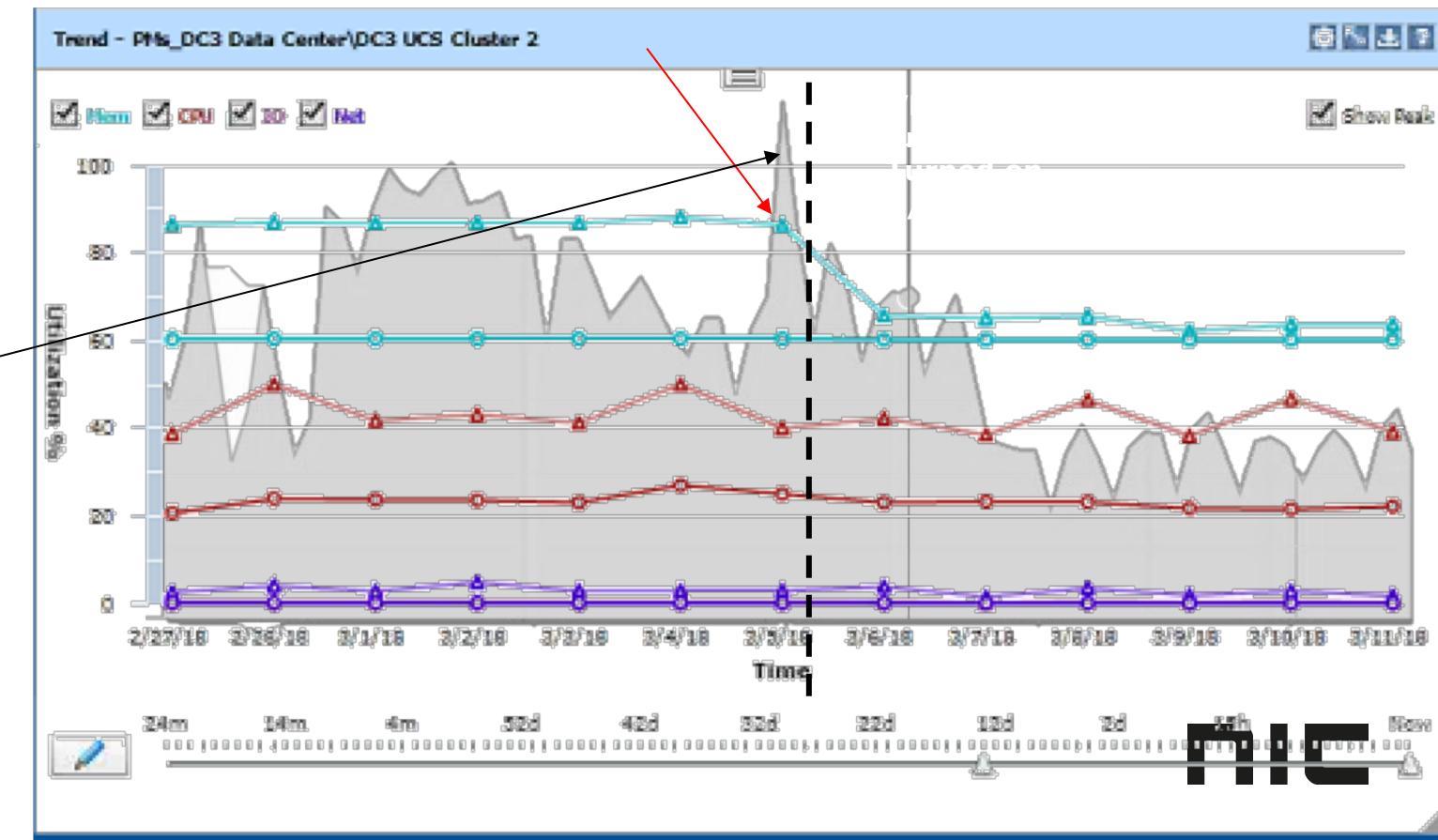
How CWOM Works?



**Peak memory utilization close
to 88% before CWOM
automation**

**Application
Performan
ce Impact:**

A JVM response time reduced from 175 ms to a steady stream at 65 ms



Questions?

