



**Hewlett Packard** Keynote  
Enterprise

**Why the Path to the Autonomous Enterprise is with AI-Powered Hybrid IT**  
**June 6, 2019 | Las Vegas, NV**



# Evolution of Traditional IT to Hybrid IT

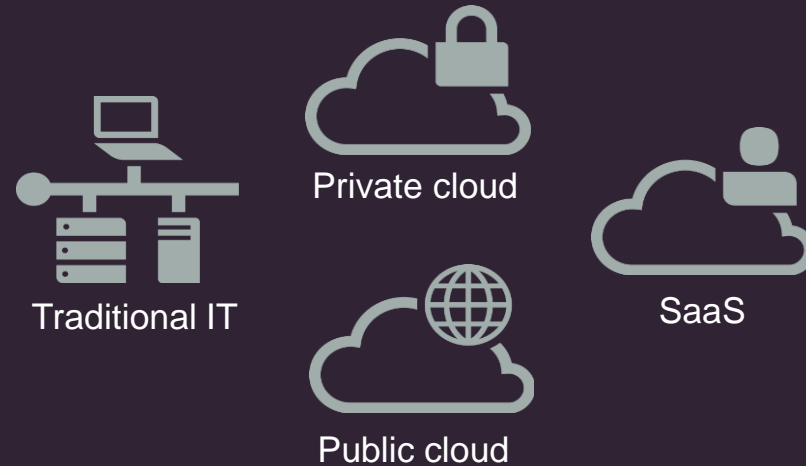
## Traditional IT



Internal Infrastructure,  
multiple tools for mgmt

Internal Management Tools

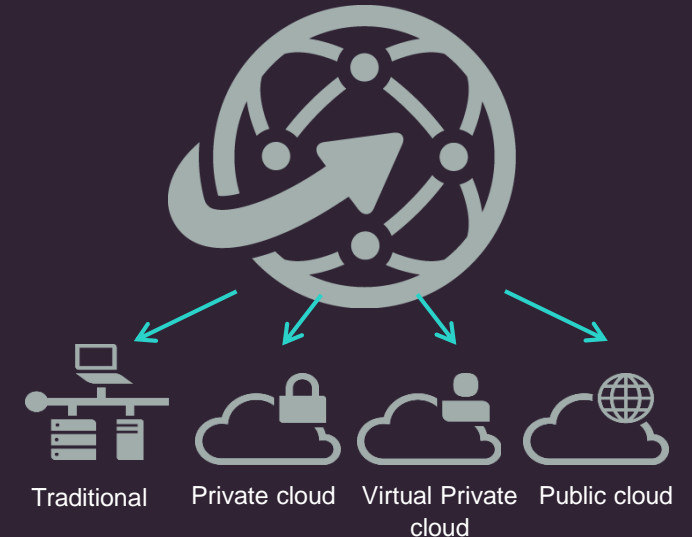
## Multiple IT Models



Multiple cloud deployment models

Each Provider Managed Separately.  
Difficult to have consistent management,  
operations, and optimization.

## Hybrid IT



Application centric, IT across multiple  
internal and cloud services

Need Visibility and Management Across all  
IT Servers, Clouds, Applications.

Need Automation and Intelligence to  
Monitor, Optimize, and Self-Heal.

# Shifting from Traditional IT

Constant attention



Self-manages

Manual tuning



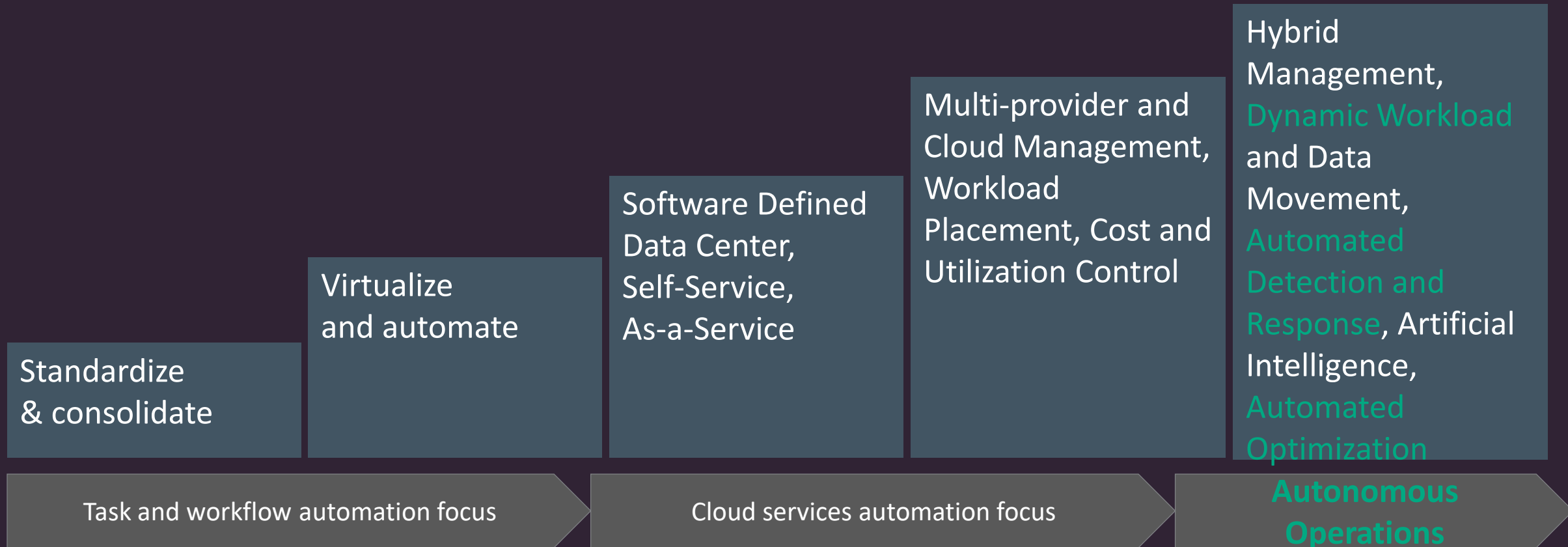
Self-heals

Reactive troubleshooting



Self-optimises

# Journey from Traditional IT



# Transitioning to Hybrid IT / Cloud

- 1) Assess**  
workloads and data  
align to business goals
- 2) Develop your strategy**  
right mix of public/private
- 3) Migrate and Replace**  
migrate apps and data,  
replace w/ SaaS,  
retire
- 4) Manage**  
all of your clouds with  
visibility and control
- 5) Innovate and Repeat**



Visibility, security, governance; metering, cost and utilization control, capacity and performance management are core challenges in hybrid IT and cloud ecosystems.

**Automation, Analytics, and Artificial Intelligence is how to keep up with the velocity of hybrid IT and cloud**



# Long-Term Strategy for Better Hybrid IT Management

## Automation, Analytics and Artificial Intelligence

Composable, software-defined storage, compute, and networking infrastructure

Automated provisioning, dynamic workload management, automated healing and optimization

Global telemetry and machine learning, analytics and predictive analysis, artificial intelligence

# HPE Hybrid IT – Beyond the Hardware



HPE OneSphere  
Hybrid IT Management

Hybrid Management  
Managing internal and external



HPE OneView  
Composable Infrastructure

Composable data center  
Software defined “everything”



HPE InfoSight  
AI for the Data Center

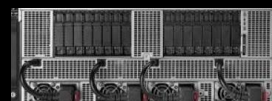
Composable systems  
Software configured infrastructure

Hyperconverged  
Collapsed and pooled storage  
and compute

Traditional  
Integrated compute, networking, storage devices



HPE Composable Fabric  
Software-defined Networking





# Composability, Artificial Intelligence, and Hybrid IT Management



HPE OneSphere  
Hybrid IT Management



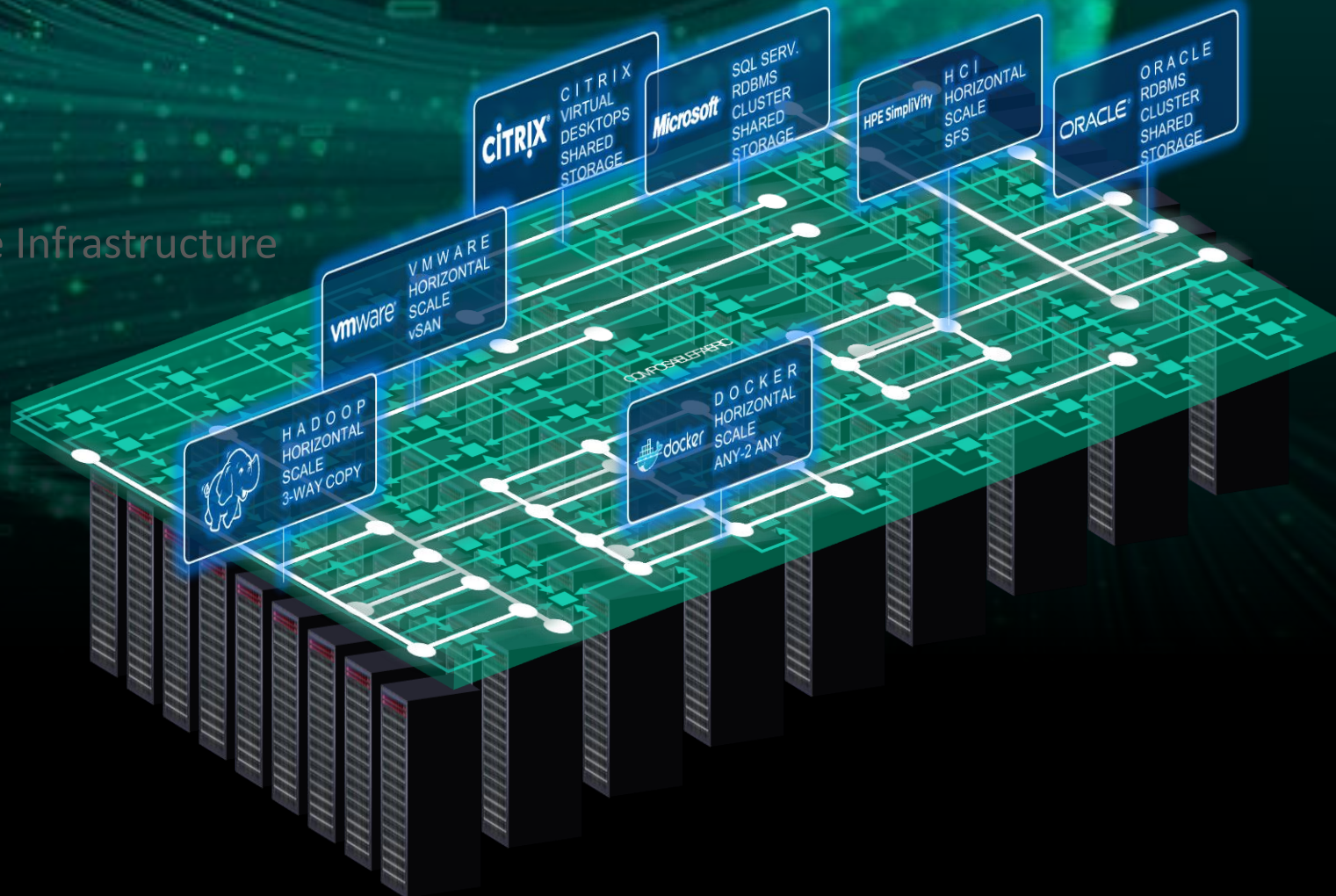
HPE OneView  
Composable Infrastructure



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Software-defined Networking





# Composability, Artificial Intelligence, and Hybrid IT Management



HPE OneSphere  
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HPE OneView  
Composable Infrastructure

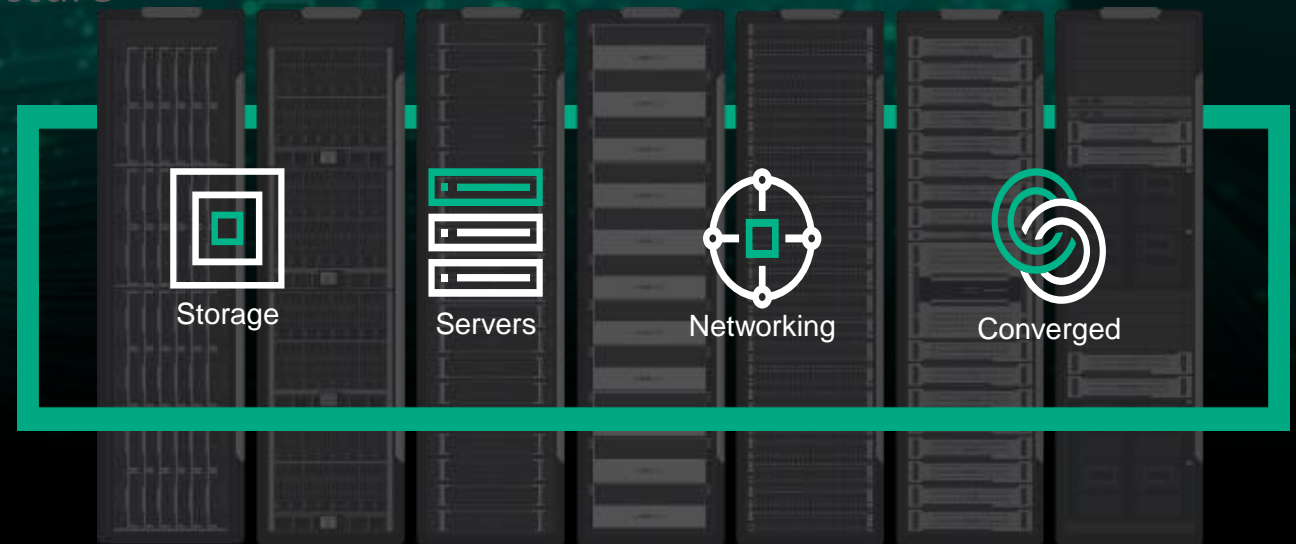


HPE InfoSight  
AI for the Data Center



HPE Composable Fabric  
Software-defined Networking

## AI for the Data Center



# Composability, Artificial Intelligence, and Hybrid IT Management



HPE OneSphere  
Hybrid IT Management



HPE OneView  
Composable Infrastructure

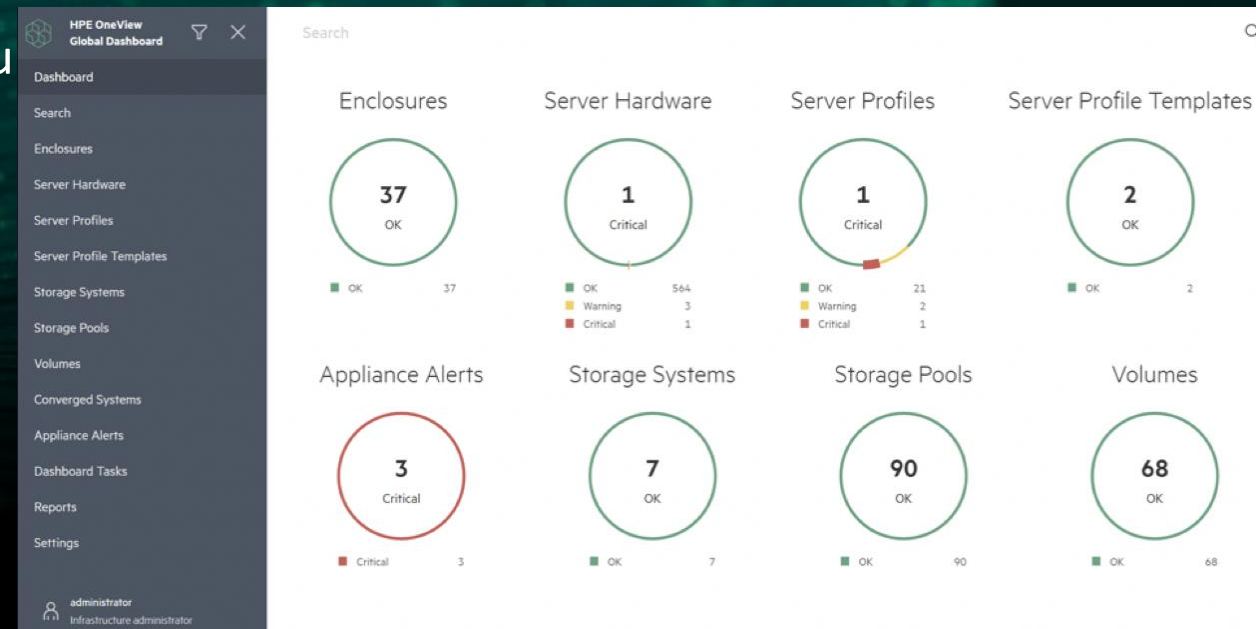


HPE InfoSight  
AI for the Data Center



HPE Composable Fabric  
Software-defined Networking

Unify management with HPE OneView  
Global Dashboard



Infrastructure-as-code  
Automated infrastructure deployment



# Composability, Artificial Intelligence, and Hybrid IT Management



HPE OneSphere  
Hybrid IT Management



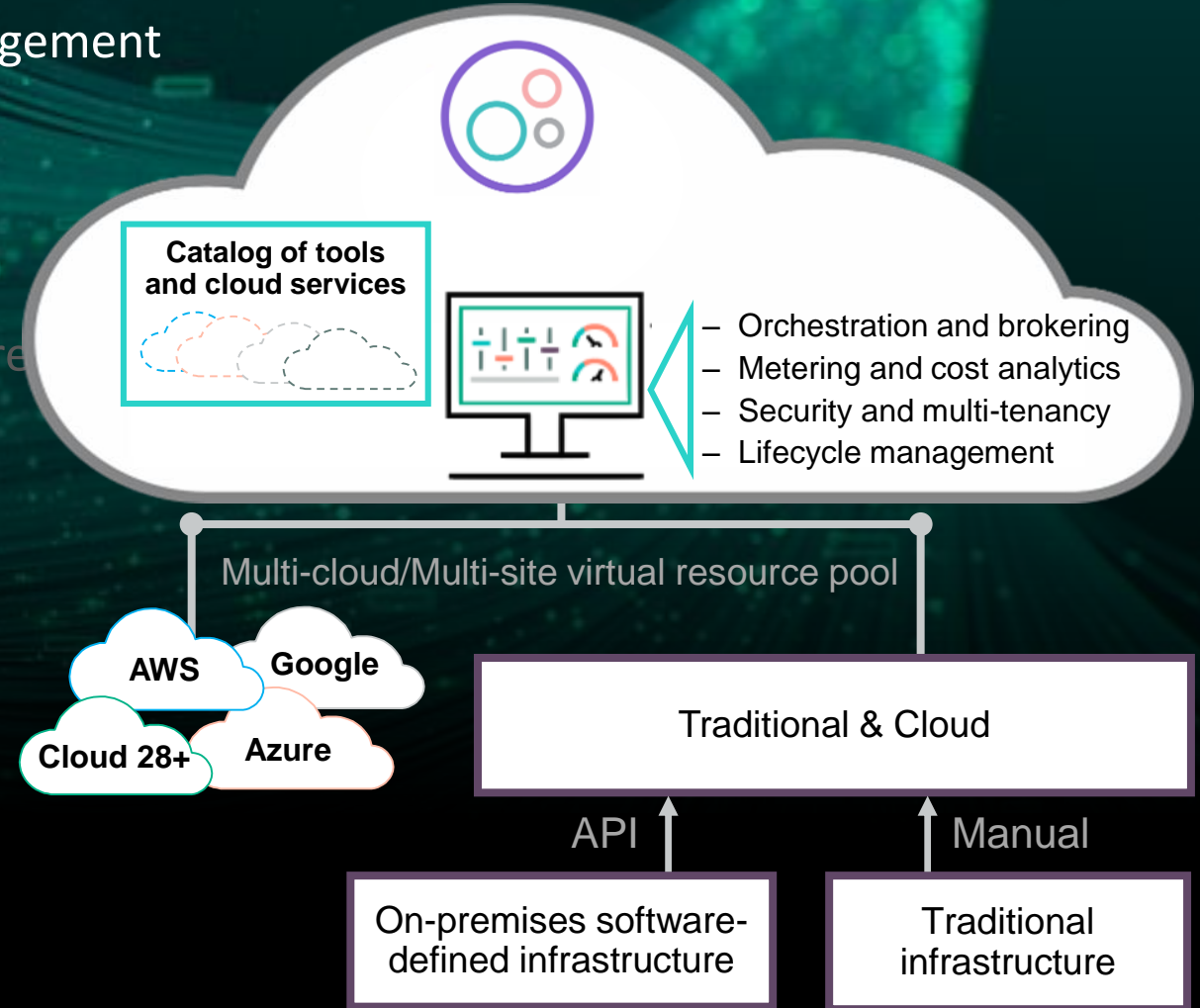
HPE OneView  
Composable Infrastructure



HPE InfoSight  
AI for the Data Center



HPE Composable Fabric  
Software-defined Networking





# AI for the Data Center



Storage



Servers



Networking



Converged





# Semi-Autonomous Automobiles as an Example



## Tesla Autopilot

vs.

## GM SuperCruise

- Global learning / telemetry
- In-vehicle AI processing and dynamic response
- Attempts any/all roads with results collected globally (with uses OTA updates)

- Pre-programmed maps (major highways only for now)
- Programmed and in-car stored responses and behavior
- Only works on major highways that have been pre-mapped / pre-programmed (with OTA updates)

# HPE InfoSight – AI driven intelligence

Servers

Storage

Collecting and Analyzing Millions of Sensors per Second Across Servers & Storage

Customer Impact



Predictive Support Automation



Preemptive Recommendations



Proactive Management



Continuous Improvement

Cloud-Based AI Platform



Predictive Analytics Engine



Global Learning



Recommendation Engine

Cross-Stack Telemetry

vmware

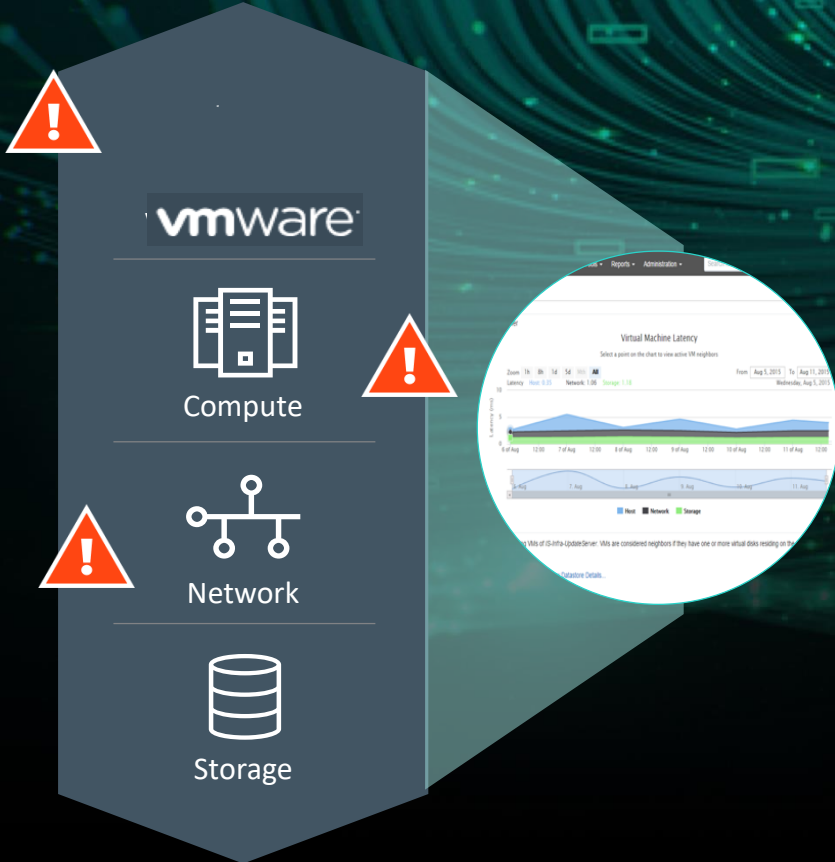
ORACLE

Microsoft  
SQL Server

Exchange



# Cross-Stack Analytics: VMware Example



## Noisy Neighbor

Determine if VMs are hogging  
System resources



## Host & Memory Analytics

Visibility into host CPU  
and memory metrics



## Latency Attribution

Identify root cause across  
host, storage, or SAN



## Inactive VMs

Visibility into inactive VMs to  
repurpose/reclaim resources

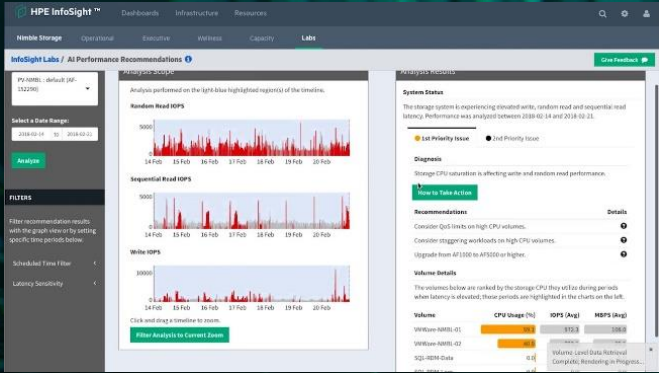


## Top Performing VMs

Visibility into Top 10 VMs  
by IOPs and Latency

# AI Sees and Predicts Behind the Scene

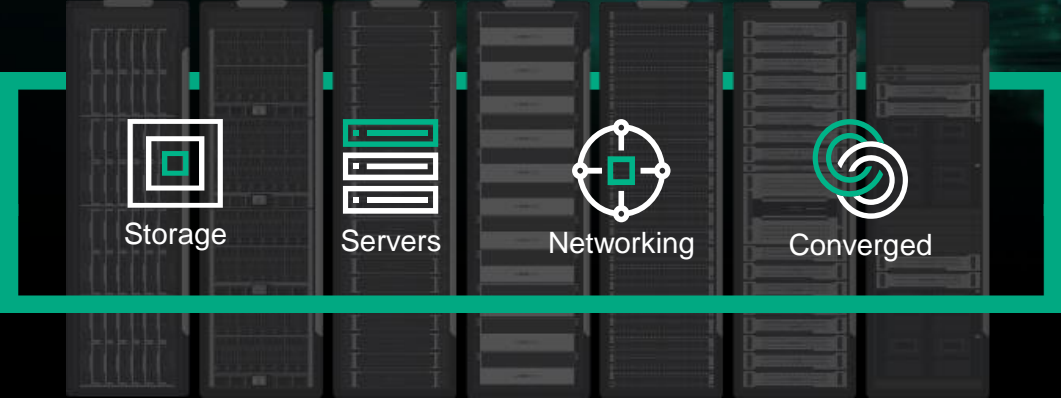
## Customer Portal



ADVANCED VISUALISATIONS

DASHBOARDS

## AI for the Data Center



BLACKLISTING

MACHINE LEARNING

GLOBAL LEARNING

CASE AUTOMATION

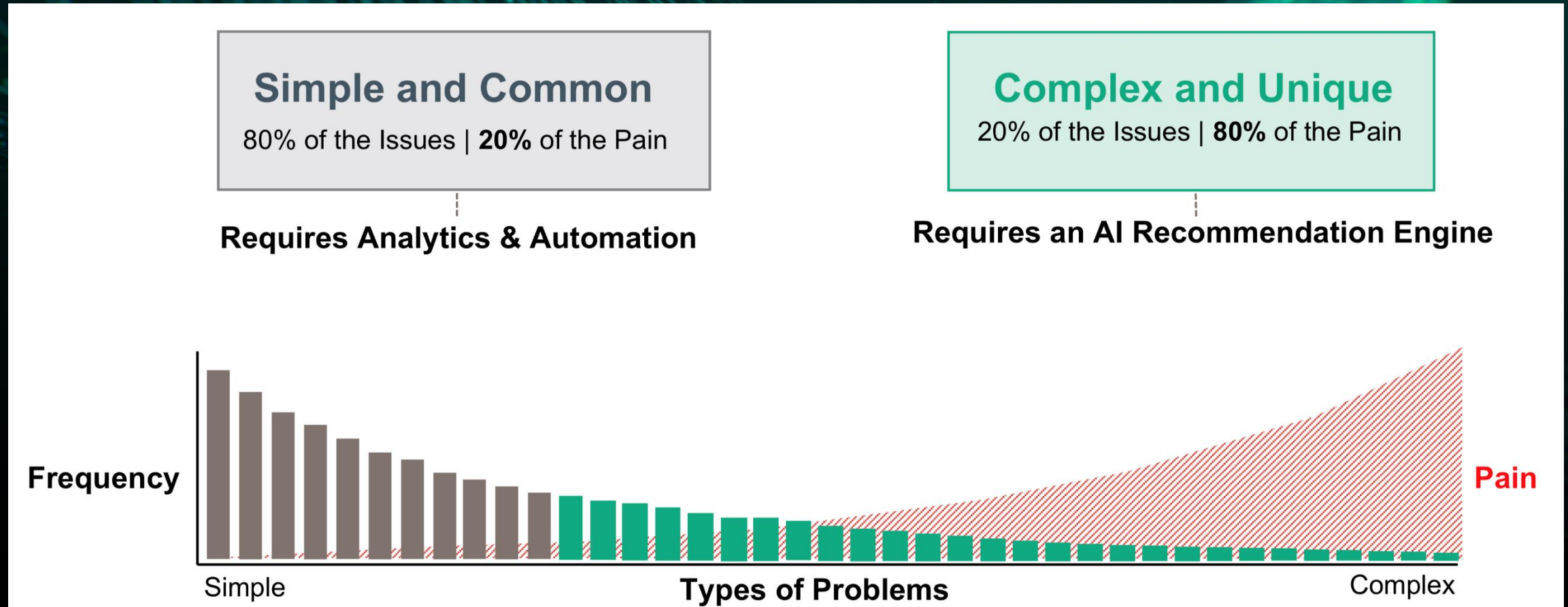
CLOUD-BASED ANALYTICS

PRE-EMPTIVE RECOMMENDATIONS



# Evolving to AI-Driven Operations, Resolution, Optimization

- Stop the End-less Fire Fighting, Log Analysis and Alert Mgmt.





# Benefits Global Machine Learning and AI

Intelligence to make infrastructure autonomous

**AI-Driven automation**

delivers up to **85%** improvement in IT efficiency<sup>1</sup>

**Effortless management**

with up to **79%** lower storage operational expenses<sup>2</sup>

**Transformed support**

with **86%** of issues automatically opened and resolved<sup>3</sup>

1. Analyst White paper by ESG "Assessing the financial impact of HPE InfoSight predictive analytics", September 2017 [hpe.com/us/en/resources/storage/assessing-impact-infosight.html](https://hpe.com/us/en/resources/storage/assessing-impact-infosight.html)

2.. Illustrates potential savings based on customer surveys. HPE does not provide financial advice.

3. HPE Business White paper "Redefining the standard for system availability", August 2017 [h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00018503ENW](https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00018503ENW)

# The Path to the Autonomous Data Center

## Automation, Analytics and Artificial Intelligence

Composable, software-defined storage, compute, and networking infrastructure

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Global telemetry and machine learning, analytics and predictive analysis, artificial intelligence



**Thank you!**

[www.hpe.com](http://www.hpe.com)

**James Bond**  
[jbond@hpe.com](mailto:jbond@hpe.com)



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