



**Hewlett Packard  
Enterprise**

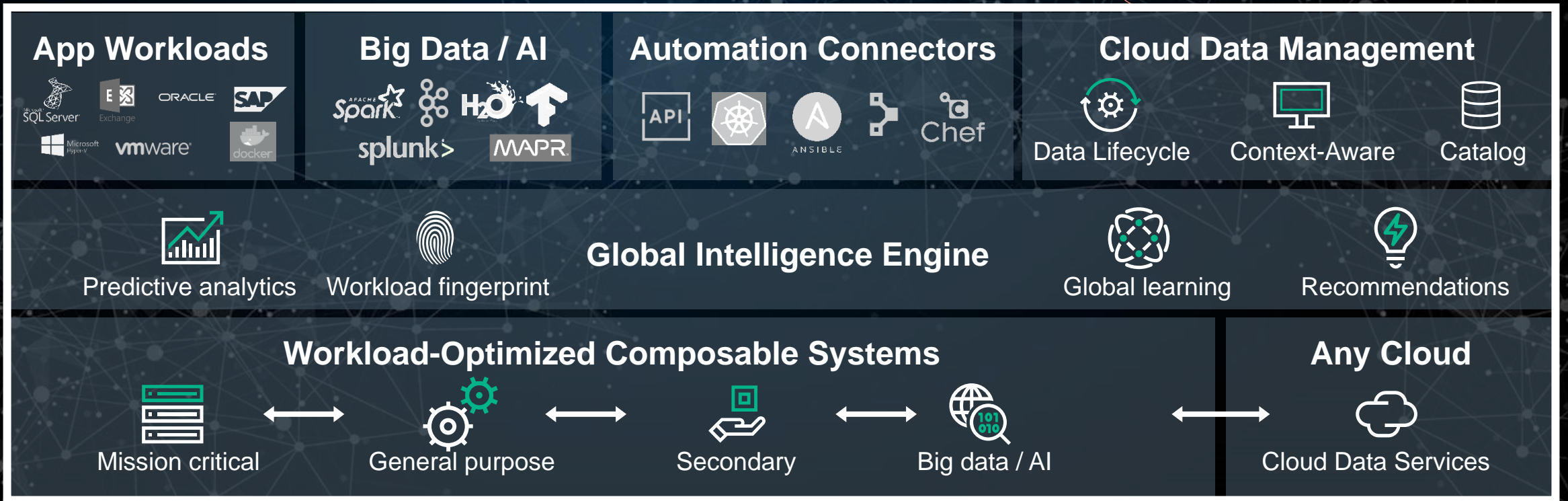
# **HPE Primera Mission-Critical Redefined**

# INTELLIGENCE

C H A N G E S E V E R Y T H I N G



# Intelligent Data Platform



# It's impossible for IT to keep up



Complex  
Infrastructure



Constant  
Fire-Fighting



Fragmented  
Data Silos

# Mission-Critical Apps

Transforming Industry. Requiring Agility.



Virtualization



Databases



ERP



EMR



Containers



Real Time Analytics



IoT

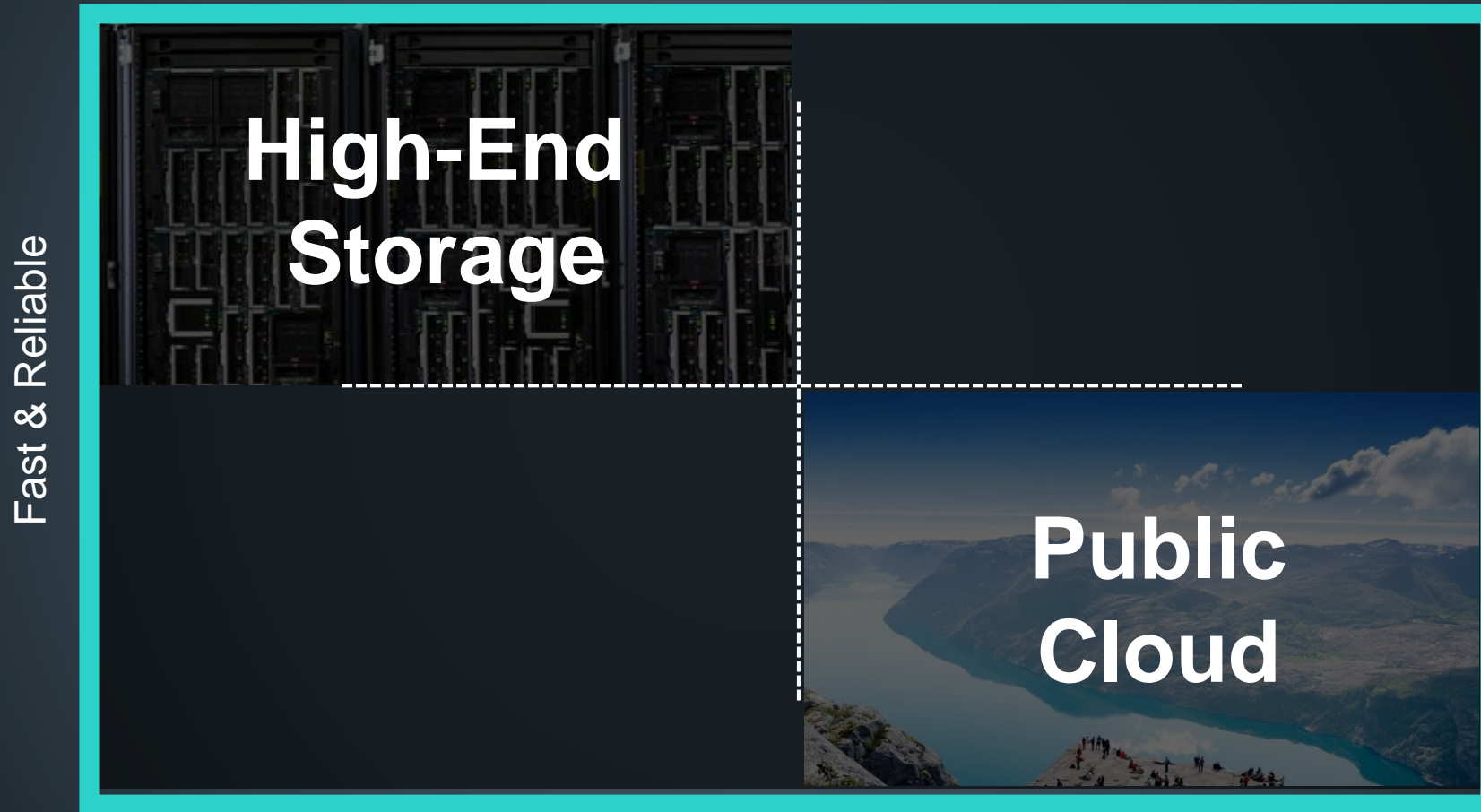


AI

Traditional

Modern

# Forced tradeoff between agility and resiliency



# What if you could have both agility and resiliency for your mission-critical apps?

  
Manage  
Itself  
**Nimble Storage**

  
Predict & Prevent  
App DISRUPTIONS  
**Insight**

  
Consolidate  
Without Risk  
**3PAR Storage**

World's Most Intelligent Storage  
For Mission-critical Apps

HPE Primera



**On-Demand  
Experience**

**App-Aware  
Resiliency**

**Predictive  
Acceleration**



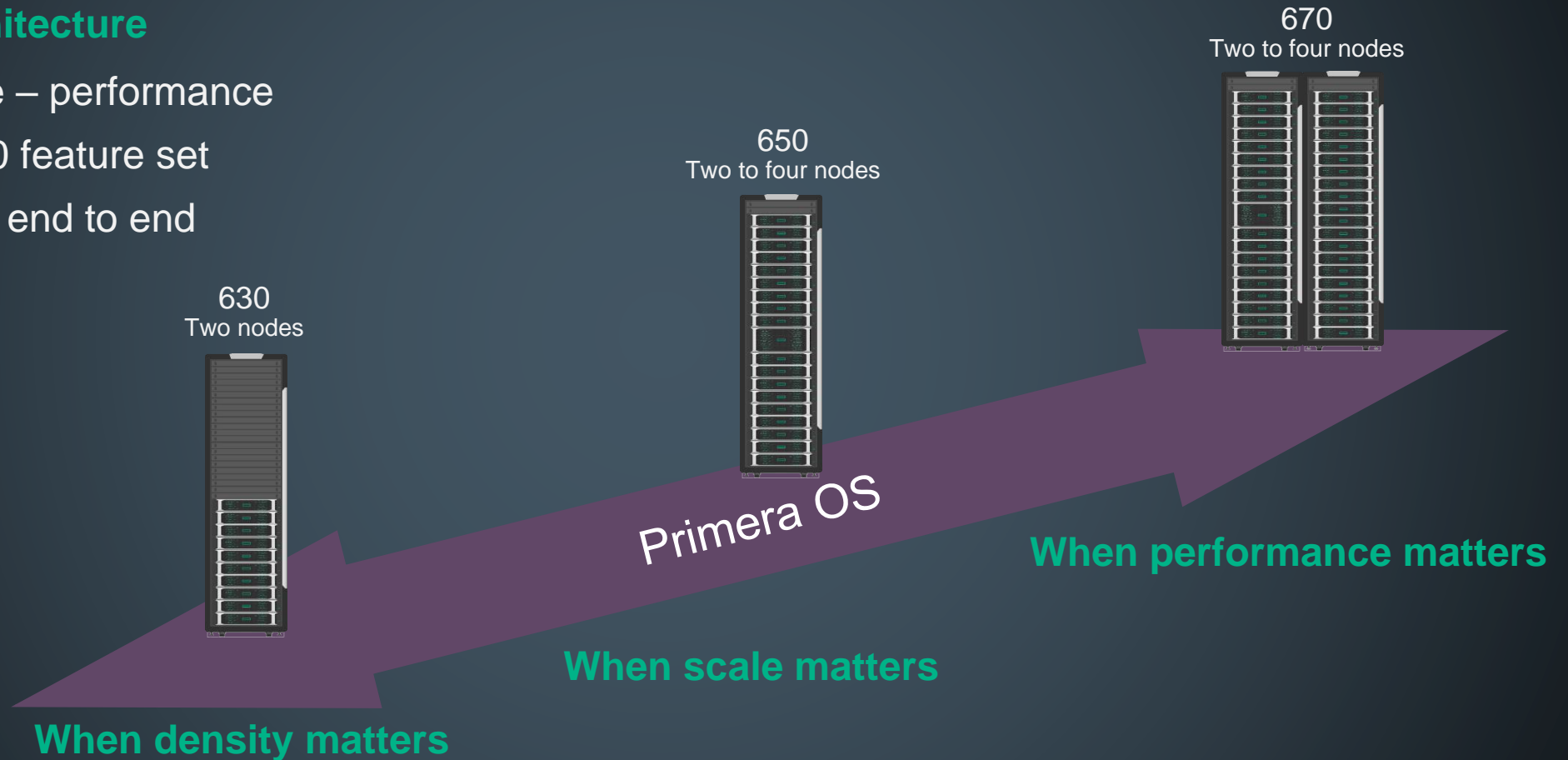
# Eliminating distinctions across density, scale, and performance

Storage without boundaries

## ONE Tier-0 architecture

- Density – scale – performance
- Common Tier-0 feature set
- Interoperability end to end

## Only HPE



# Engineered to drive unique value in high-end storage

## Global Intelligence

Powered with the most advanced AI for infrastructure

## All-active Architecture

Multi-node architecture for higher resiliency and limitless parallelization

## Services-centric OS

An OS that eliminates risk and simplifies management

## Timeless Storage

A new ownership experience that keeps getting better

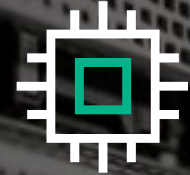
# HPE InfoSight Everywhere



Cloud



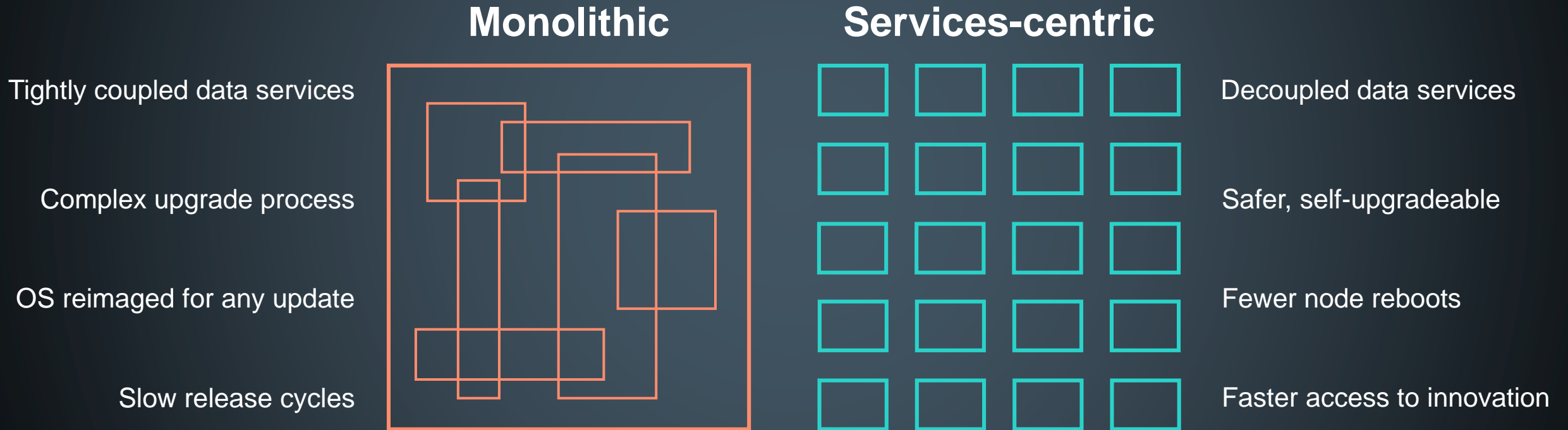
Data Center



Embedded

← **Global Learning To Real-time Analytics** →

# Eliminating risk and simplifying management with a services-centric OS



# Enterprise storage ownership transformed

All inclusive licensing

No Forklift Upgrades

Store More Guarantee

Controller upgrade options

100% Availability Guarantee

## Investments are **timeless**

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World's Most Intelligent Storage  
For Mission-critical Apps

HPE Primera



**On-Demand  
Experience**

**App-Aware  
Resiliency**

**Predictive  
Acceleration**

# On-Demand Experience



HPE Primera On-demand Experience

# Self-service user experience for instant access



**20 Min**  
Rack-to-Apps



**Seconds**  
to Provision



**5 Min**  
No-risk upgrades



# HPE Primera On-demand Experience

## Radically simple all of the time

**Automated setup** with streamlined workflows

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**No separate tools** needed with built-in management

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**No tuning** with all-active, always-on data reduction and RAID6

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**Prescriptive OS updates** transparent to applications

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**API-driven** for infrastructure as code



up to **93%**

reduction in time spent to deploy,  
manage, and scale storage<sup>1</sup>

HPE Primera On-demand Experience

# Online, inline, non-disruptive upgrades with data in place

Start small

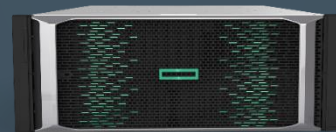


630

Scale up  
Scale out



650 2N



650 4N

Scale up  
Scale out



670 2N



670 2N/4N

**Efficient scaling**

Multi-node scale for performance and capacity

**Simple refresh**

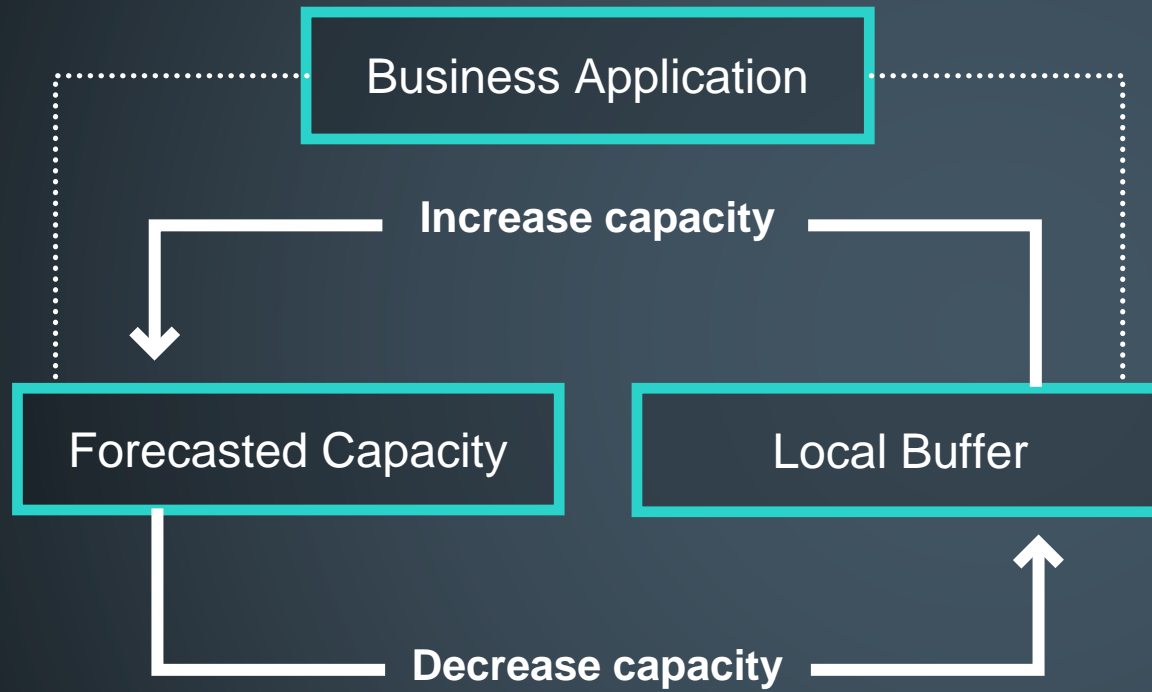
Zero wasted investment with data in place upgrades

**No disruptions**

Upgrading is transparent to your apps and to you

HPE Primera On-demand Experience

# Consume IT in your environment, on your terms with HPE GreenLake



Cloud economics,  
on-premises

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Pay only for what  
you use

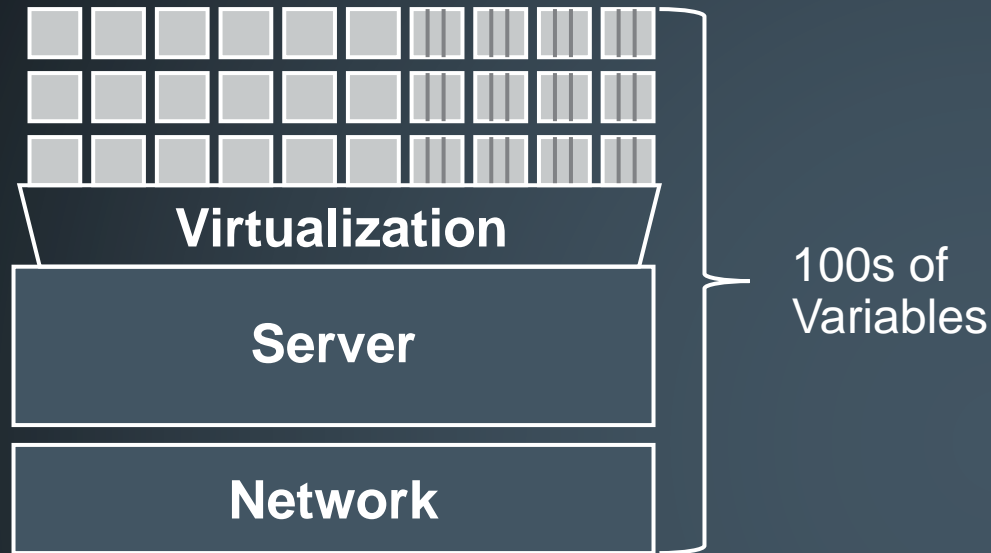
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Scale capacity  
quickly when  
needed

# App-Aware Resiliency



# Traditional high-end storage resiliency is ineffective



More than  
**90%**  
of problems<sup>1</sup>  
arise from above the  
storage layer\*

Storage

Reliable & fast storage  
solves only fraction of the  
problem

1. IDC, Server and Storage Availability Survey Results, April 2019

HPE Primera App-aware Resiliency

# Protecting enterprises with app-aware resiliency

Beyond the box protection for no disruptions, corruptions, or delays

## Resilient Design Center

All-active, no single point of failure and a services-centric OS that de-risks updates

+

## Hybrid Cloud Data Protection

App-aware data protection  
extended to the cloud

+

## Predictive Analytics

Predicts and prevents disruptions  
from storage to VMs

HPE Primera App-aware Resiliency

# Resilient Design Center for 100% Availability



## Active-Active

Instant failover of controller with no single point of failure, HA Cage, and separate power domains

## Services-Centric OS

Independent data services eliminate upgrade risk, end-to-end error checking, dual-protection erasure code

## Multi-Site Replication

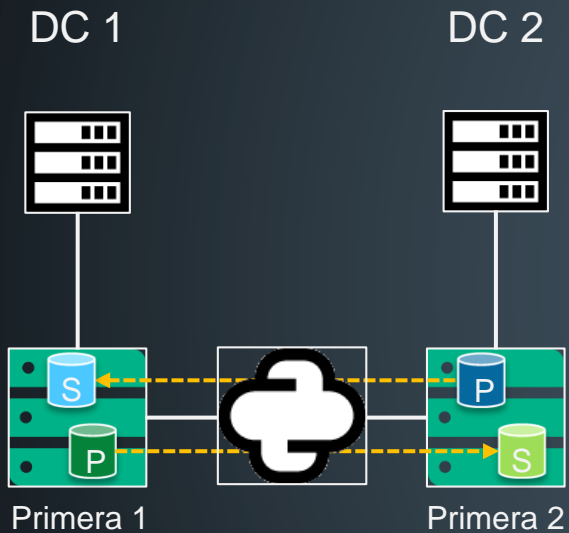
Async and/or sync replication with automatic and transparent switchover across three data centers

# HPE Primera App-aware Resiliency

## HPE leadership—Data availability and protection

Simplify disaster recovery and high availability

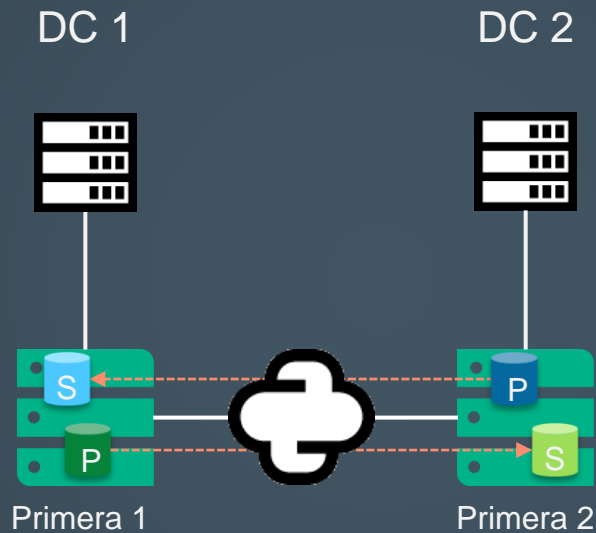
### Sync Remote Copy



**RPO = 0**

High availability across metro distances with up to 10ms RTT (~1000 km)

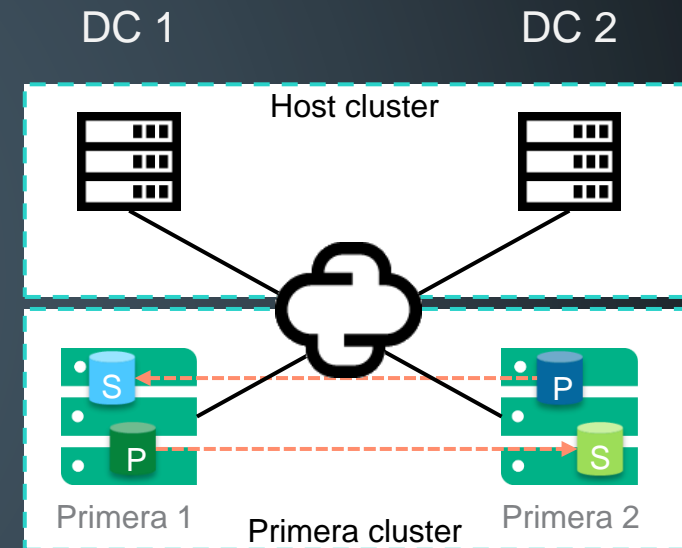
### Async Remote Copy



**RPO = seconds to minutes**

Disaster recovery across continental distances with up to 150ms RTT (~15,000 km)

### Peer Persistence



**RPO + RTO = 0**

High availability across metro distances with up to 10ms RTT (~1000 km)



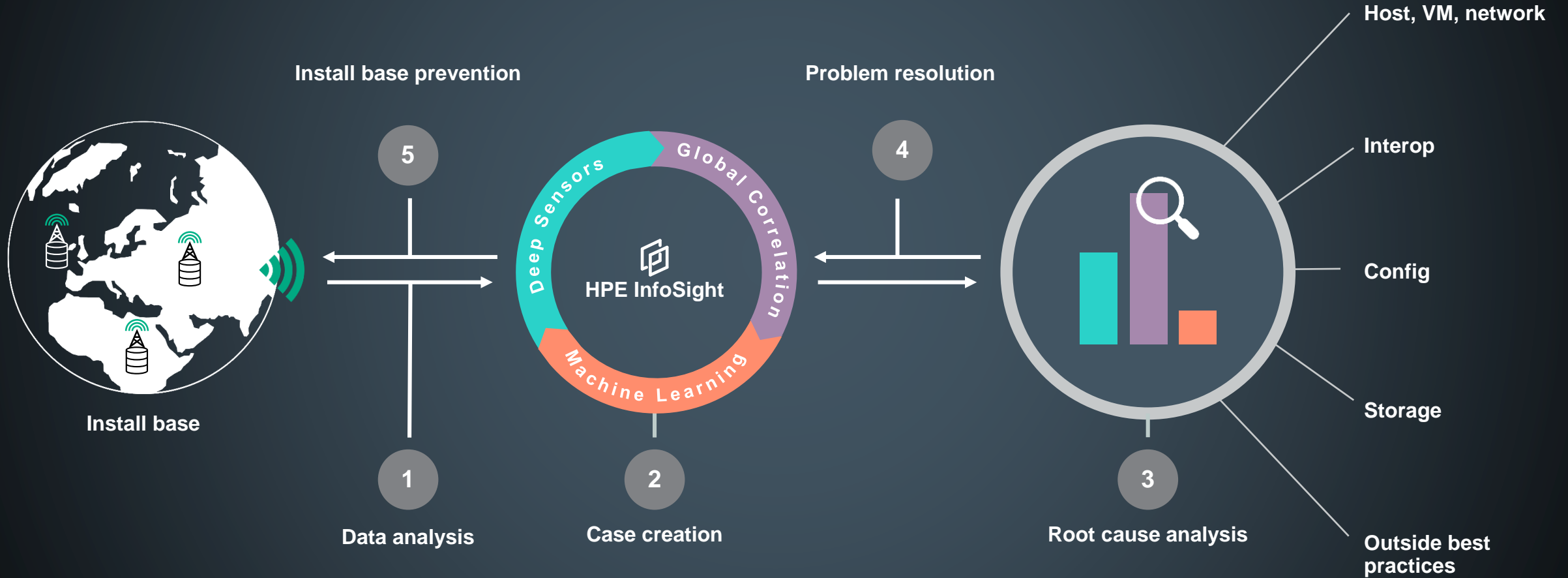
# HPE Primera App-aware Resiliency

## App-aware data protection extended to the cloud



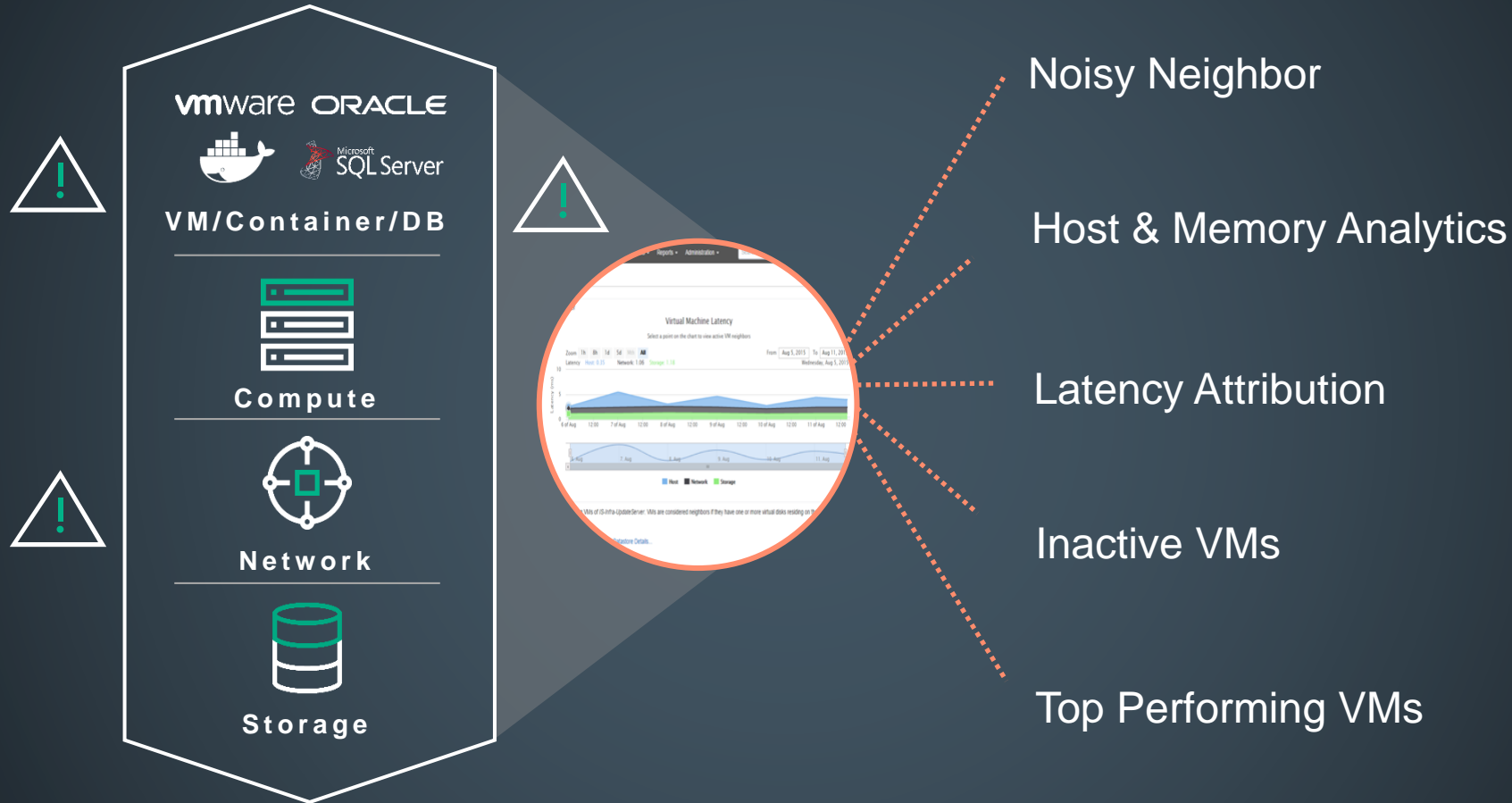
# HPE Primera App-aware Resiliency

## See once, prevent for all



# HPE Primera App-aware Resiliency

## See issues beyond storage



Look beyond your storage infrastructure to gain the deepest insights

# Predictive Acceleration



HPE Primera Predictive Acceleration

# Consolidate without risk with predictive acceleration

Intelligence combined with limitless parallelization

## All-Active

Multi-node with all controllers serving I/O concurrently thru multiple paths

+

## Memory-Driven

SCM and NVMe-optimized architecture through software & hardware

+

## Embedded AI

Optimize performance and automate workload planning in real-time

# Architectural advantage for NVMe and Storage Class Memory



## Limitless Parallelization

All controllers with unified cache serving I/O concurrently thru multiple paths



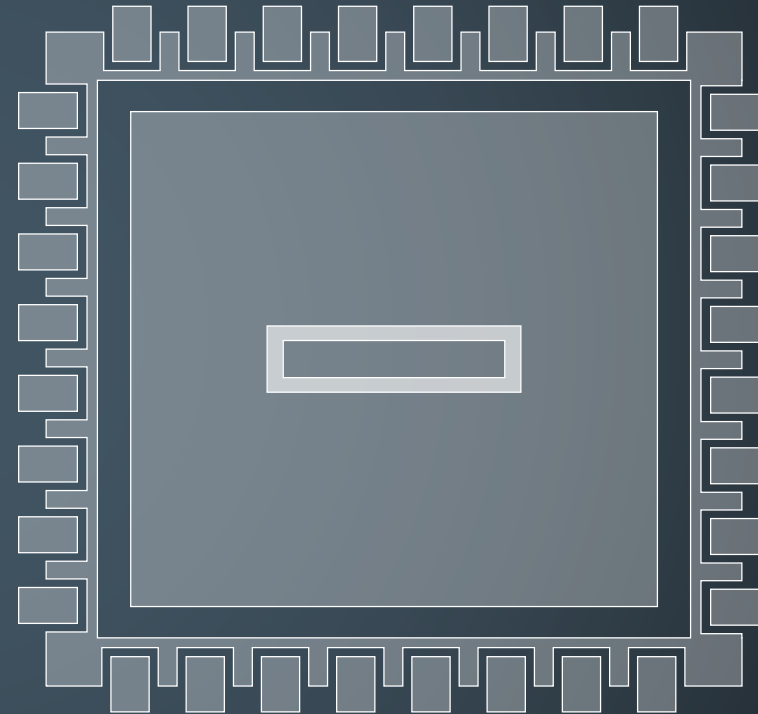
## Memory-driven

SCM and NVMe-optimized through software defined, hardware-enabled architecture



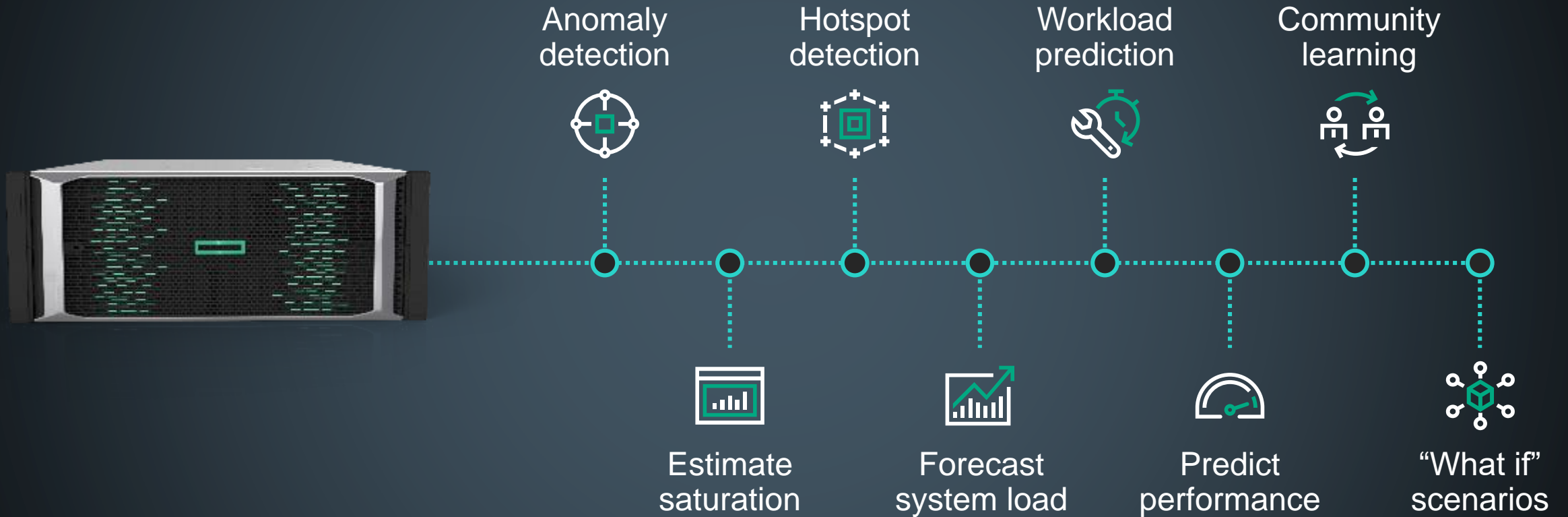
## Lockless design

Gen 6 ASIC and unified cache drives more parallelism and greater, more consistent performance



HPE Primera Predictive Acceleration

# Embedded AI engine self-optimizing performance



# Intelligent storage unlocks the potential of your data

AI  
Driven

Built for  
Cloud

as-a-Service experience

## HPE Primera Storage

**Flexible** to easily adapt to any environment. **Powerful** to handle anything. **Resilient** for end-to-end data protection.



# Mission-Critical Redefined.