



# Data Center Innovation Day





# Platform for the Multicloud

Prasad Radhakrishnan

Data Centre Solutions Lead, Cisco Systems

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# What has changed in the last 10 years ?



More hair , less weight !

# What has changed in the last 10 years ?



Hottest Phone – Nokia 8800



APPL : \$till in the teens



Preferred search engine



Top 5 Server Vendors

# Cisco UCS Rapid Growth

**No.1**

Integrated infrastructure  
(Cisco UCS® and Cisco Nexus®)

**130+**

World-record  
performance benchmark

**60,000+**

Customers

**No.1**

WW Market share  
in x86 blades

**1**

Exabyte total  
storage deployed

**>85%**

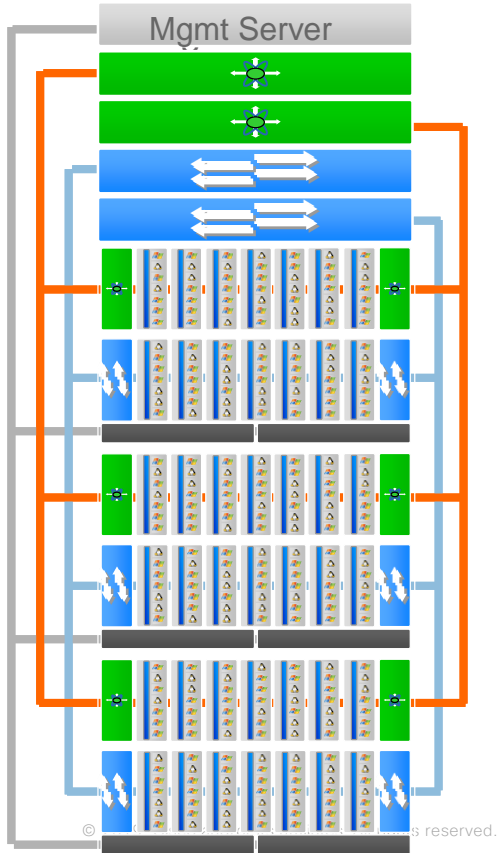
of Fortune 500 have  
invested in Cisco UCS



Source: IDC, 3CQY17, , Vendor Revenue Share

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# UCS – A Modular Approach



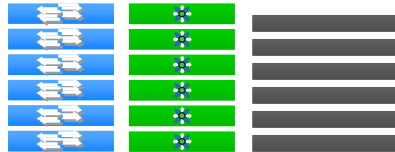
Embed management

Unify fabrics

Optimize virtualization

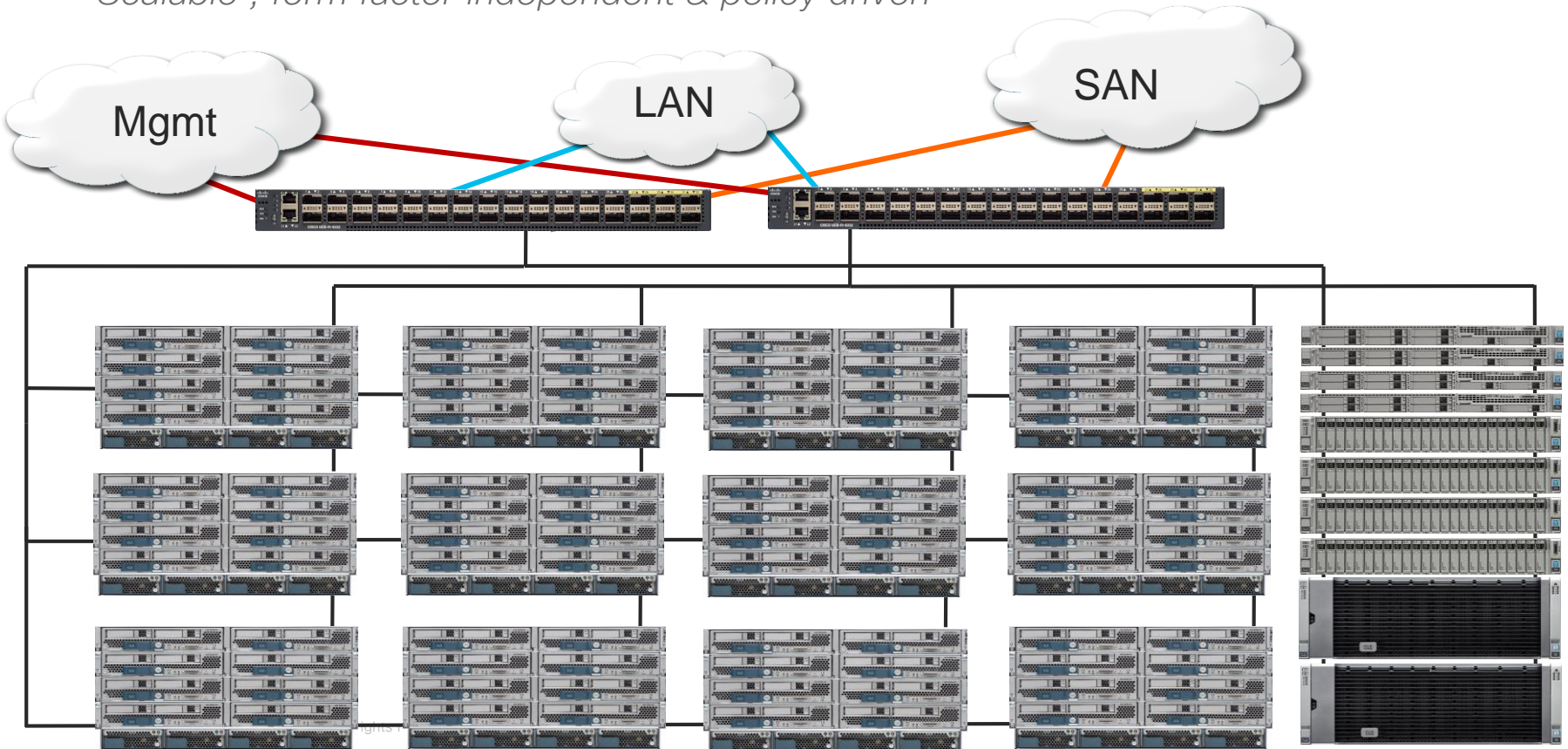
Remove unnecessary  
switches,  
adapters,  
management modules

Less than 1/3rd the support  
infrastructure for a given workload



# Cisco UCS Advantage

*Scalable , form factor independent & policy driven*



It is a lot  
easier to get  
to the top ,  
than to stay  
there !



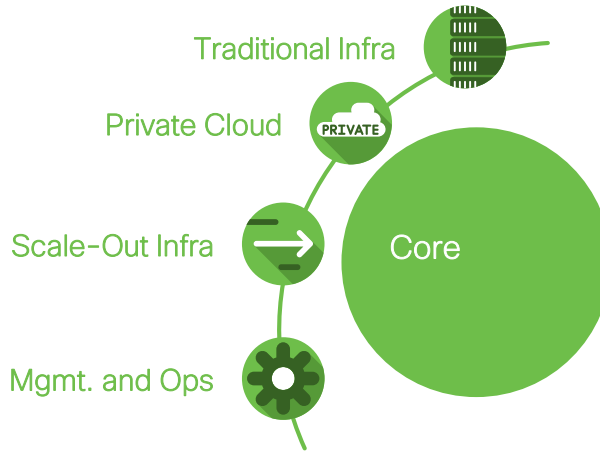
# What does the future look like?

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#1 Initiative Is to Reduce Operations and Capital in the Core

Over the Last Two Years, IT Organizations Spent **70%** on “Run the Business” IT Spending

04/18 Gartner,  
Strategic roadmap for compute infrastructure



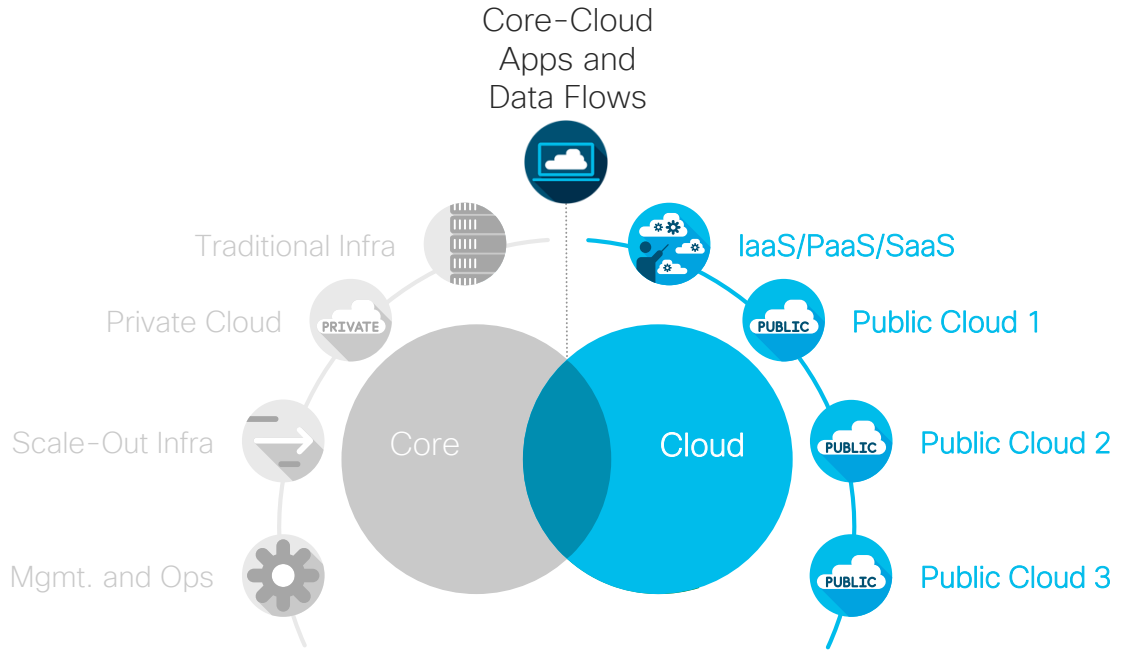
# What does the future look like?

By 2020, More Than 50% of Enterprises Will Run Mission-Critical, Containerized Cloud-Native Applications

04/18 Gartner,  
Strategic roadmap for compute infrastructure

By 2020, Over 90% of Enterprises Will Use Multiple Cloud Services and Platforms

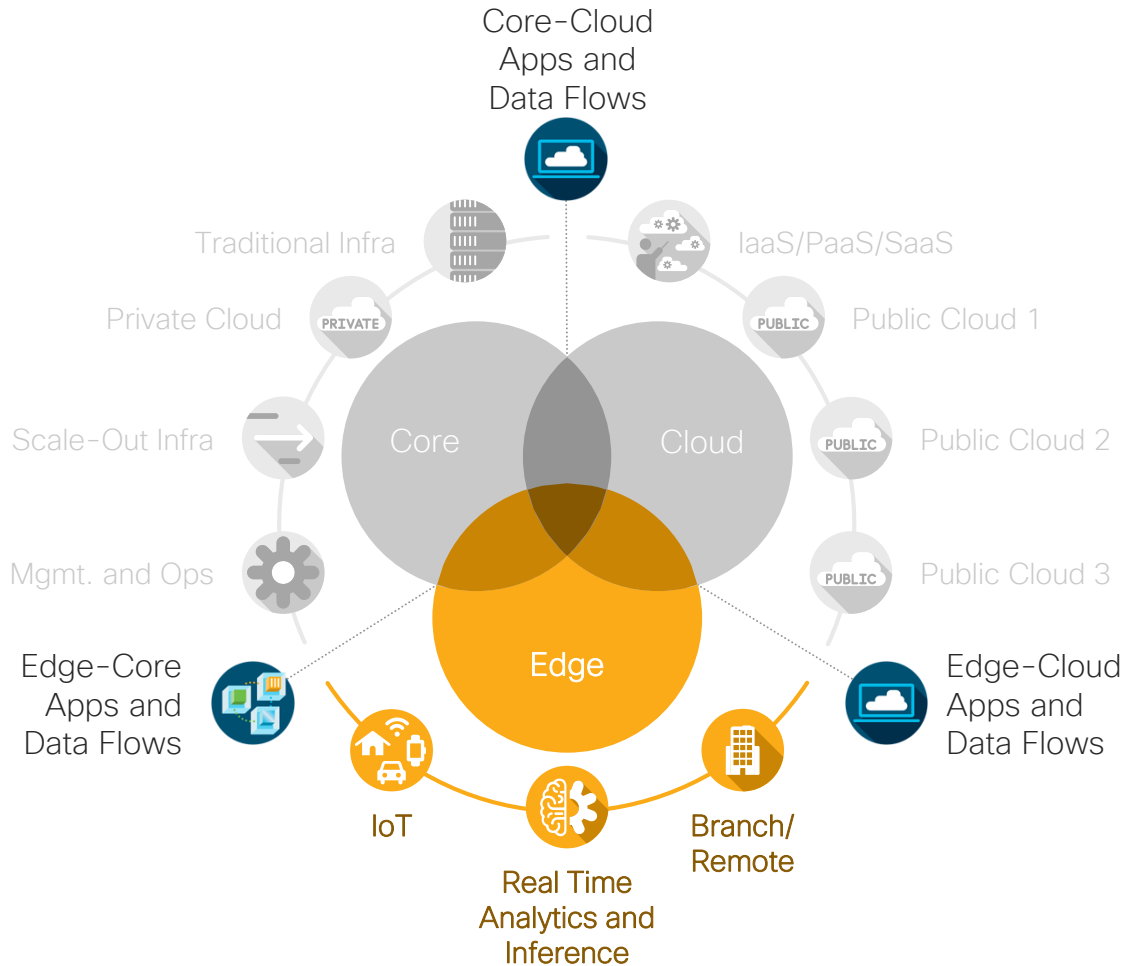
2018 IDC,  
IDC FutureScape:  
Worldwide IT Industry 2018 Predictions



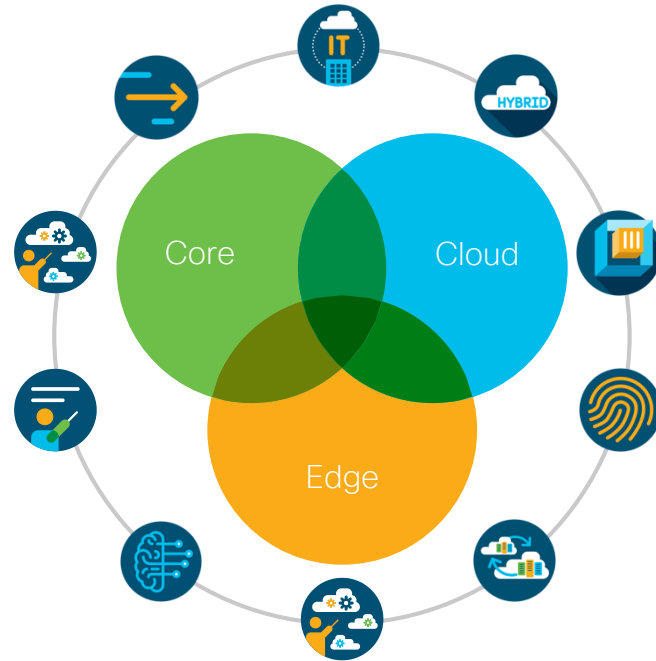
# What does the future look like?

By 2021, 40% of Large Enterprises Will be Integrating Edge Computing Principles Into Their IT Projects

11/15/17 Gartner,  
Predicts 2018: Servers



The Future  
is the  
Distributed  
Datacenter



# Datacenter Modernization

## Your bridge to the Future

### Traditional Infrastructure

Highly Manual Core Operations  
Limited Time and Budget  
for Future Initiatives



Modernized  
Hyperconverged  
Infrastructure  
Streamlined and Modernized Core

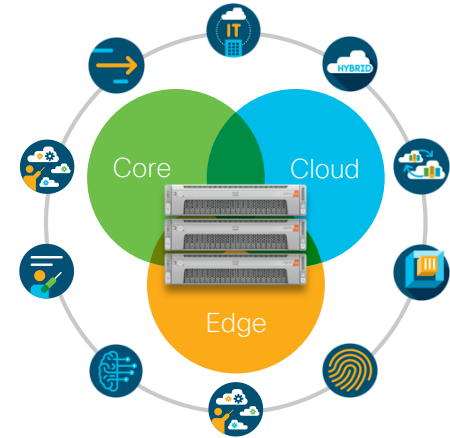


**75%** Management  
Time Savings<sup>3</sup>

**90%** Downtime  
Reduction<sup>7</sup>

**80%** Savings vs. 3-tier  
Infrastructure<sup>1</sup>

Optimized for the  
Distributed Datacenter



# Cisco HyperFlex : HCI Engineered on UCS

## 3 Part of a Complete Data Center Strategy

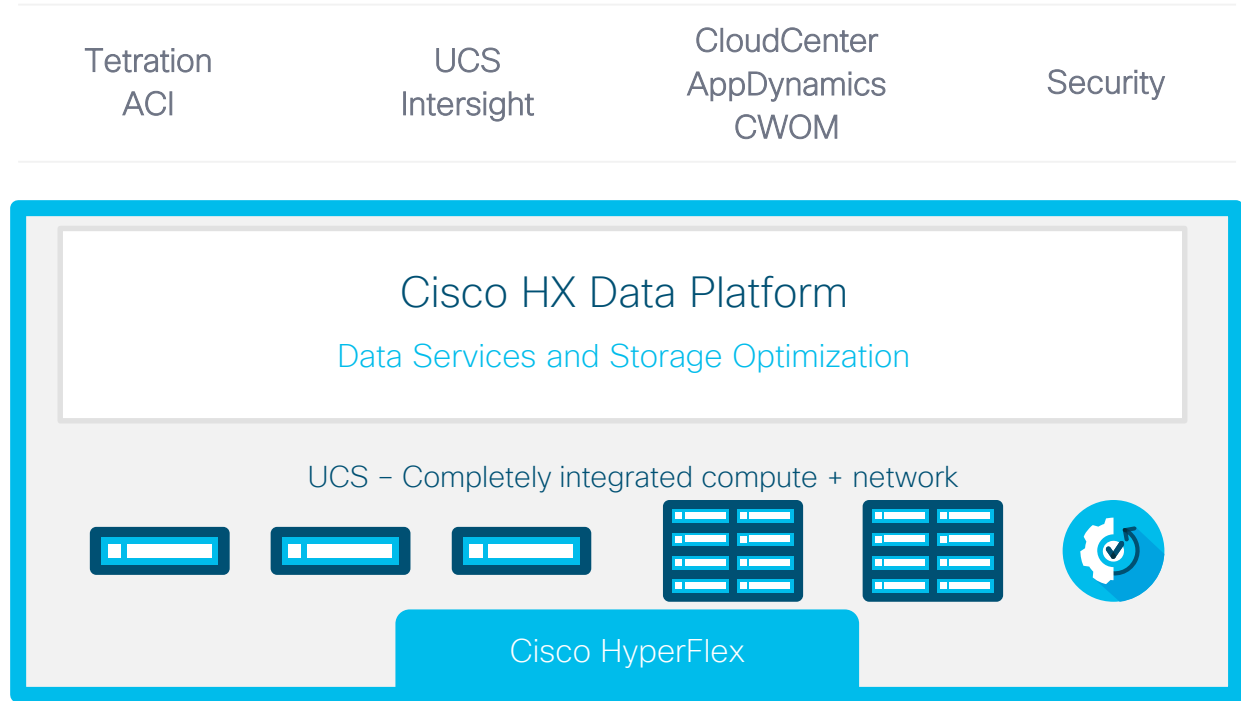
Elastic and Secure at Enterprise Scale

## 2 Next Gen Data Platform

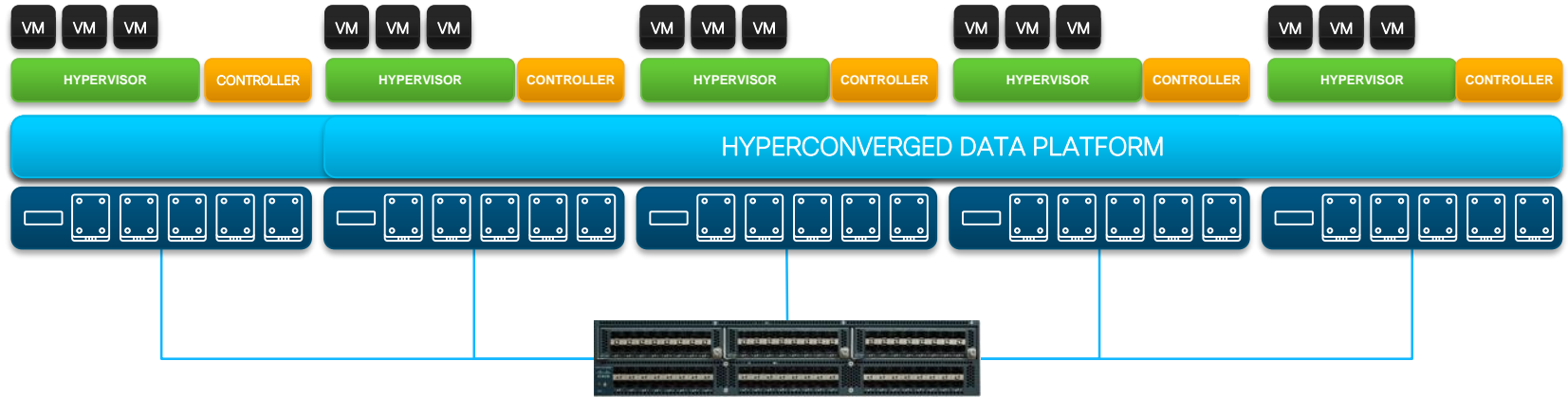
Designed for Distributed Storage

## 1 Complete Hyperconvergence

Unified Compute and Network Infrastructure



# Hyperconverged Scale Out and Distributed File System



Start with as Few  
as Three Nodes

Hyperconverged  
Data Platform  
Installs in Minutes

Network Fabric  
Policy Configures  
QoS Settings

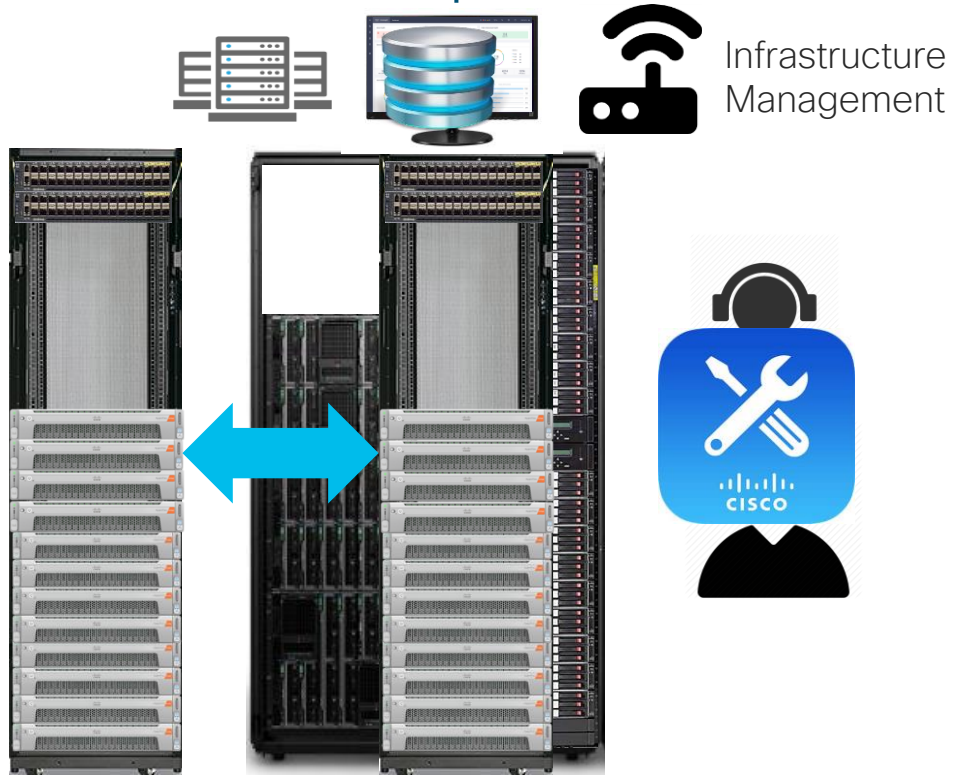
Add Servers,  
One or More at a  
Time

Distribute and  
Rebalance Data  
Across Servers  
Automatically

Retire Older  
Servers

# HyperFlex – Simplify Infrastructure & Operations

- Remove infrastructure silo
- Simplified management
- Single support model
- Modular and Scalable
- Business Continuity
- Improve TCO
- Cloud Economics – Pay as you grow



# Cisco HyperFlex Architectural Differentiators

## Hardware and Software Engineered Together

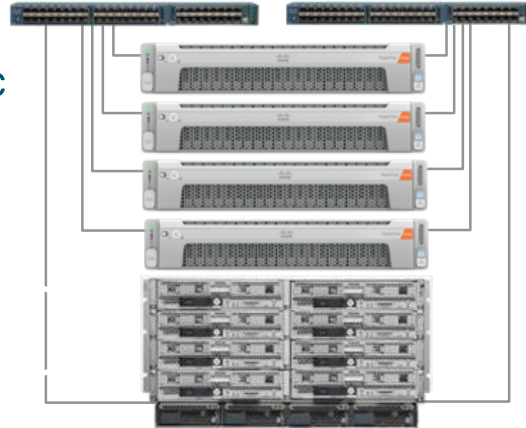
### Complete Hyperconvergence with Integrated Network Fabric

- Unified Network Infrastructure
- Guaranteed QoS with low latency

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### Unified Architecture

- Connect to existing storage
- Ideal for tiered storage architecture , migration , backup etc



Cisco HyperFlex System

### Independent Scaling

- Use diskless UCS rack/blade servers
- No additional HyperFlex licenses

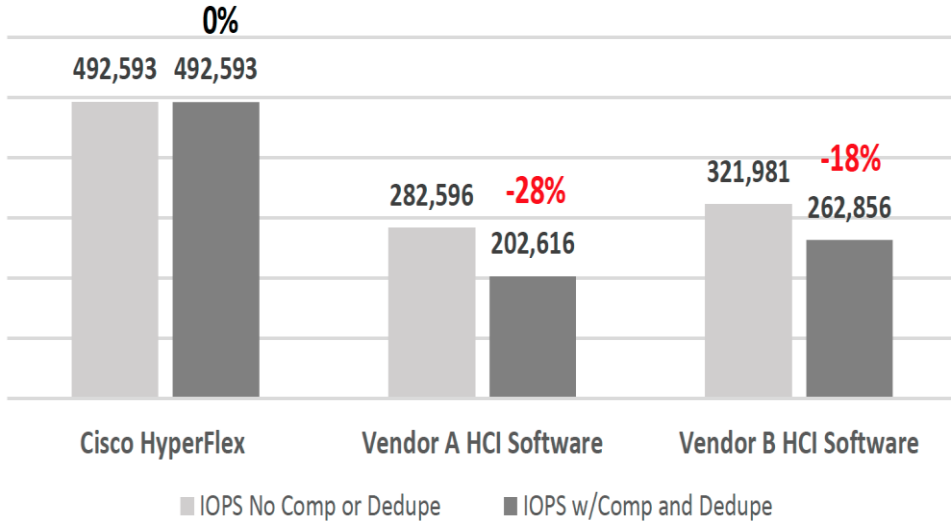
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### Enterprise Storage Features

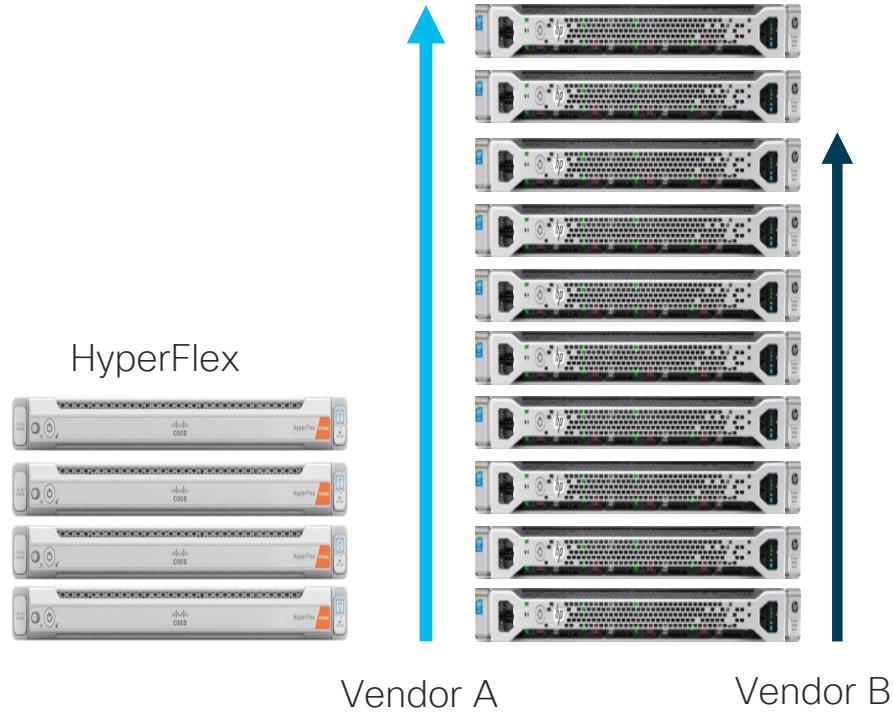
- Snapshots , Dedupe , Compression
- No performance impact , no licenses



# Unmatched Performance



SQL as a workload





# HyperFlex - Continuous Innovation

## Platform



All Flash



40G NW



SED



M5 Skylake



Edge



All NVMe

## Workloads



AI/ML  
Workloads



Enterprise  
Workloads



IaaS & Cloud  
Mobility



SAP  
Modernization



Hyper-V



Kubernetes  
Containers



EasyVDI  
For Citrix



Native  
Replication/DR



Stretch  
Clusters



Native DR  
Enhancements



Greater Scale  
with Resiliency



Scale

Business Criticality



Cloud  
Storage  
Analytics



Profiler &  
Sizer



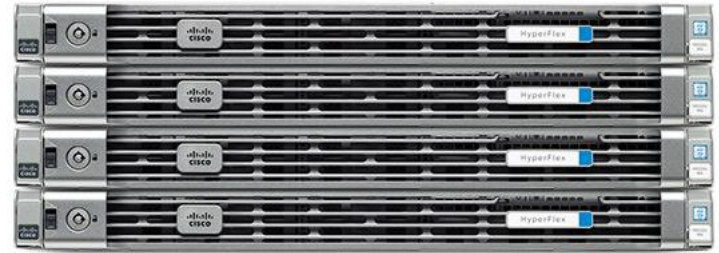
Connect UI



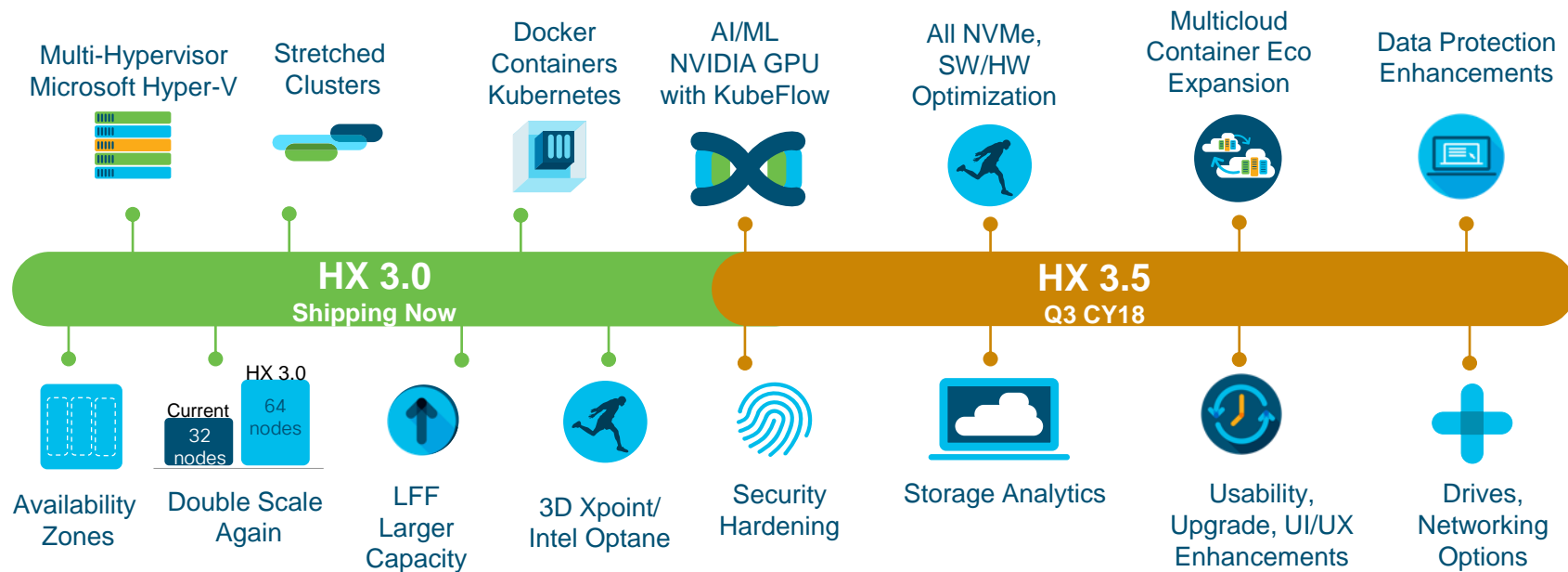
Application  
Performance  
Monitoring

Ease of Use

# HX - What's New ?



# What's next with HyperFlex 3.5



# Increasing the Target Workloads



## Server Virtualization

Reduce operational complexity

Adaptive scaling

Always-on resiliency



## Test and Development

Agile provisioning  
Frequent iterations

Instant cloning and snapshots

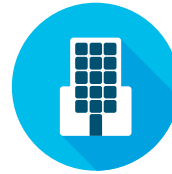


## Virtual Desktop Infrastructure

Low upfront costs

Consistent performance

Predictable scaling



## ROBO & Edge

Simple deployment

Centralized management

No “fly-and-fix” missions



## Databases & ERP

Consistent, low-latency

High IOPS

All-flash nodes



## Containers

Simple & seamless customer experience

Enterprise grade container storage

Cloud native development on prem

# Cisco Intersight – Cloud Based Management



**Intuitive Experience**



**Enhanced Support**



**Proactive Guidance**



**Secure and Extensible**



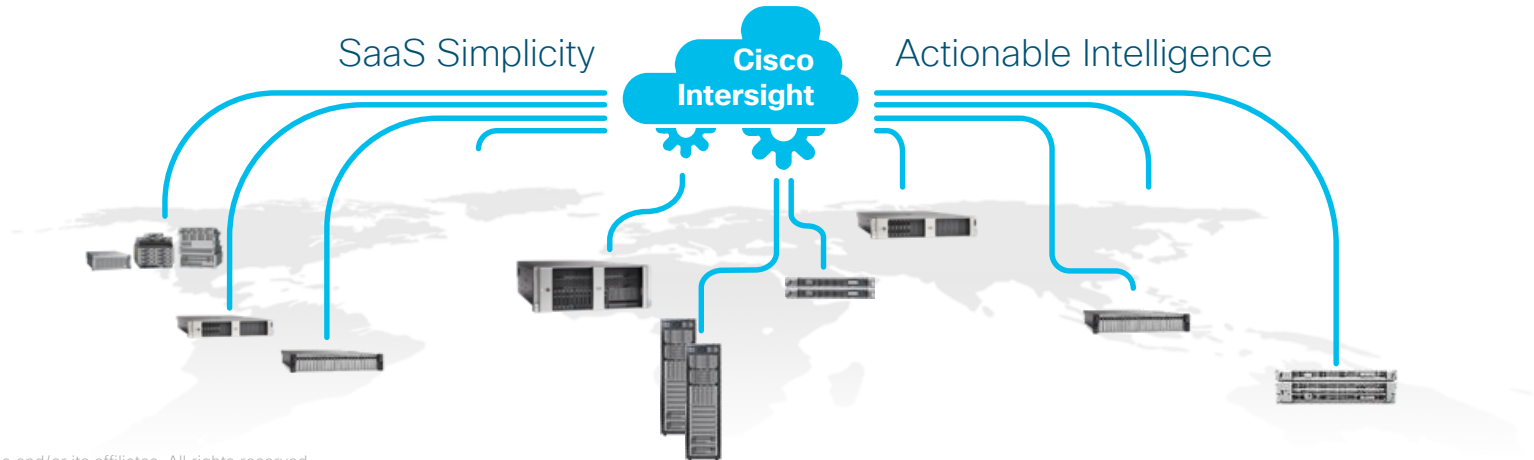
**SaaS Delivered**

Centralized Management

Global Policies

Comprehensive Automation

Single Pane of Glass



# Workload Optimization



# Business Challenge



Under subscription

Expensive resources sit idle  
Increased Cost

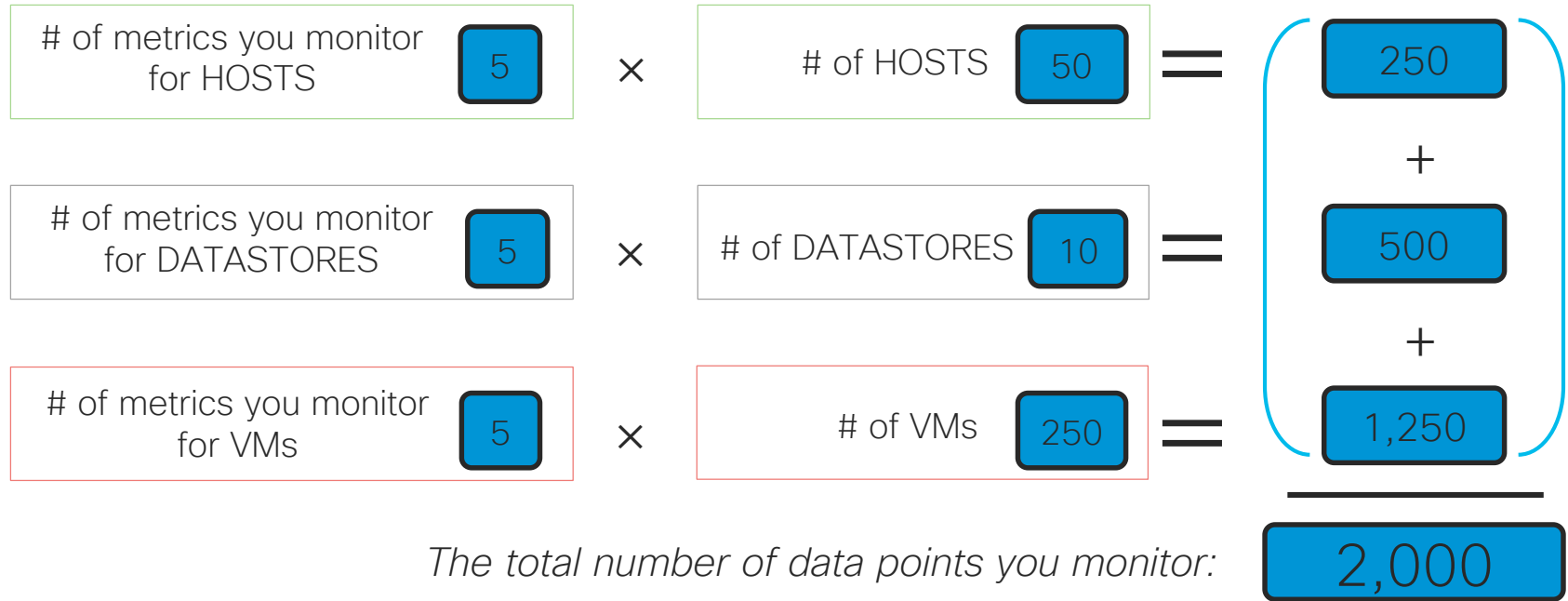


Over subscription

Customer satisfaction affected  
Loss of revenue

*You can't bump applications !*

# The Complexity of Workload Optimization



# Cisco Workload Optimization Manager

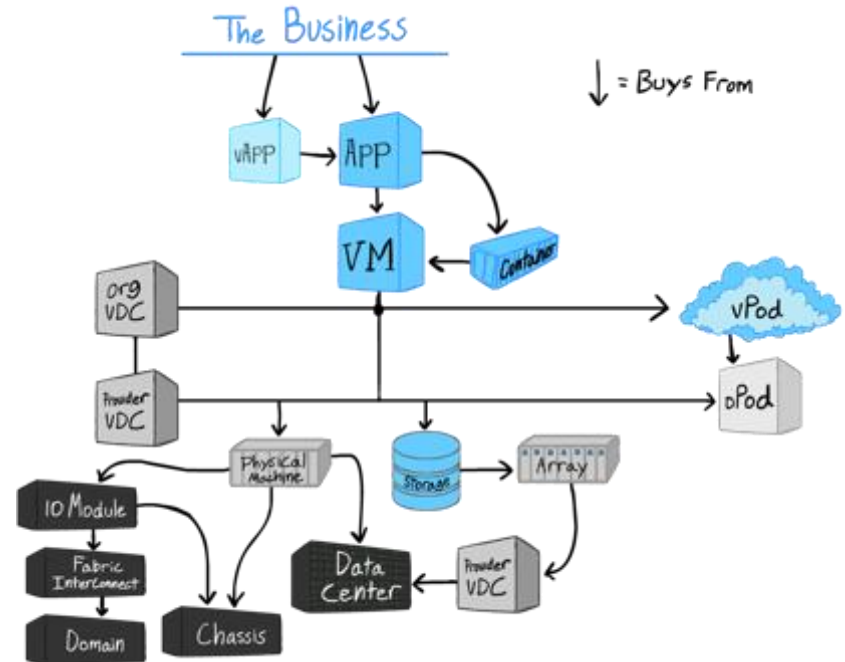
(powered by Turbonomic)

Patented Real-time decision engine that scales infrastructure resources and workload placement in response to fluctuations in workload demand.

Assures workload performance and efficiency

By delivering the right amount of infrastructure to workloads to ensure performance

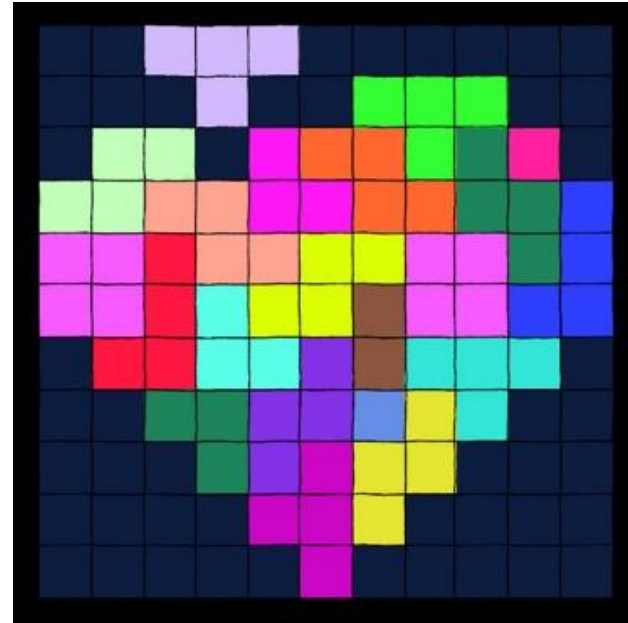
Model the Multi-Cloud as a market place with principle of supply/demand



# Playing Tetris in your Multi-Cloud



Manual

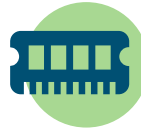


Workload Optimized

# Cisco IT



## Outcomes



### 20GB+ per VM

Average resize  
memory recovered



### 2,200+ new VMs

Equivalent capacity  
recovered



### 50% Reduction

Of over-provisioned  
memory



### 80% less contention

Among Virtual Clusters



### \$1 Million+

Cost avoidance



### 600+ VMs upsized

Automatically since Feb 10,  
with *no downtime*



### 4,200 vCPUs

Recovered

# Summary – Business Benefits of HyperFlex



**80%** Savings vs. 3-tier Infrastructure



ForePaaS

**51%**

Savings vs. Public Cloud Over 3 years



**30%**

More Performance

*Dhanuka Agritech Limited*

**3000+** Customers



ASHOK MINDA GROUP

*Powered by Passion*

**50%** Improvement in ERP Response Time



**75%** Management time savings



**2x** VDI speed



**90%** Downtime Reduction

Customer References : <https://www.cisco.com/c/en/us/products/hyperconverged-infrastructure/hyperflex-hx-series/case-study-listing.html>

