



Say hello
to the future.

Cisco Connect 2019



Cisco HyperFlex – Platform for Multicloud

Modernize the present, simplify the future

4 April, 2019

Ton Duc Long, Data Center Sales Manager

Dung Mai, System Engineer

Agenda

1. Cisco HyperFlex – Platform for Multicloud
2. Cisco Intersight and HX Connect demonstration

IT Challenges

Moving at the Speed of Business



Consumption of infrastructure adds time, cost and inefficiency

Operationalizing Speed and Simplicity



Proliferation of solutions creating silos that complicates operations

CFOs Expect a Cloud Economics On-Premise



Expectation of pay-as-you-go economics with scaling on-demand

Hyper- Converged Business Benefits



Modernised Infrastructure

- Increased Workload Performance. Lower TCO
- Analytics guide scaling, configuration and placement
- Safely increase density and utilization without impact to application



Increased Efficiency

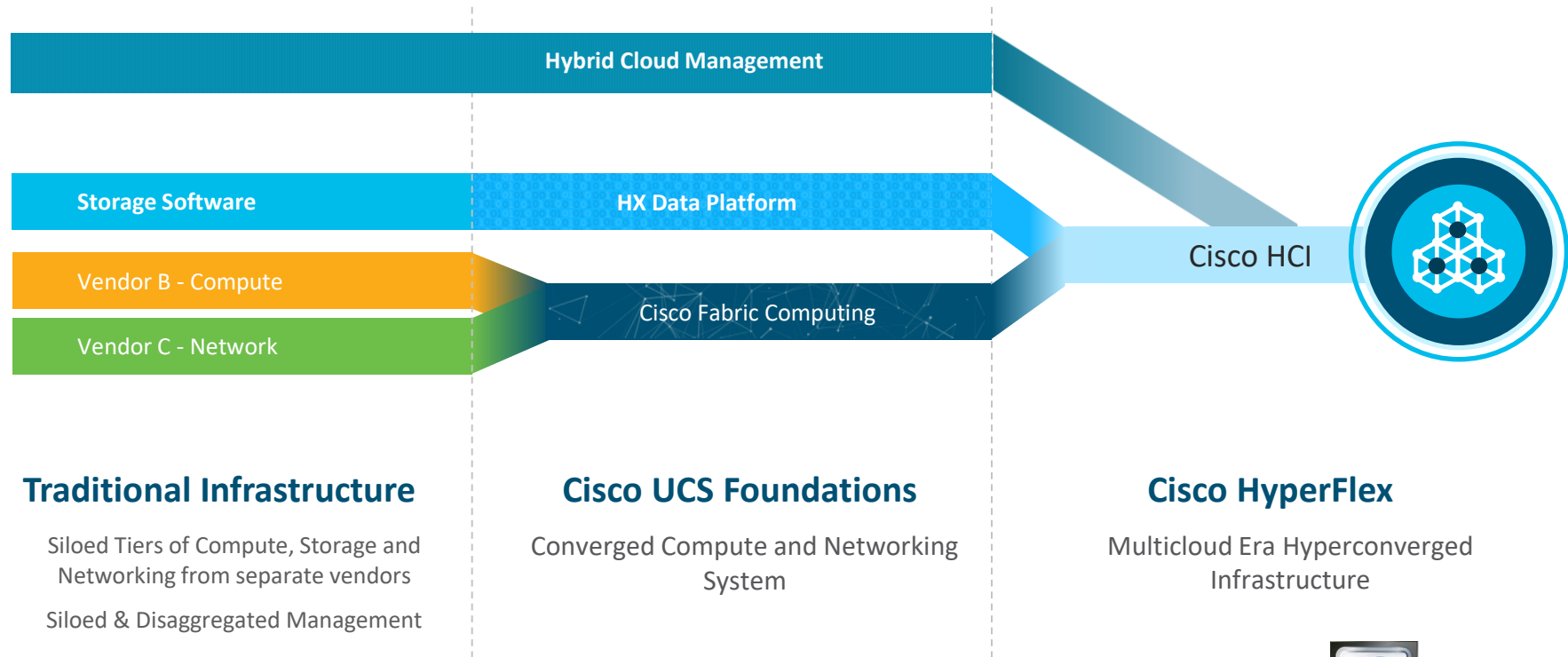
- Simply to deploy, operate and manage
- Consistent application SLAs
- Forward looking modeling guides capacity, refresh, and migration planning



Move Faster

- Consistent application SLAs
- Adopt and go, pre-qualified workload designs
- Support for hypervisors, containers and cloud platforms
- Investment Protection and Flexibility

Cisco - Making Hyperconvergence Simple



Traditional Infrastructure

Siloed Tiers of Compute, Storage and Networking from separate vendors
Siloed & Disaggregated Management

Cisco UCS Foundations

Converged Compute and Networking System

Cisco HyperFlex

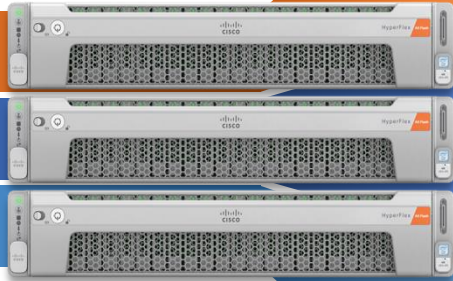
Multicloud Era Hyperconverged Infrastructure



Cisco HyperFlex™ Systems with Intel® Xeon® Scalable processors

HyperFlex Anywhere

Platform to Simplify Your Future



Cisco HyperFlex™
Systems with Intel®
Xeon® Scalable
processors

Cloud Based Mgmt. Automation



AI Driven IT Mgmt. (AI Ops)



Application Performance Monitoring



Intelligent Workload Placement

Simplified Multicloud Operations



Multicloud Platform



Integrated Kubernetes



HCI Workload Protection and Analytics
(Tetration)

Distributed Edge Application Support



AI Driven Apps and Inference



IoT



Remote Office/Branch Office (ROBO)

End-to-End Modernization Today

Game Changing Results



Test and
Development



Virtual Desktop
Infrastructure



Server
Virtualization



Databases
& ERP



ROBO &
Edge



3000+ Customers Are Saying

2x Virtual desktop speed⁴

50% Improvement in ERP
Response Time⁶

30% More Performance for
Mission Critical Apps⁵

90% Downtime Reduction⁷

80% Savings vs. 3-tier
Infrastructure¹

75% Management
time savings³

51% Savings vs. Public Cloud
Over 3 years²

What is HyperFlex?

Engineered and Optimized HCI



Performance and Scalability to Power

Any App, in Any Cloud, at Any Scale



HX Data Platform

- Purpose Built for HCI
- Fast and Flexible
- Enterprise Grade Storage

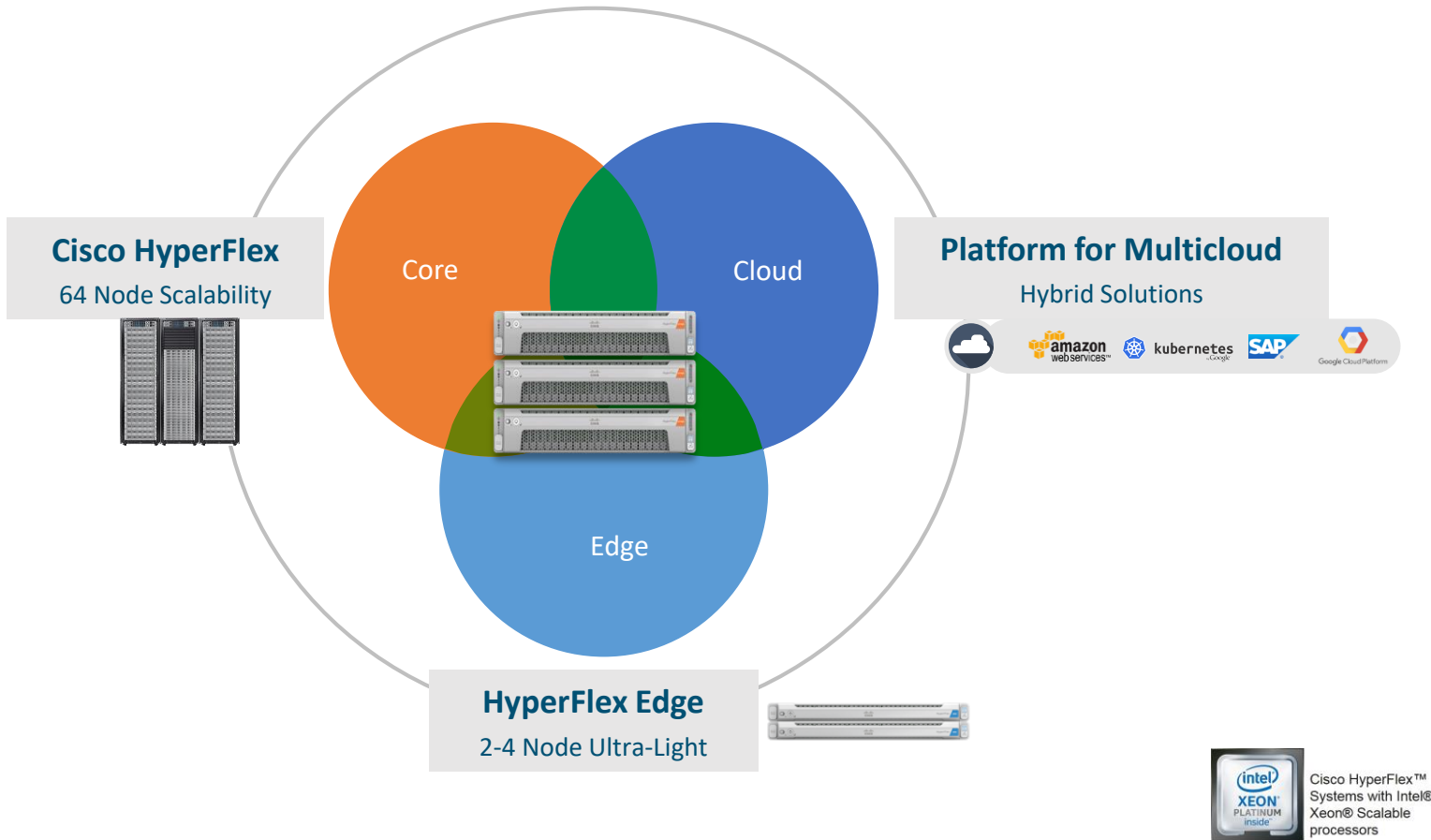
Cloud Platform

- Cisco Intersight
- Cisco CloudCenter
- Cisco Workload Optimization Mgr.

UCS Foundations

- Software Defined Compute
- Fabric Centric
- Intent-Based

Cisco HyperFlex Anywhere

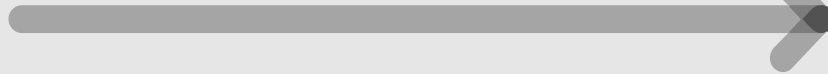


The Boomerang Effect



Ageing Infrastructure

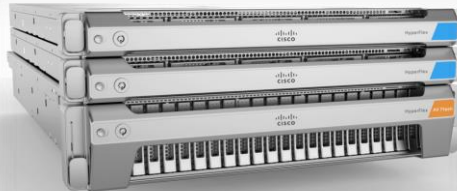
Migrate all IT to
Cloud



Public Cloud

Bring back cloud advantages

- Automation & APIs
- aaS platforms
- Scalability & Auto Updates
- Analytics
- Containerisation
- Consumption Models



Cisco Multicloud HyperFlex
With
CloudCenter/ACI/CWOM

With Cloud bursting

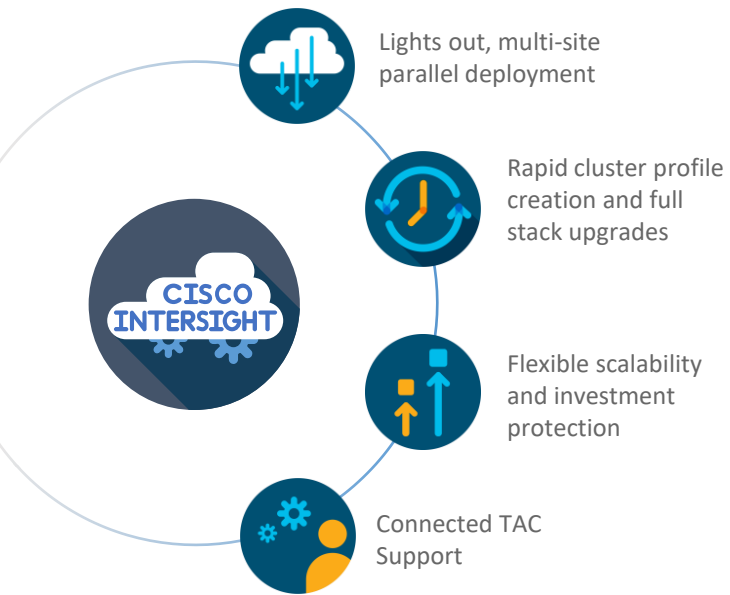


Return to private cloud
for reduced costs &
latency



The New HyperFlex Edge

The Power of Cloud-Managed Computing

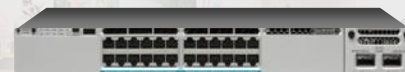


WAN

Cloud Witness Service



Ultra-light 2-node HyperFlex Edge



Customer Leveraging Existing Branch Network



Three-node cluster quorum without physical 3rd node!



Next Generation Management

Centralized Cloud-Based Management of the Future



Telemetry and Analytics



Policy Based Orchestration



Secure and Compliant



API Driven, DevOps Enabled



Connected TAC

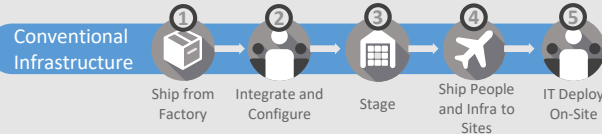
Cisco Intersight

SaaS Simplicity

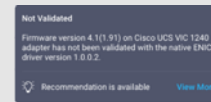
Actionable Intelligence



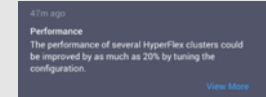
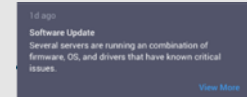
Remotely Deploy & Manage



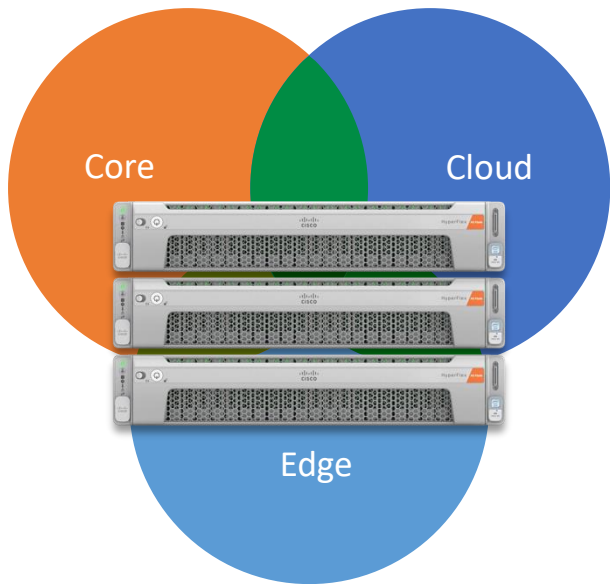
Compatibility(HCL) Check



Recommendations Engine



Supporting your Application Ecosystem



Enterprise Apps



Hybrid/Multicloud



Containers / Cloud Native Apps



Intelligent Management (AI Ops)



AI/ML Apps



Data Centre Buyer Considerations for HCI



Security Data integrity

- Protect applications & minimize data loss
- Maintain privacy and integrity of data



Simplify operations

- Simplify deployment, manage across multi-cloud environment
- Ensure compatibility and adopt API-driven models



Lower TCO Positive ROI

- Improve total cost of ownership (TCO)
- Ensure predictable pricing in infra-structure scaling and applications mobility



Add capacity easily

- Scale resources and face the explosion of storage
- Ensure compatibility of platforms



Availability Performance

- Avoid latency issues
- Plan business continuance
- Guarantee mission critical apps. availability



Future proof Easy scale up/down

- Add compute, storage performance and capacity separately
- To the edge and beyond...

Cisco HyperFlex: 5 Unique Differentiators

1



Integrated Networking

Faster Installation,
Integrated SDN

2



Independent Scaling

Scale Compute
independently from
Storage

3



Data Reduction without Caveats

Inline deduplication
and inline
compression with
no performance
caveats

4



Efficient Data Services

Fast, efficient
snapshots and
clones, integrated
into VMWare

5



Simple Management

VM admins can
provision and
manage storage
from VC or
Independent
Browser



Cisco HyperFlex™
Systems with Intel®
Xeon® Scalable
processors



Cisco HyperFlex & Intersight™ Demo

Dung Mai

Cisco Data Center SE

April 2019

Where and How Cisco HX are Winning!



Use Case	Private Cloud Sourcing Award	Modernization for rapid port volume expansion	Epic EMR VDI Deployment for 25K Users
Solutions	Standardized on HyperFlex across Data Centers Replaced 12 year incumbent HPE ~800+ Nodes Over Contract Lifetime	Business Critical Port Operations and Oracle Workloads Expanding HyperFlex Footprint	Rapid HyperFlex Adoption up to 240+ Nodes deployed Replaced Competitive HCI Environment

Scenario 1: HyperFlex Cluster Installation

Objective: Cisco Hyperflex installation is fast and easy

Solutions/features covered:

- HyperFlex installation preparation.
- HyperFlex installer progress.

Scenario 2: Cisco Intersight

Objective: Cisco Intersight cloud-based management

Solutions/features covered:

- Claim new device from Cisco Intersight
- Cisco Intersight with monitoring & management

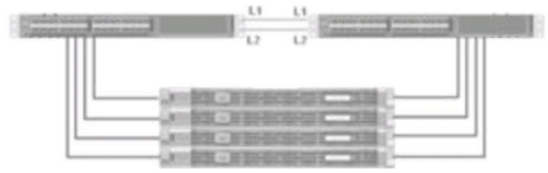
Demo Topology



Cisco HyperFlex



 
Cisco Workload Optimization Manager
administrator

 
Cisco SSO



 Hyperflex Replication 

 Hyperflex Installation  

 Hyperflex Expansion 

 
admin

 
demouser@dcloud.cisco.com

  
demouser@dcloud.cisco.com

 
admin

 
demouser@dcloud.cisco.com

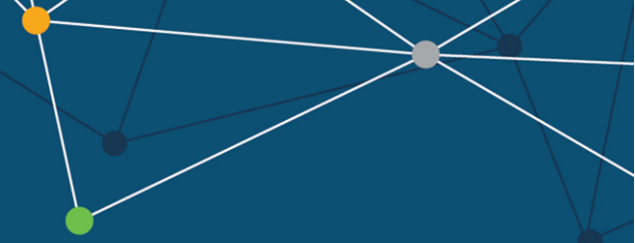
  
demouser@dcloud.cisco.com¹

HX-Storage Cluster A

HX-Storage Cluster B

Screen capture for
scenario 1





HyperFlex Cluster
Installation





Cisco HX Data Platform Installer



	<input type="text" value="USERNAME"/>
	<input type="password" value="PASSWORD"/> 
<input type="checkbox"/>	I accept the terms and conditions 
<input type="button" value="Login"/>	

Server Selection

[Configure Server Ports](#)

[Unassociated \(4\)](#)
[Associated \(0\)](#)

<input checked="" type="checkbox"/>		Server Name ^	Status	Model	Serial	Assoc State	Actions
<input checked="" type="checkbox"/>		Server 1	unassociated	HXAF220C-M5SX	WZP22030QA6	none	none
<input checked="" type="checkbox"/>		Server 2	unassociated	HXAF220C-M5SX	WZP220315VF	none	none
<input checked="" type="checkbox"/>		Server 3	unassociated	HXAF220C-M5SX	WZP22030Q4Y	none	none
<input checked="" type="checkbox"/>		Server 4	unassociated	HXAF220C-M5SX	WZP22030Q4Z	none	none

Configuration



Credentials

UCS Manager Host Name	172.0.13.13
UCS Manager User Name	admin
vCenter Server	172.0.13.9
User Name	administrator@vsphere.local
Admin User name	root

VLAN Configuration

VLAN for Hypervisor and HyperFlex management

VLAN Name

VLAN ID

VLAN for HyperFlex storage traffic

VLAN Name

VLAN ID

VLAN for VM vMotion

VLAN Name

VLAN ID

VLAN for VM Network

VLAN Name

VLAN ID(s)

MAC Pool

MAC Pool Prefix

'hx-ext-mgmt' IP Pool for Out-of-band CIMC

IP Blocks

Subnet Mask

Gateway

> iSCSI Storage

> FC Storage

Advanced

UCS Server Firmware Version

HyperFlex Cluster Name

Org Name

The name of the HyperFlex org

Configuration

Credentials

UCS Manager Host Name	172.0.13.13
UCS Manager User Name	admin
vCenter Server	172.0.13.9
User Name	administrator@vsphere.local
Admin User name	root

Server Selection

Server 2	WZP220315VF / HXAF220C-M55X
Server 3	WZP22030Q4Y / HXAF220C-M55X
Server 1	WZP22030QA6 / HXAF220C-M55X
Server 4	WZP22030Q4Z / HXAF220C-M55X



Deploy Validation in Progress

Deploy Validation ▾

Deploy Validation - Overall

In Progress

172.0.13.20

Succeeded

- ✓ ESXi Management IP resolvability check
- ✓ ESXi Data IP resolvability check
- ✓ Controller Management IP resolvability check
- ✓ Controller Data IP resolvability check
- ✓ ESXi reachability check
- ✓ ESXi credential check
- ✓ ESX reachable by ssh
- ✓ Check for datastore inputs
- ✓ ESXi-Version
- ✓ Storage-HBA
- ✓ Storage-HBA Count
- ✓ Storage HBA Availability
- ✓ Boot Disk Size
- ✓ CPU Threads
- ✓ Intel VT/AMD-V Technology
- ✓ System Memory
- ✓ Manageability status of host in vCenter
- ✓ vSwitch vmnics on hx series host

Configuration

Credentials

UCS Manager Host Name	172.0.13.13
UCS Manager User Name	admin
vCenter Server	172.0.13.9
User Name	administrator@vsphere.local
Admin User name	root

Server Selection

Server 2	WZP220315VF / HXAF220C-M5SX
Server 3	WZP22030Q4Y / HXAF220C-M5SX
Server 1	WZP22030QA6 / HXAF220C-M5SX
Server 4	WZP22030Q4Z / HXAF220C-M5SX

UCSM Configuration

VLAN Name	hx-inband-mgmt
VLAN ID	13
VLAN Name	hx-storage-data
VLAN ID	2050
VLAN Name	hx-vmotion
VLAN ID	2051
VLAN Name	vm-network
VLAN ID(s)	2052
MAC Pool Prefix	00:25:B5:13
IP Blocks	172.0.13.28-31
Subnet Mask	255.255.255.0
Gateway	172.0.13.1
UCS Server Firmware Version	3.2(2d)
HyperFlex Cluster Name	hxcluster
Org Name	hxcluster
ISCSI Storage	false

Cluster Name hxcluster ONLINE HEALTHY

Version	3.0.1b-29665	vCenter Server	172.0.13.9
Cluster Management IP Address	172.0.13.32	vCenter Datacenter Name	hx
Cluster Data IP Address	10.20.50.32	vCenter Cluster Name	hxcluster
Replication Factor	3	DNS Server(s)	172.0.13.10
Available Capacity	8.6 TB	NTP Server(s)	172.0.13.10

Servers

Model	Serial Number	Management Hypervisor	Management Storage Controller	Data Network Hypervisor	Data Network Storage Controller
HXAF220C-M5SX	WZP22030QA6	172.0.13.20	172.0.13.24	10.20.50.20	10.20.50.24
HXAF220C-M5SX	WZP220315VF	172.0.13.21	172.0.13.25	10.20.50.21	10.20.50.25
HXAF220C-M5SX	WZP22030Q4Y	172.0.13.22	172.0.13.26	10.20.50.22	10.20.50.26
HXAF220C-M5SX	WZP22030Q4Z	172.0.13.23	172.0.13.27	10.20.50.23	10.20.50.27

[Back to Workflow Selection](#)

[Launch HyperFlex Connect](#)



Cisco HyperFlex Connect



3.0(1b)

Login

- Dashboard
- MONITOR
 - Alarms
 - Events
 - Activity
- ANALYZE
 - Performance
- PROTECT
 - Replication
- MANAGE
 - System Information
 - Datastores
 - Virtual Machines
 - Upgrade
 - Web CLI

 OPERATIONAL STATUS
Online

 RESILIENCY HEALTH
Healthy ⓘ ✔ 1 Node failure can be tolerated

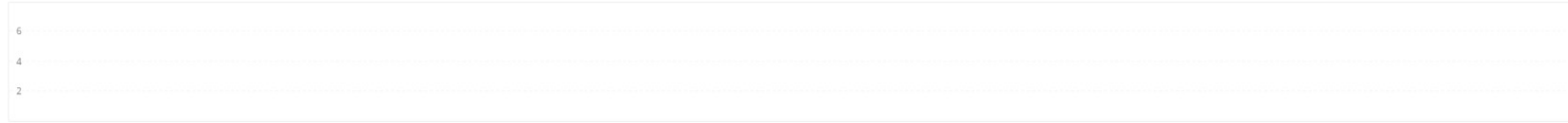


STORAGE OPTIMIZATION ⓘ Storage optimization, compression and deduplication are enabled. For more information, see the documentation.

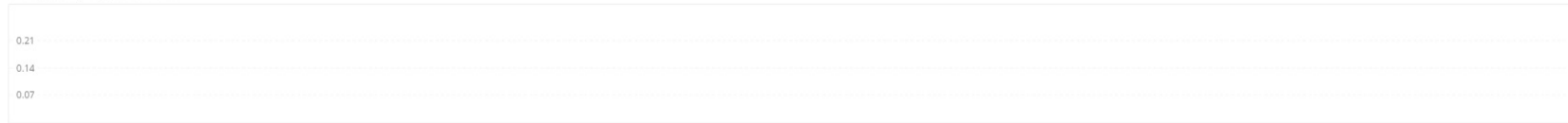
 NODES
4

4 HXAF220C-M5SX
Converged 

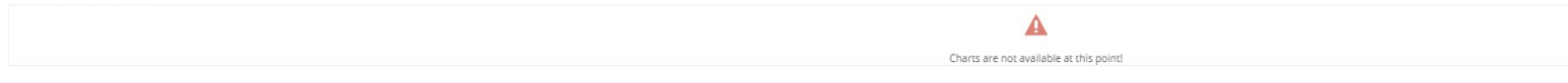
IOPS Last 1 hour



Throughput (MBps) Last 1 hour



Latency (msec) Last 1 hour



Screen capture for
scenario 2

Cisco Intersight





INTERSIGHT

Cisco ID

If you do not have a Cisco ID, create one [here](#).

Sign In with Cisco ID

Single Sign-On (SSO) ⓘ

Enter email

Sign In with SSO

Learn more about Cisco Intersight at [Help Center](#)




Device Connector

Device Connector

Device Connector

INTERSIGHT MANAGEMENT



Enabled

Access Mode


Read-only

Allow Control

Agent Version: 1.0.5-2084

CONNECTION

[HTTPS PROXY SETTINGS](#)

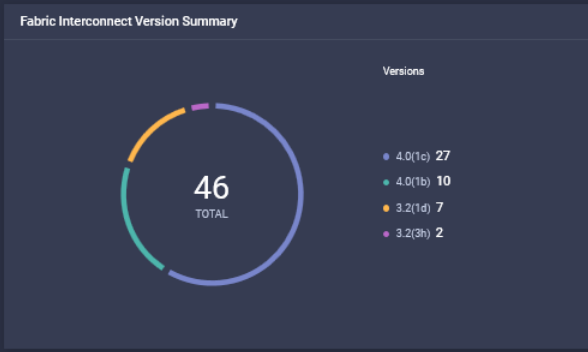
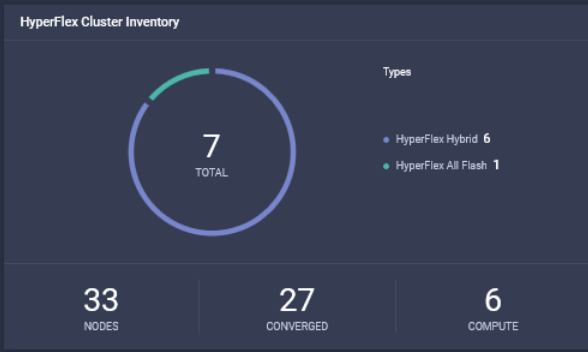
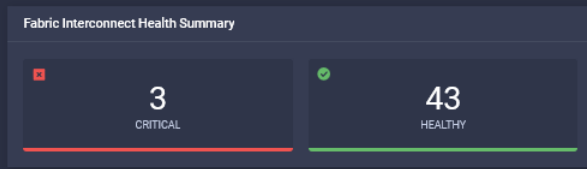
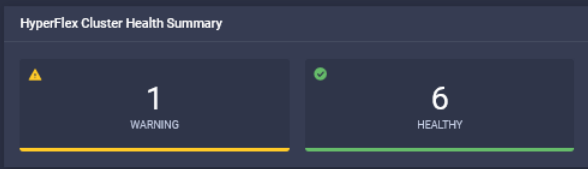
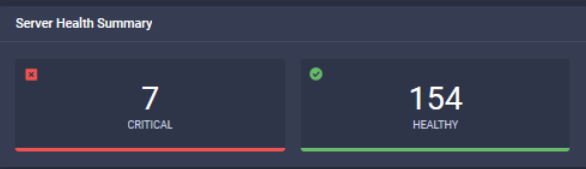
Status:
 **Not Claimed**

Device ID:
 SSI172807GC&SSI172807K6

Claim Code:
 26BAA8E4DAA4

New features have recently been added! [Learn More](#)

Dashboard 1 + Add Widget

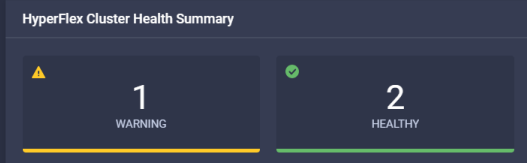
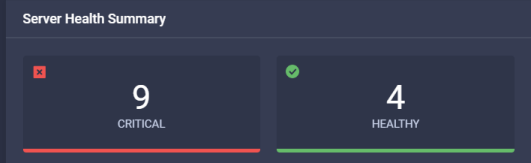


Top 5 HyperFlex Clusters by Storage Utilization

#	Name	Capacity	Utilization
1	dCloud-RTP-HX-CL...	8TB	23.8%
2	dCloud-LON-HX-C...	8TB	21%
3	dCloud-APJ-HX-CL...	8TB	10.9%
4	dCloud-CHI-HX-CL...	8TB	8.7%
5	dCloud-SJC-HX-CL...	20.1TB	5.7%

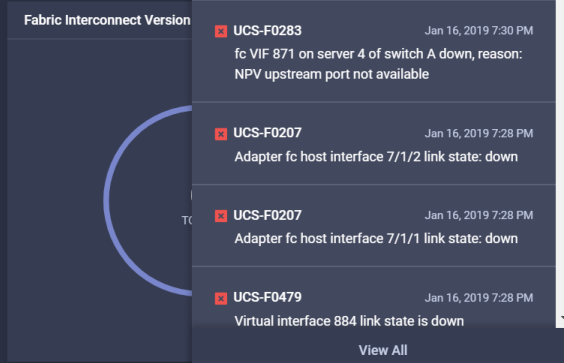
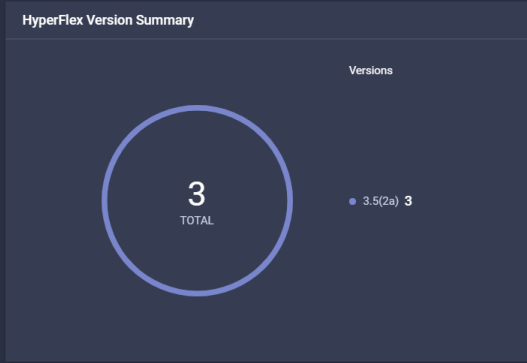
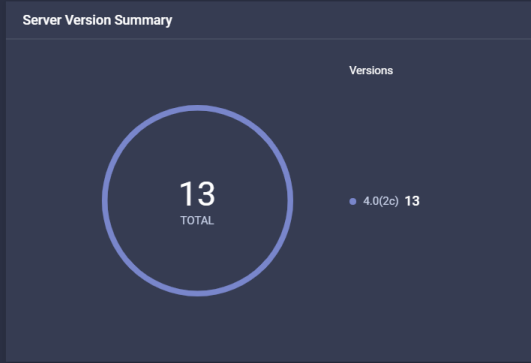
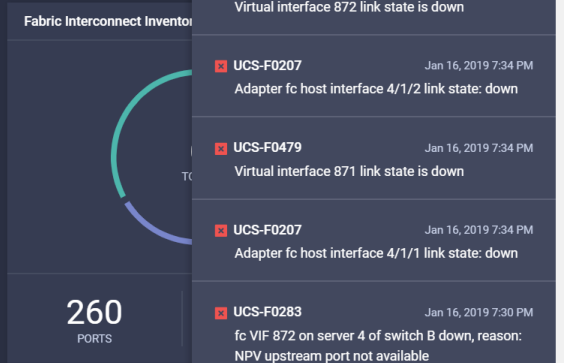
- Dashboards
- Servers
- HyperFlex Clusters
- Fabric Interconnects
- Service Profiles
- Policies
- Devices

Dashboard 1



Alarms

Alarm ID	Message	Time
HX-403	A disk was removed	Jan 17, 2019 7:51 AM
HX-403	A disk was removed	Jan 17, 2019 7:51 AM
UCS-F0479	Virtual interface 872 link state is down	Jan 16, 2019 7:34 PM
UCS-F0207	Adapter fc host interface 4/1/2 link state: down	Jan 16, 2019 7:34 PM
UCS-F0479	Virtual interface 871 link state is down	Jan 16, 2019 7:34 PM
UCS-F0207	Adapter fc host interface 4/1/1 link state: down	Jan 16, 2019 7:34 PM
UCS-F0283	fc VIF 872 on server 4 of switch B down, reason: NPV upstream port not available	Jan 16, 2019 7:30 PM
UCS-F0283	fc VIF 871 on server 4 of switch A down, reason: NPV upstream port not available	Jan 16, 2019 7:30 PM
UCS-F0207	Adapter fc host interface 7/1/2 link state: down	Jan 16, 2019 7:28 PM
UCS-F0207	Adapter fc host interface 7/1/1 link state: down	Jan 16, 2019 7:28 PM
UCS-F0479	Virtual interface 884 link state is down	Jan 16, 2019 7:28 PM



View All

New features have recently been added! [Learn More](#)

Search											Export	7 items found	16 per page	1 of 1
<input type="checkbox"/>	Name	Health	Type	HyperFlex Version	Hypervisor Version	Storage Capacity (TB)	Storage Utilization	Storage Optimization	Server Nodes					
<input type="checkbox"/>	dCloud-LON-HX-Cluster	✔	HyperFlex Hybrid	3.5(1a)	VMware vSphere 6.5.0...	8	<div style="width: 21.1%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 21.1%	88.8%	6	...				
<input type="checkbox"/>	dCloud-RTP-HX-Cluster	✔	HyperFlex Hybrid	3.5(1a)	VMware vSphere 6.5.0...	8	<div style="width: 23.8%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 23.8%	81.3%	6	...				
<input type="checkbox"/>	dCloud-CHI-HX-Cluster	✔	HyperFlex Hybrid	2.6(1b)	VMware ESXi 6.5.0 bu...	8	<div style="width: 8.7%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 8.7%	94.2%	4	...				
<input type="checkbox"/>	dCloud-SJC-HX-Cluster	✔	HyperFlex Hybrid	3.5(1a)	VMware vSphere 6.5.0...	20.1	<div style="width: 5.7%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 5.7%	94.1%	4	...				
<input type="checkbox"/>	dCloud-APJ-HX-Cluster	✔	HyperFlex Hybrid	3.5(1a)	VMware vSphere 6.5.0...	8	<div style="width: 10.9%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 10.9%	92.1%	6	...				
<input type="checkbox"/>	dCloud-RTP-HX-CCI	✔	HyperFlex Hybrid	3.0(1e)	VMware vSphere 6.5.0	20.1	<div style="width: 4.2%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 4.2%	61.2%	4	...				
<input type="checkbox"/>	dCloud-SJC-HX-CCP-Clu	⚠	HyperFlex All Flash	3.5(1a)	VMware vSphere 6.5.0...	7.2	<div style="width: 2.8%;"><div style="background-color: #0070C0; height: 10px;"></div></div> 2.8%	71.3%	3	...				

New features have recently been added! [Learn More](#)

Search												Export	161 items found	16	per page	1	of 11
<input type="checkbox"/>	Name	Health	Management IP	Model	CPU Capac...	Memory Capaci...	UCS Domain	HX Cluster	Server Profile	Firmware Vers							
<input type="checkbox"/>	dCloud-LON-HX-6	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-LON-HX		org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SNG-HX-6	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-SNG-HX	dCloud-SNG-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-RTP-HX-6	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-RTP-HX		org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-LON-HX-5	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-LON-HX		org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SNG-HX-5	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-SNG-HX	dCloud-SNG-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-RTP-HX-5	✔	198.19.254.54	UCSC-C240-M4S2	46.0	128.0	dCloud-RTP-HX		org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-LON-HX-4	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-LON-HX	dCloud-LON-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-RTP-HX-4	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-RTP-HX	dCloud-RTP-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SJC-HX-4	✔	198.19.254.54	HX240C-M4SX	60.0	384.0	dCloud-SJC-HX	dCloud-SJC-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SNG-HX-4	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-SNG-HX	dCloud-APJ-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-LON-HX-3	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-LON-HX	dCloud-LON-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-RTP-HX-3	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-RTP-HX	dCloud-RTP-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SJC-HX-3	✔	198.19.254.54	HX240C-M4SX	60.0	384.0	dCloud-SJC-HX	dCloud-SJC-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-SNG-HX-3	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-SNG-HX	dCloud-APJ-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-LON-HX-2	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-LON-HX	dCloud-LON-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						
<input type="checkbox"/>	dCloud-RTP-HX-2	✔	198.19.254.54	HX220C-M4S	62.4	512.0	dCloud-RTP-HX	dCloud-RTP-HX-Clu...	org-root/org-hx-cluste	4.0(1b)	...						

Find out more

- Reference link for Hyperflex & Intersight:
 - <https://intersight.com/>
 - <https://www.youtube.com/watch?v=BBBI4Y5k9dc>



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