



DC news insight Cisco's view on DC

Miloš Pavlík
Technical Solution Architect





App is the new business
Developer is the new Customer
Multicloud is the new Data Center

Cisco Cloud Center

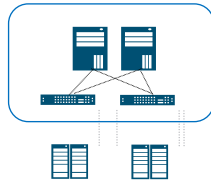
Cisco AppDynamics

Cisco Workload Optimisation Manager

Cisco Container Platform

Cisco Intersight

Remote Leaf / Virtual PoD



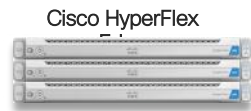
APIC / Multi-Site



Multi-Cloud Extensions



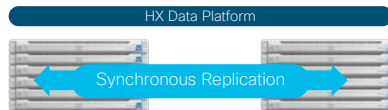
Edge Computing



Cisco UCS



Cisco Hyperflex



Edge DC

Core DC

Cloud

Security Everywhere



Analytics Everywhere



Policy Everywhere





Cisco HyperFlex Anywhere

What is HyperFlex?

Engineered and Optimized HCI

Performance and Scalability to Power

Any App, Any Cloud, Anywhere



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

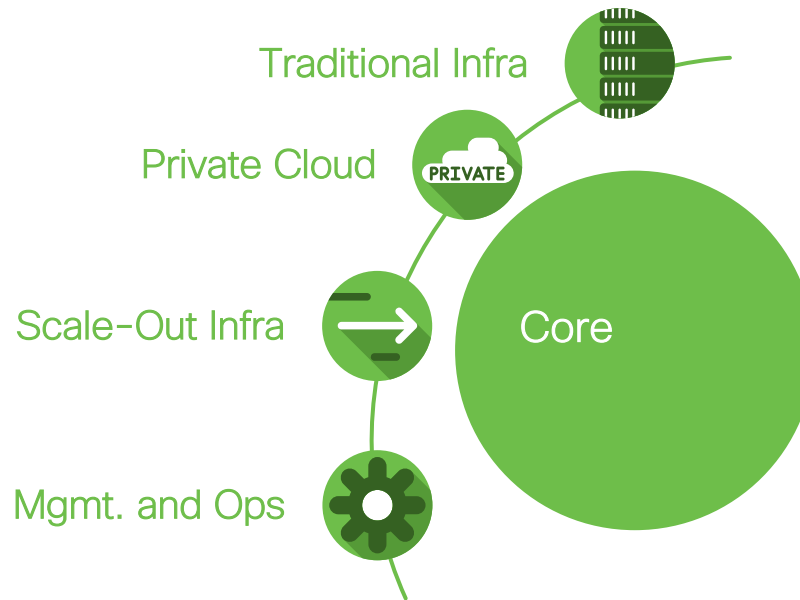
- Software Defined Compute
- Fabric Centric
- Intent-Based

What does the future look like?

#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, up from 67% in 2013 to 2014, and 65% in 2012”

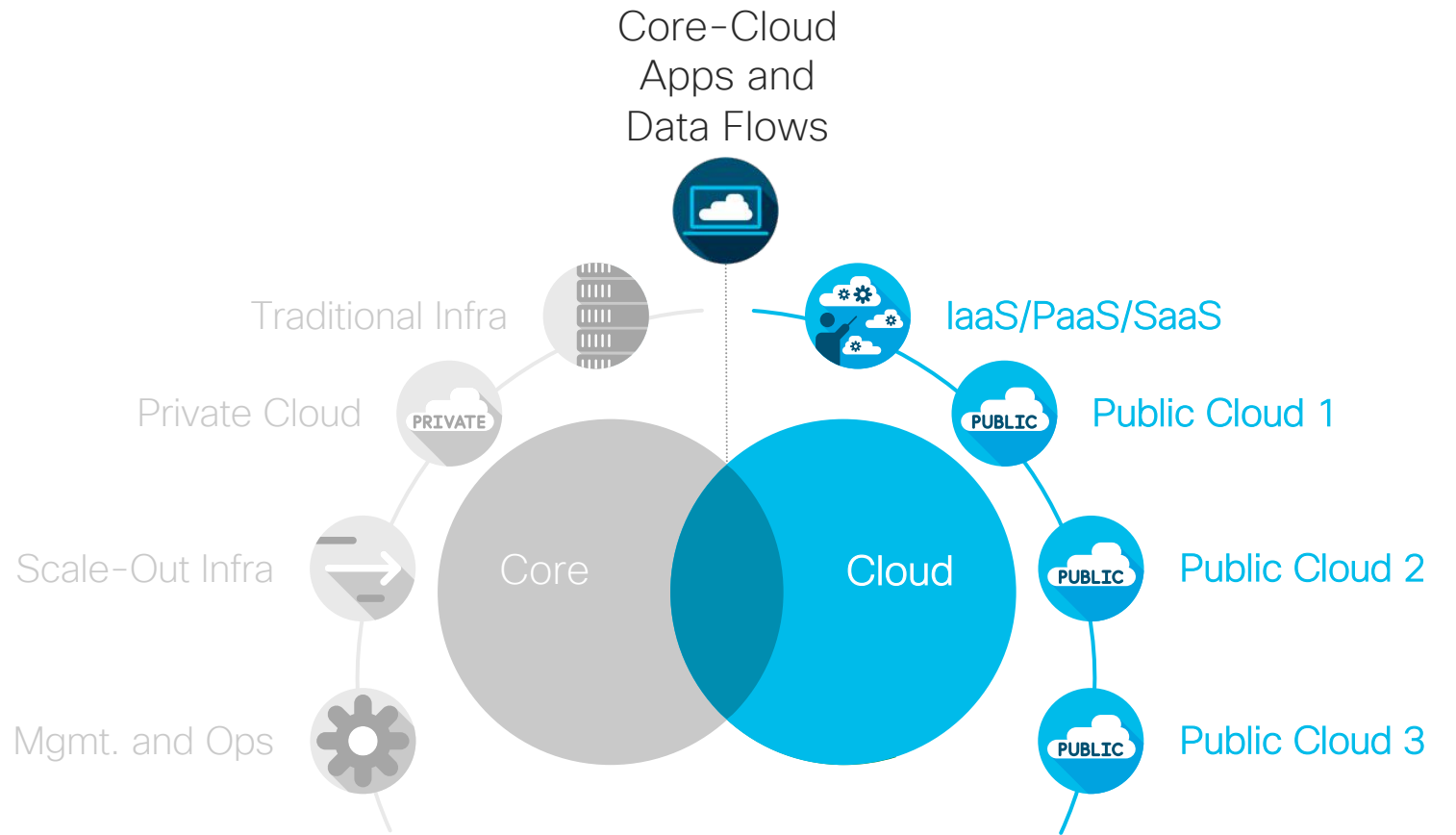
04/18 Gartner,
2018 Strategic roadmap for compute infrastructure, Chirag Dekate, Daniel Bowers, et al., 10 April 2018.



What does the future look like?

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

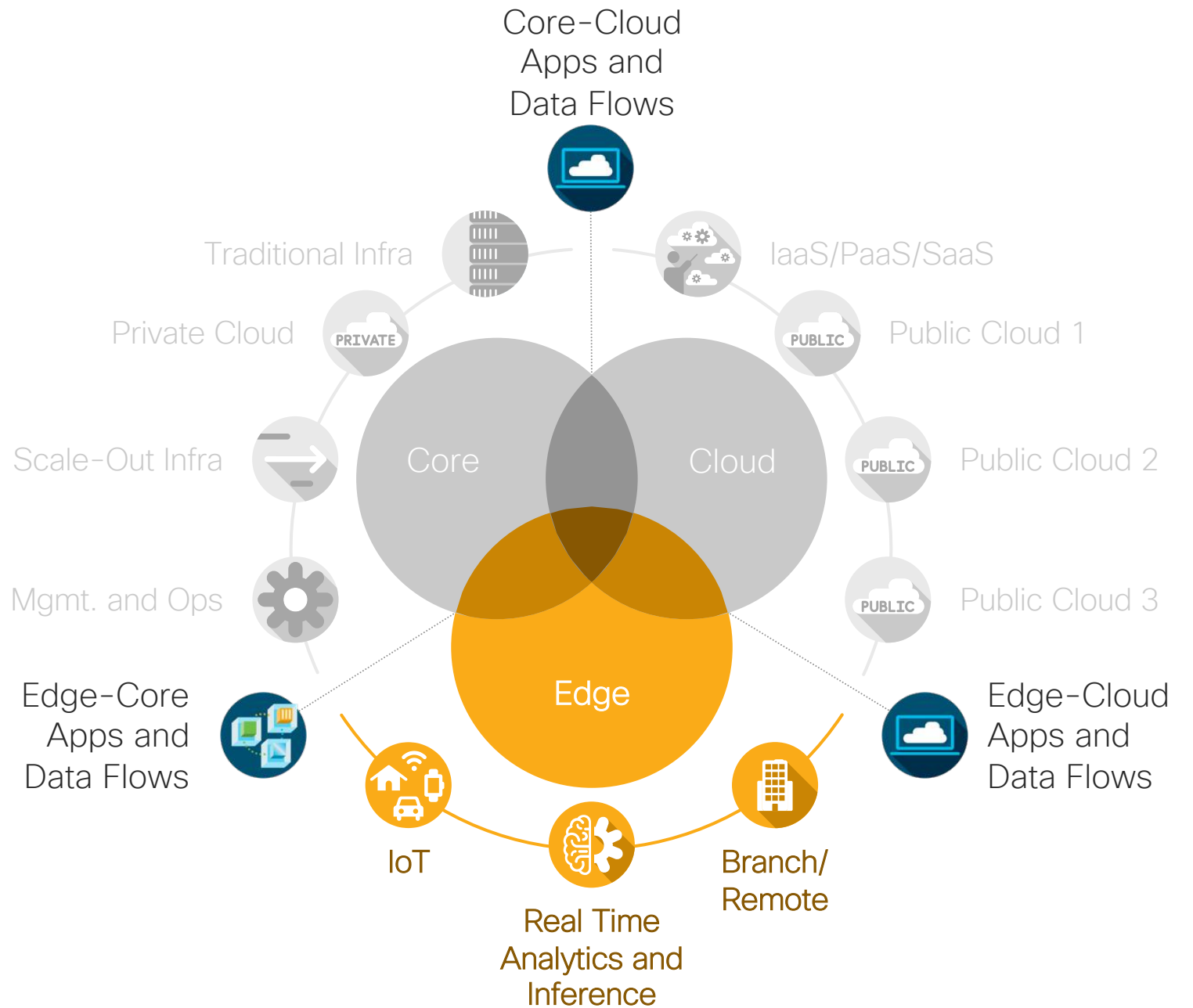
2018 IDC,
IDC FutureScape:
Worldwide IT Industry 2018 Predictions



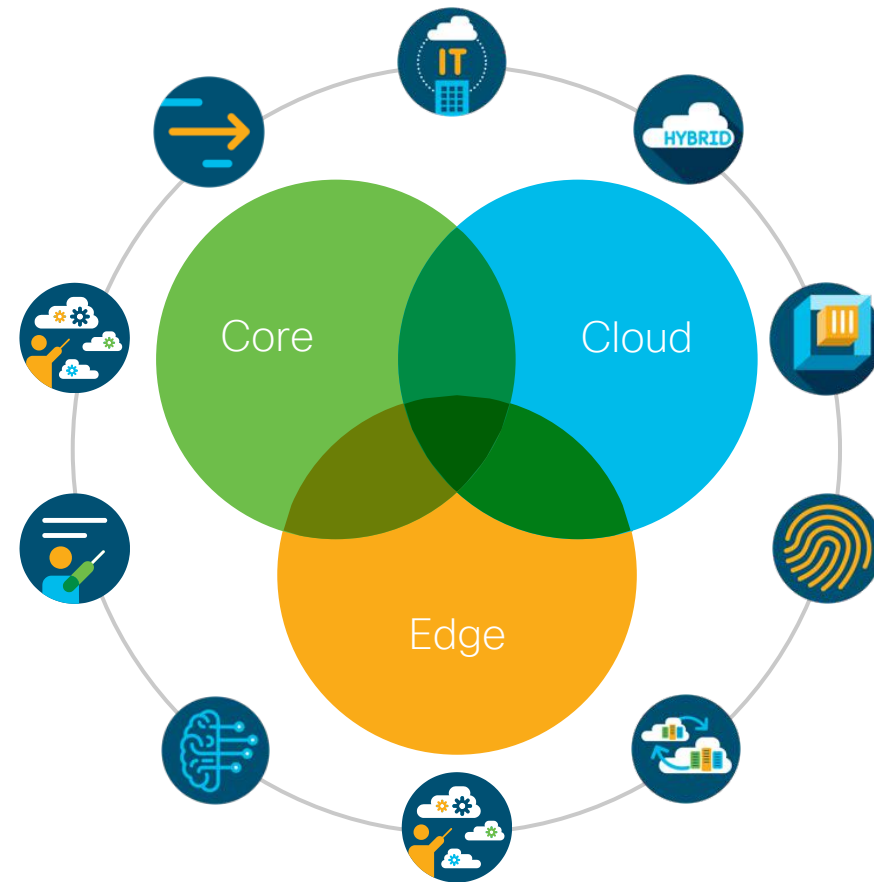
What does the future look like?

“By 2022, more than 50% of enterprise-generated data will be created and processed outside [of] the core data center or cloud”

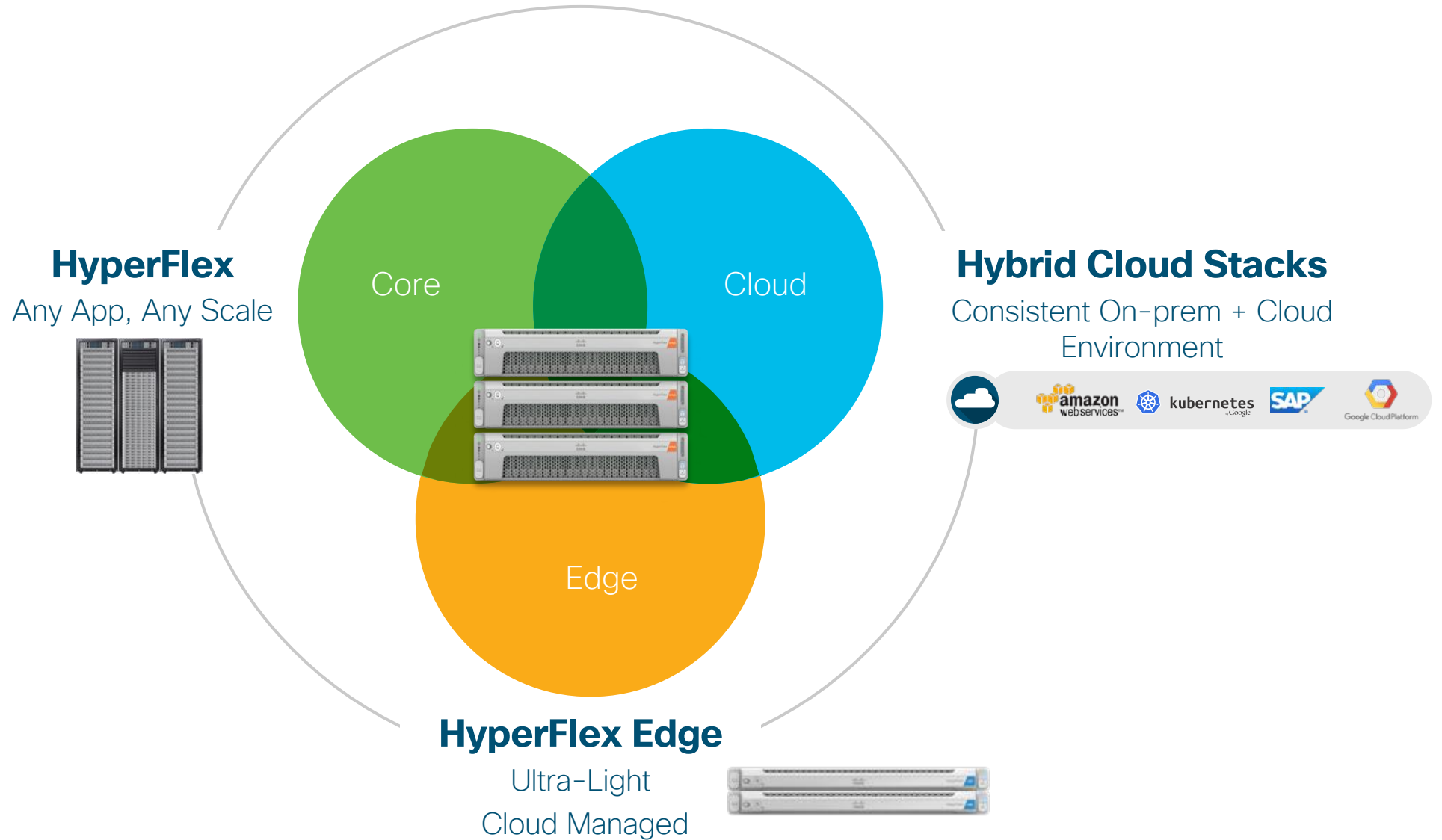
12/18 Gartner,
Gartner IT Infrastructure, Operations & Cloud
Strategies Conference Event Presentation,
The Future of IT Infrastructures: Always On,
Always Available, Everywhere, David J.
Cappuccio, Bob Gill, et al., 3-6 December
2018



The Future is the Distributed Datacenter



Cisco HyperFlex Anywhere



Introducing All NVMe HyperFlex



- All NVMe UCS C220 M5 Servers, optimized for All NVMe
- Integrated Fabric Networking
- Ongoing I/O optimizations



- Co-Engineered with Intel VMD for Hot-Plug & surprise removal cases
- Reliability Availability Serviceability (RAS) Assurance



- NVMe Optane Cache, NVMe Capacity
- Up to 32TB/Node, 40GB Networking
- Fully UCSM Managed for FW, LED etc.



- Higher IOPS
- Lower Latency
- Interop with HW acceleration to deliver the highest performance

HyperFlex C480 Compute-Only Node

A No-Compromise Purpose Built Server for Deep Learning

PID: HX-C480-M5ML8



➤ 40,000+ CUDA Cores

8x SXM2 Nvidia GPUs

NVlink GPU Interconnect

Intel Scalable 1st & 2nd gen
Processor Choices

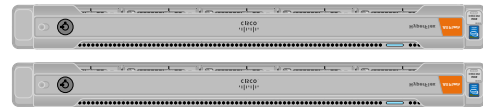
UCSM & Intersight managed

Cisco Validated Designs

HCI at the Edge Demands Flexibility

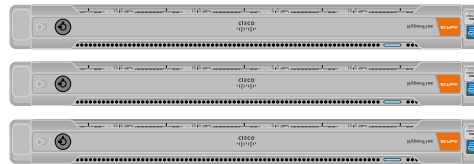
HyperFlex Edge 4.0

Size your Edge deployment for your environment



2 Node

Start Small



3 Node

Expand*

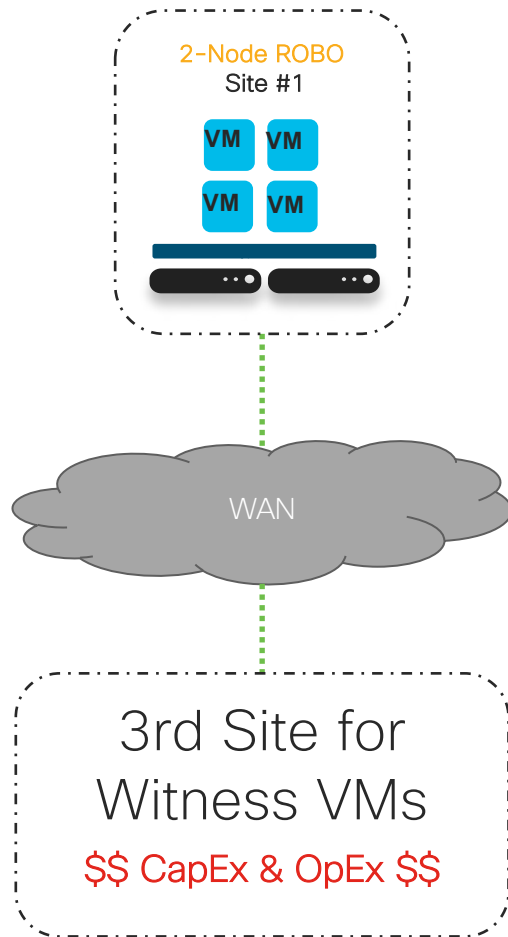


4 Node

Protect Your Investment

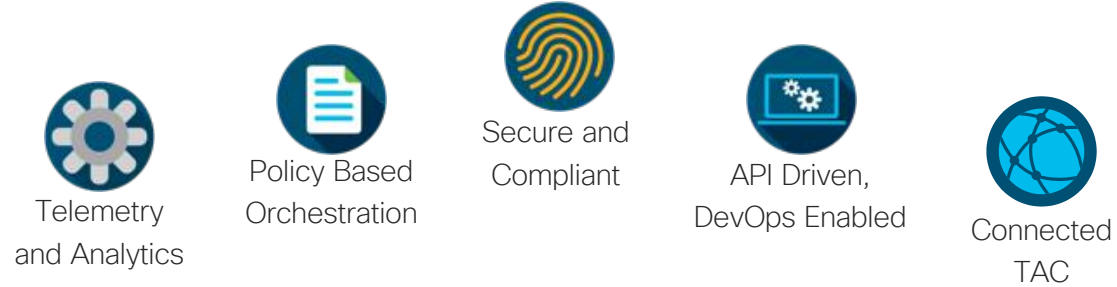
Invisible Cloud Witness, Why?

Traditional
2-Node
Deployment



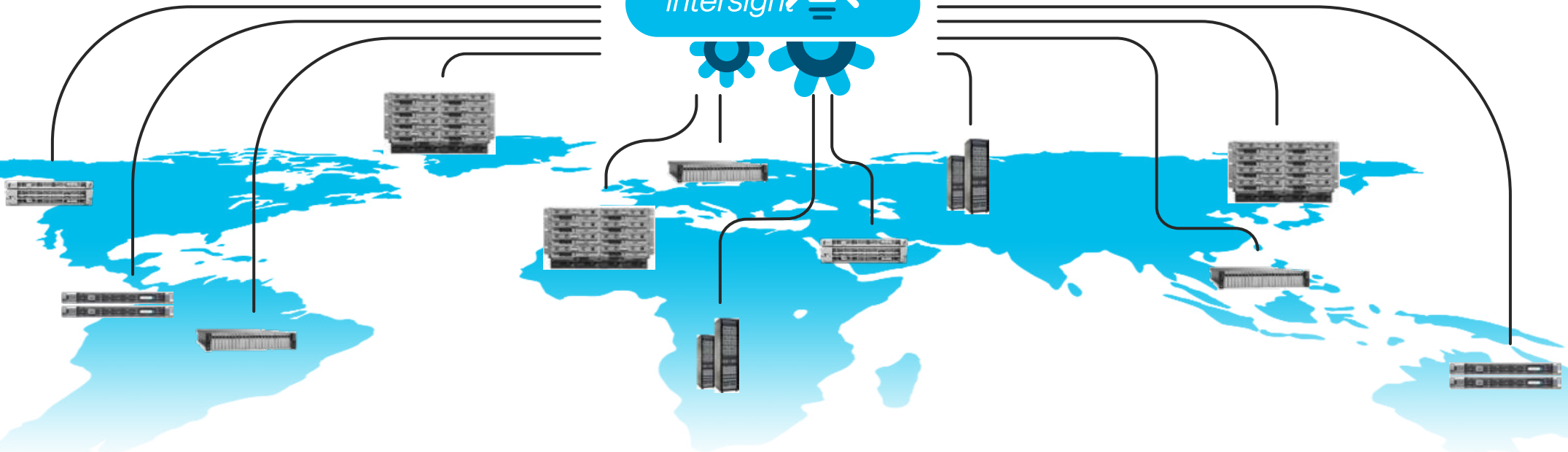
- 1 Consistency of the file system is essential.
- 2 To guarantee consistency of a file system a quorum is needed.
- 3 In a HyperFlex cluster a quorum requires a majority, or 2 of 3 nodes available and in agreement in a cluster.
- 4 Traditional 2-Node ROBO solutions require a 3rd site for witness VMs.
- 5 Cisco's innovation of the Intersight Invisible Cloud Witness virtually eliminates the costs with deploying 2-node HCI clusters/

Cisco Intersight Intelligent Centralized Management



SaaS
Simplicity

Actionable
Intelligence

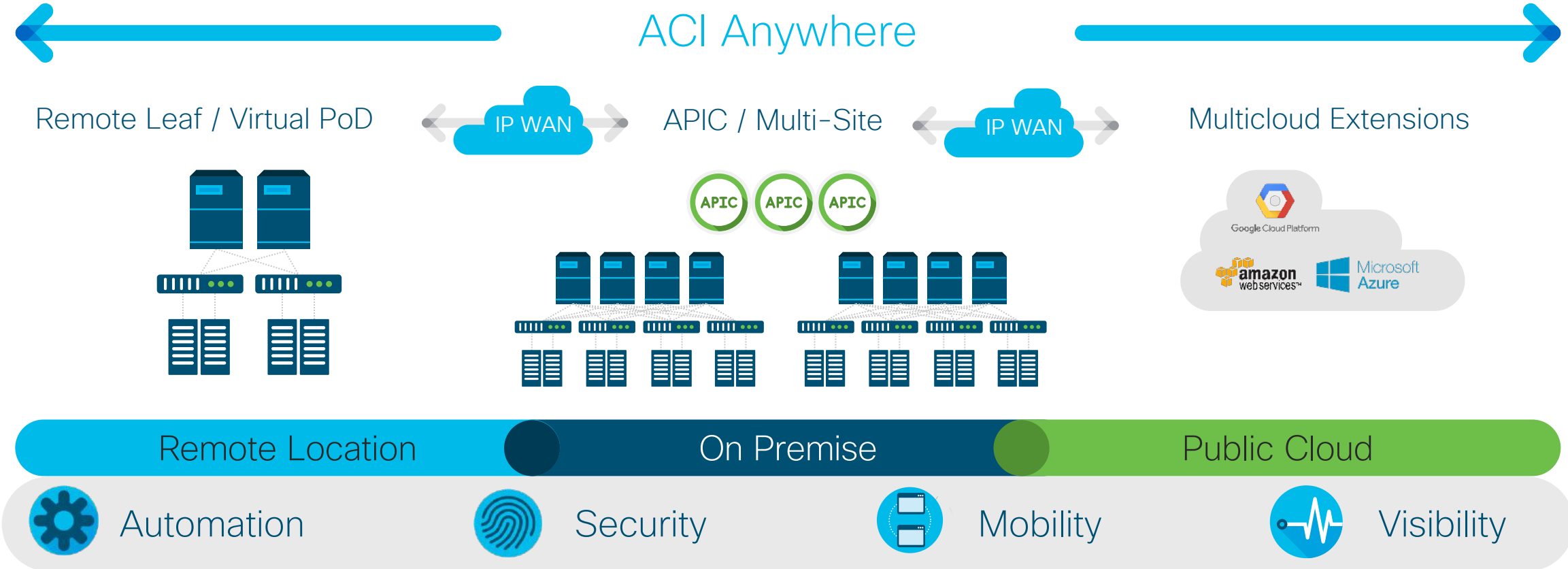




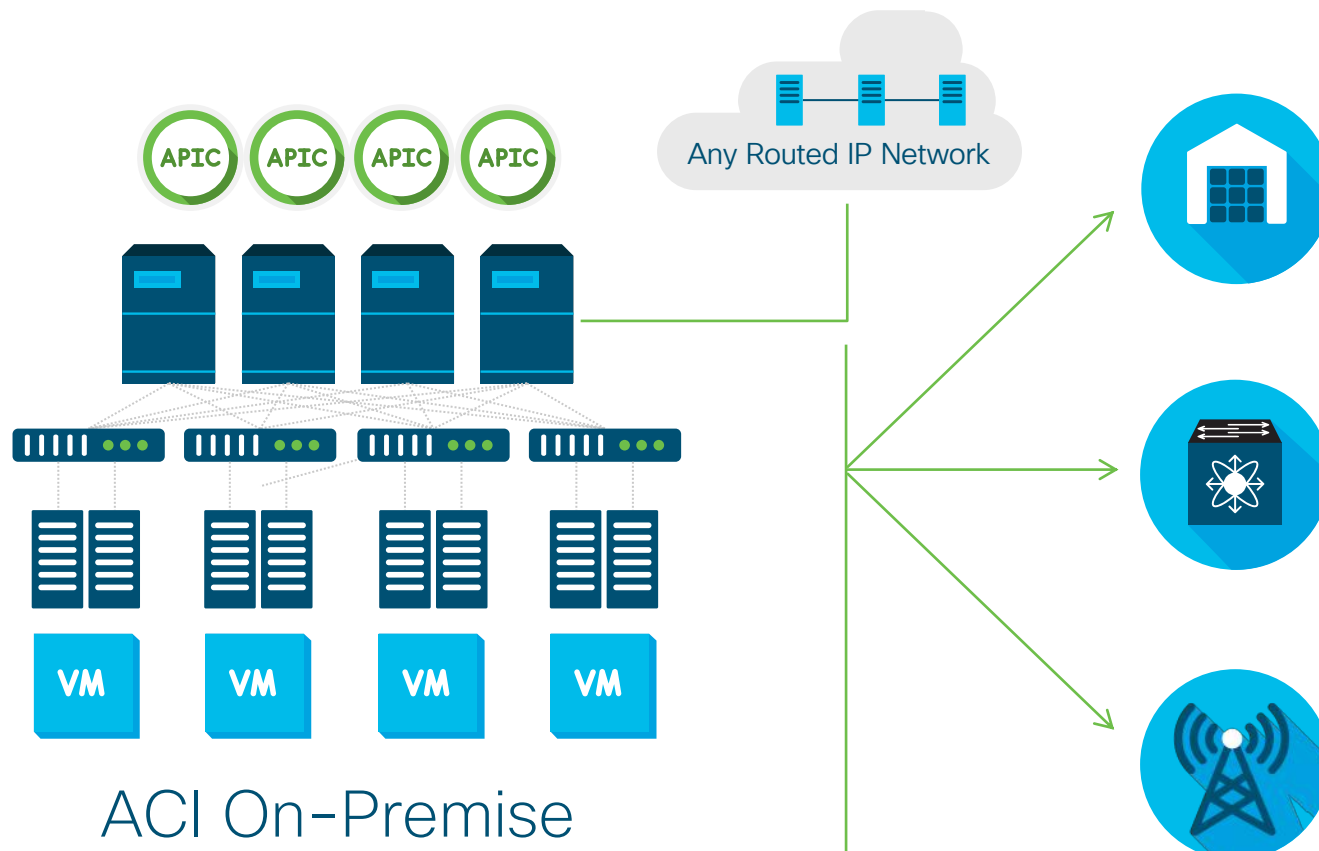
Cisco ACI Anywhere

ACI | Architecture

Any Cloud, Any Application, Any Platform, Anywhere



Extending ACI into Virtual Environments with ACI Virtual Edge



Physical Remote Leaf

- Satellite/Remote locations deployment
- Leverage Nexus 9K hardware capabilities
- Extend ACI policy

ACI Virtual Pod

- Extend ACI Policy w/o H/W
- Virtualized Spine, Leaf and APIC
- Bare-metal providers, co-location providers, legacy networks

ACI Mini Fabric

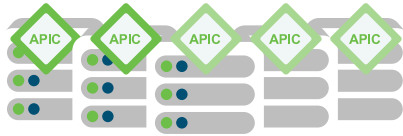
- Small scale and cost optimized deployments
- 5RU: Ideal for space, power and cooling restrictions
- Telco DC, small to midsize business

ACI Extensions To Multi-Cloud

ACI Multi-Site Appliance



Site A



Google Cloud Platform

Site B



Site C



Microsoft Azure

Site D



amazon web services™



✓ Consistent Network and Policy across clouds

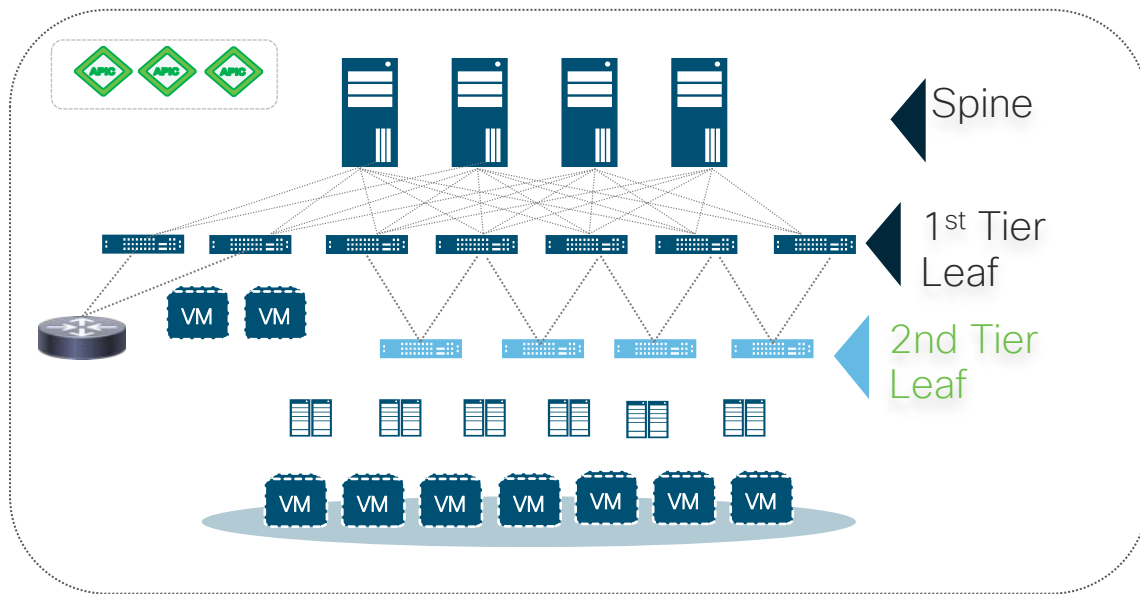
✓ Common Governance

✓ Single Point of Orchestration

✓ Secure Automated Connectivity

ACI: Multi-Tier Architectures

Three Tier ACI Fabric



1

Vertical Expansion Of ACI Policy Domain

2

Replace FEX Architecture With 2nd Tier Leaf: Better Visibility & Policy Enforcement


3

Investment Protection:
Reuse Existing Cable Plan

4

Simplify N2/N5/N7k Migration to ACI

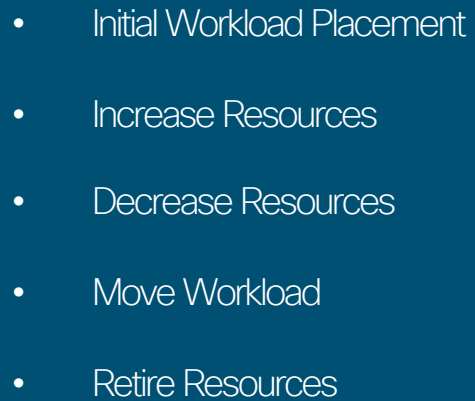
Seamless Migration From Legacy 3-Tier Architectures

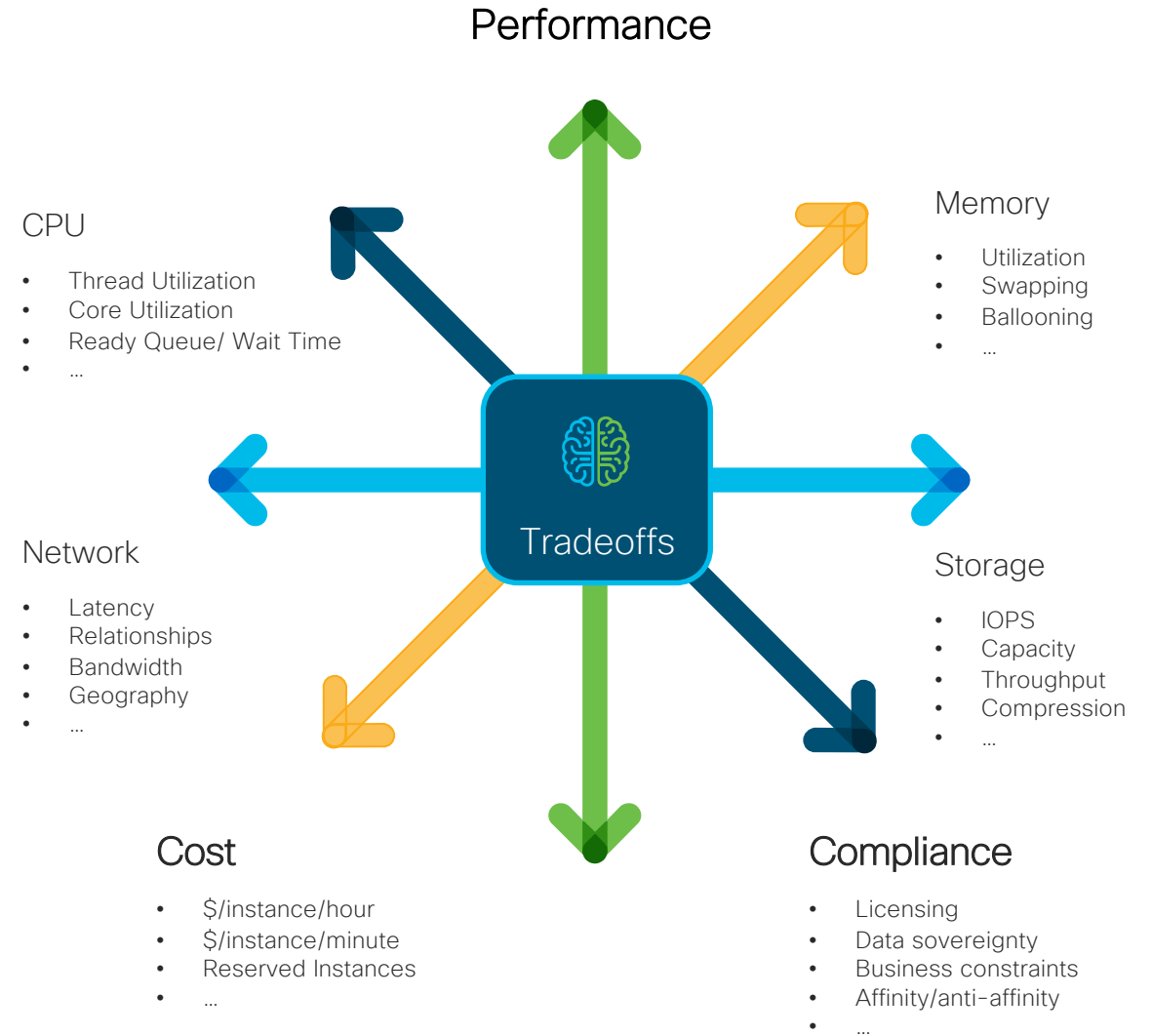


*Cisco Workload Optimization
Manager (CWOM)*

Dynamic Adjustment

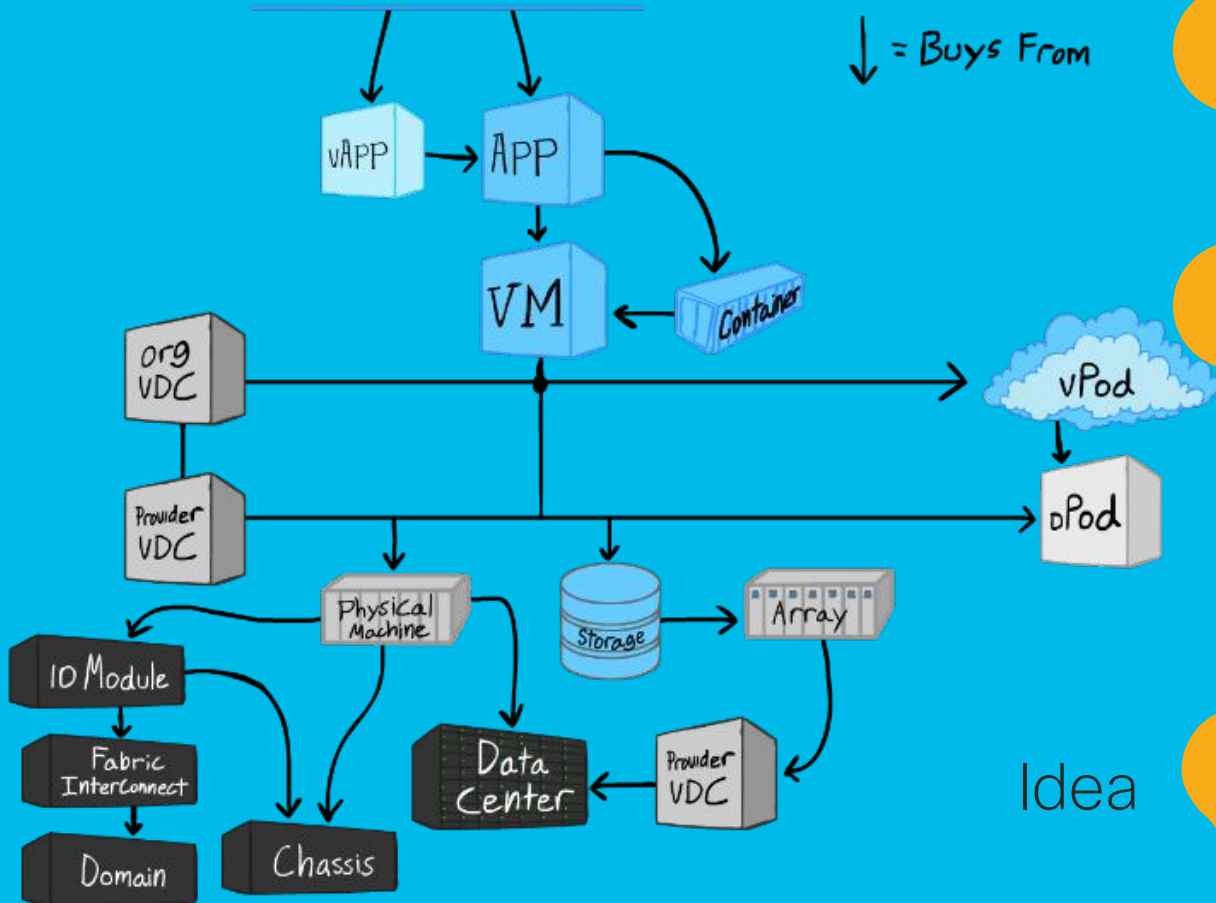
- Navigate multiple tradeoffs
- Operate in real time
- Self-managing

- 
- Initial Workload Placement
 - Increase Resources
 - Decrease Resources
 - Move Workload
 - Retire Resources



How does WOM automate decision-making?

The Business



1

Abstraction:
Supply Chain

2

Analytics:
Supply, Demand, Price

3

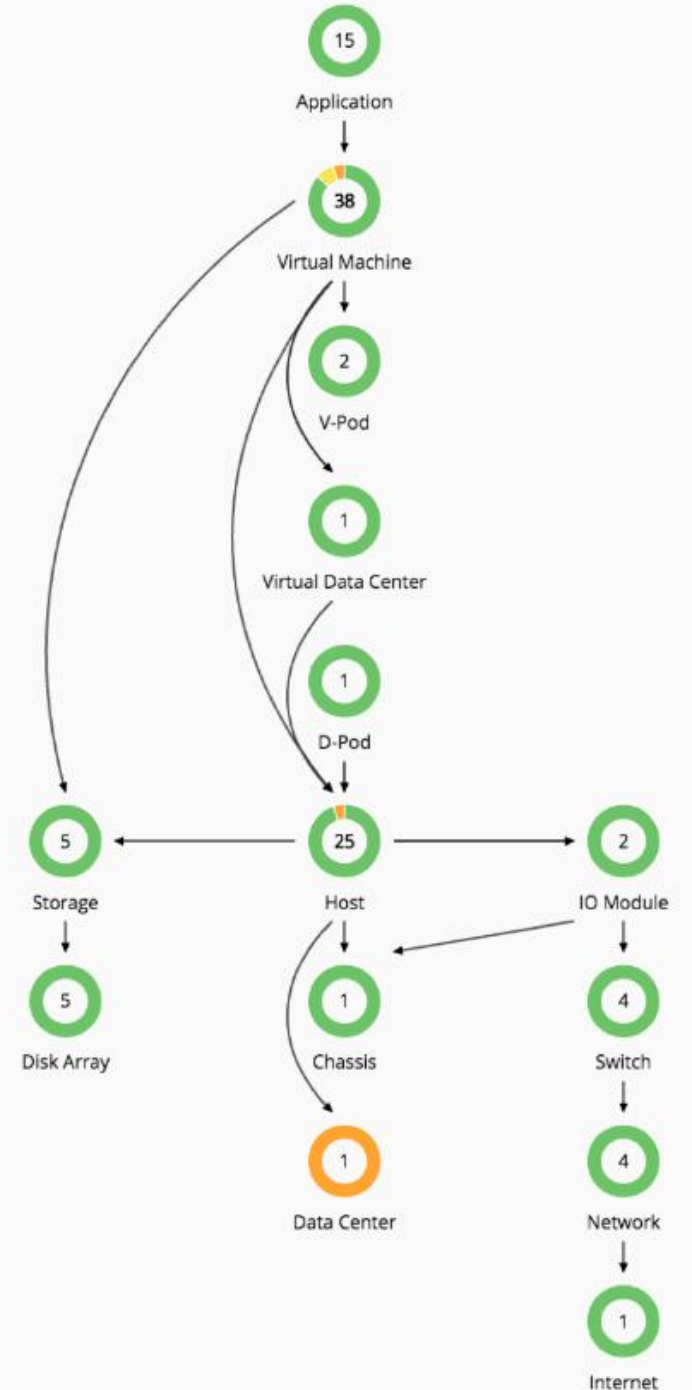
Automation:
Real-time action

- Placement
- Scaling
- Capacity

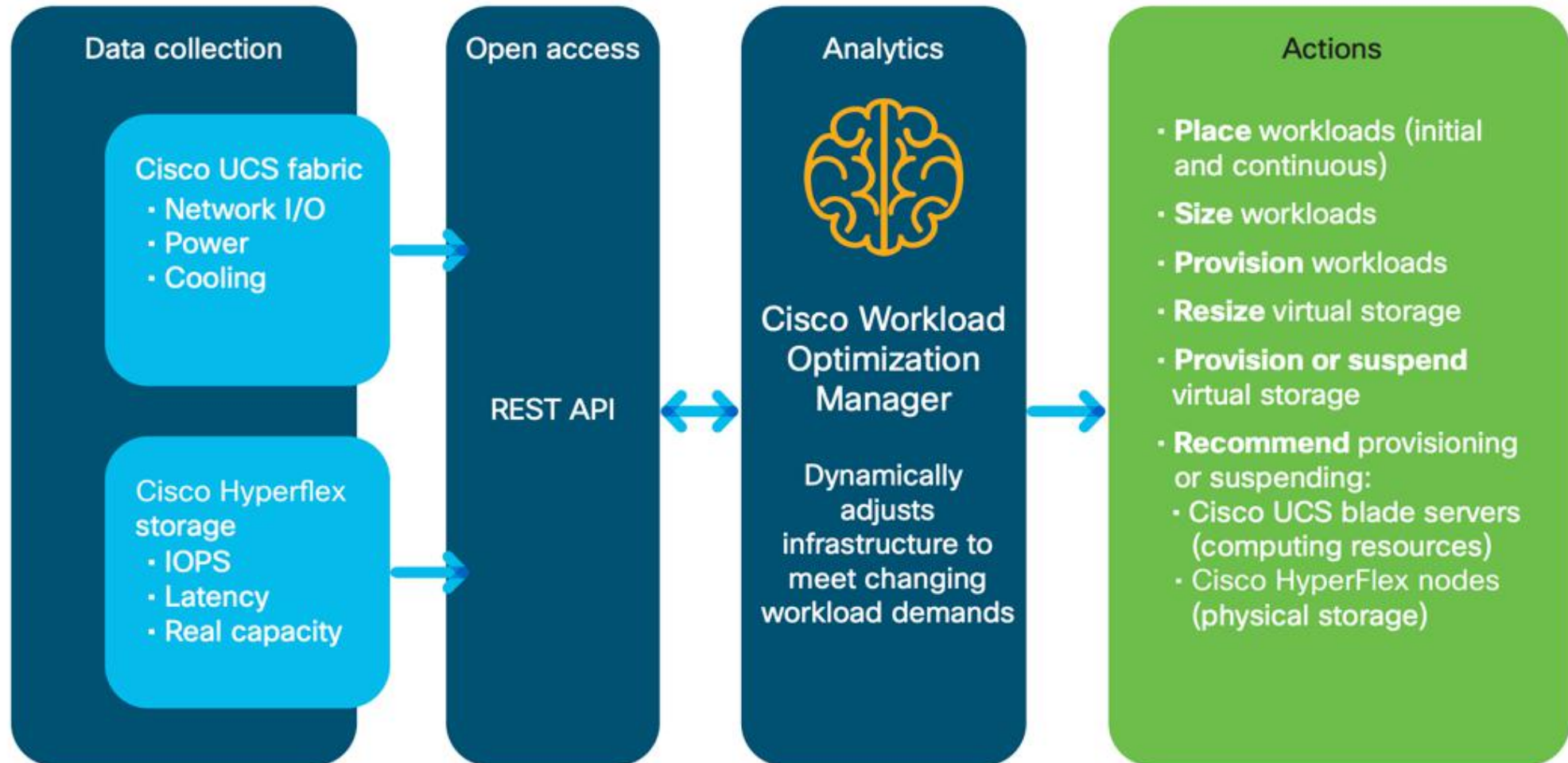
Idea



Solution



CWOM and UCS/Hyperflex

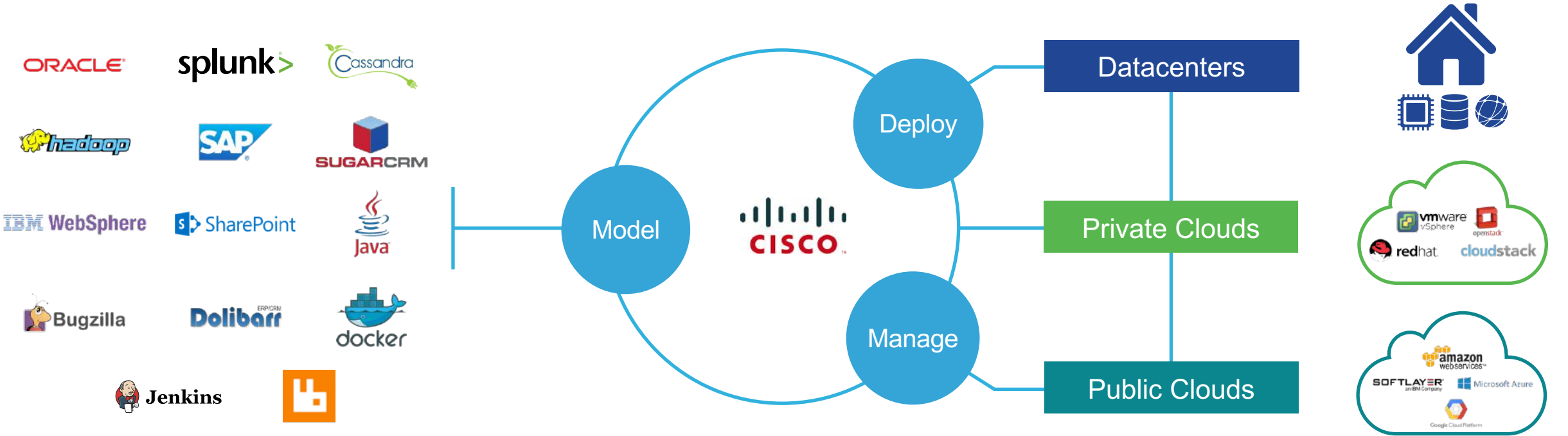




Cisco Cloud Center

Cisco CloudCenter Suite

Any Application. Any Cloud. One Platform.

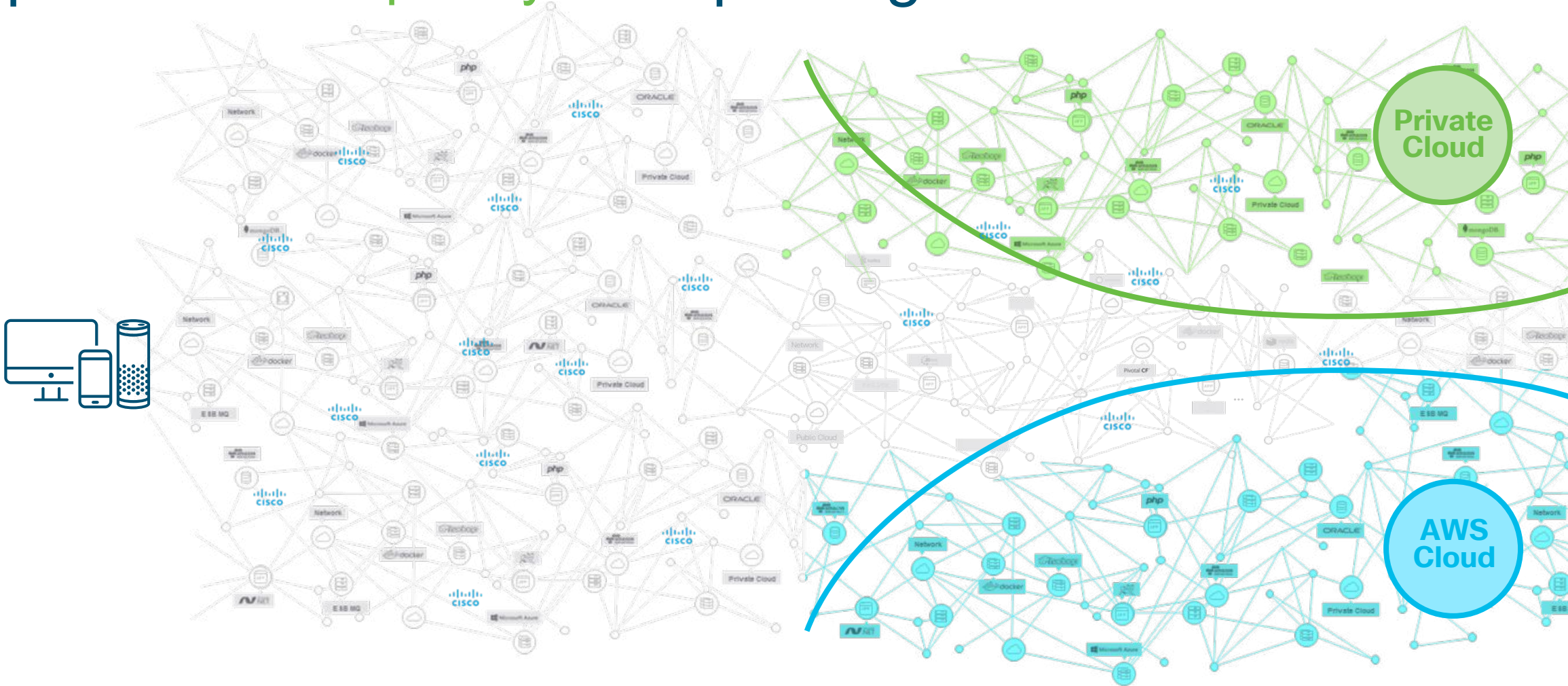


- Single Integrated Management Platform
- Full Application Lifecycle Management
- Enterprise-Ready
- Scalable
- Secure



AppDynamics

Application Complexity Is Exploding



1 More Complexity
More Components

2 More Dependencies
More Distributed

3 Release Apps faster
Faster Cycles

AppDynamics

Real-time, end-to-end performance management of complex, distributed applications across private and public cloud environments.

Visualize – All application components, dependencies and connections instantly, in one user interface

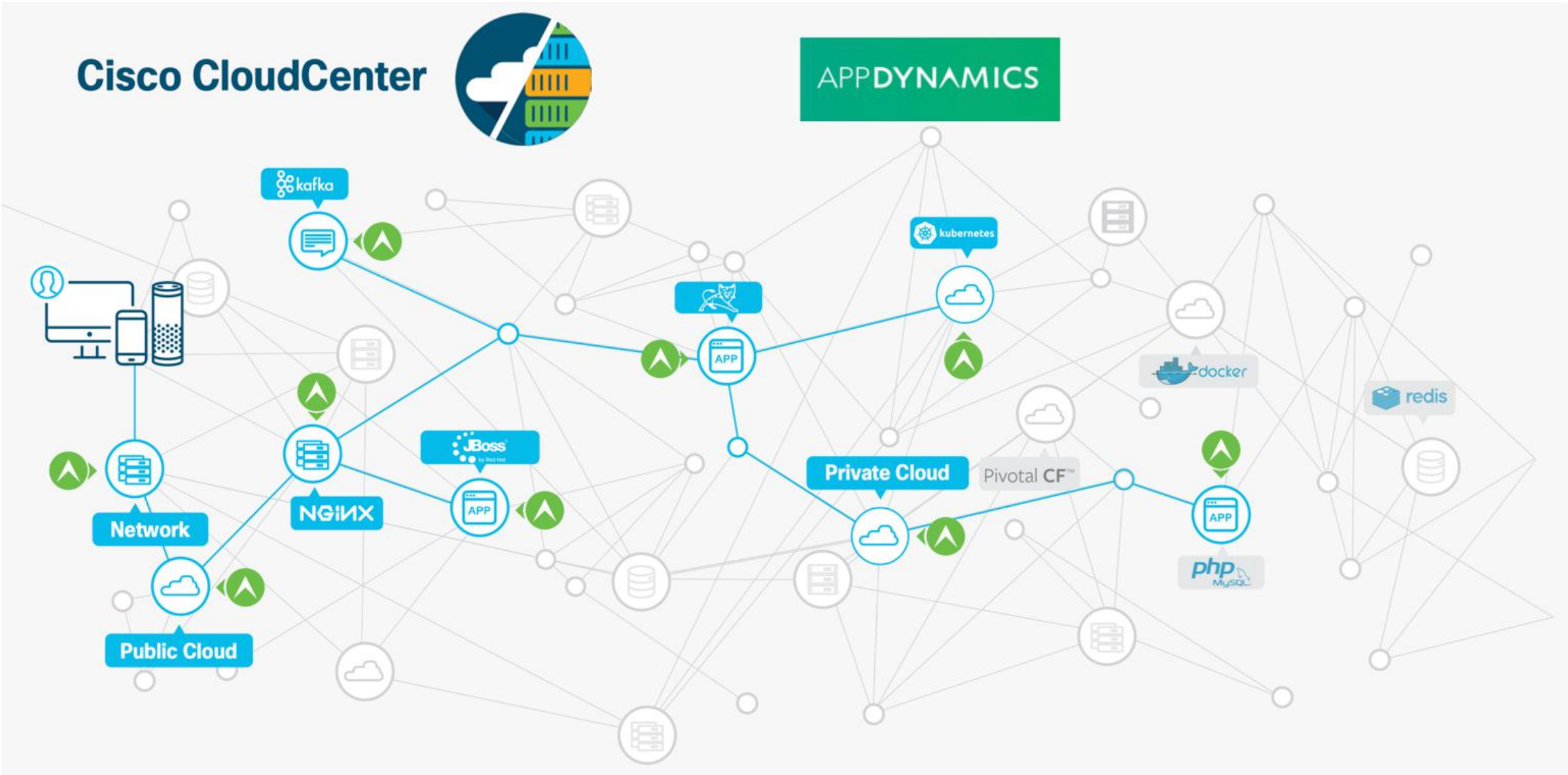
Focus – On making sure that applications meet user experience needs with the automatic monitoring of Business Transactions

Know – That every alert is business relevant and needs to be acted upon

Understand – The root-cause of application performance issues down to the code level



AppDynamics and Cloud Center



AppDynamics and CWOM

AppDynamics understands the business application topology



Application and development

Workload Optimization Manager drives the infrastructure so that applications get the resources they need



Infrastructure and operations





Cisco Tetration

Cisco Tetration

Understand what's running in your datacenter



Cisco Tetration



Visibility and forensics

East-west communication, users and user groups accessing application, location information, etc.,



Process and software inventory

Process information, installed software inventory, etc.,



Application insight

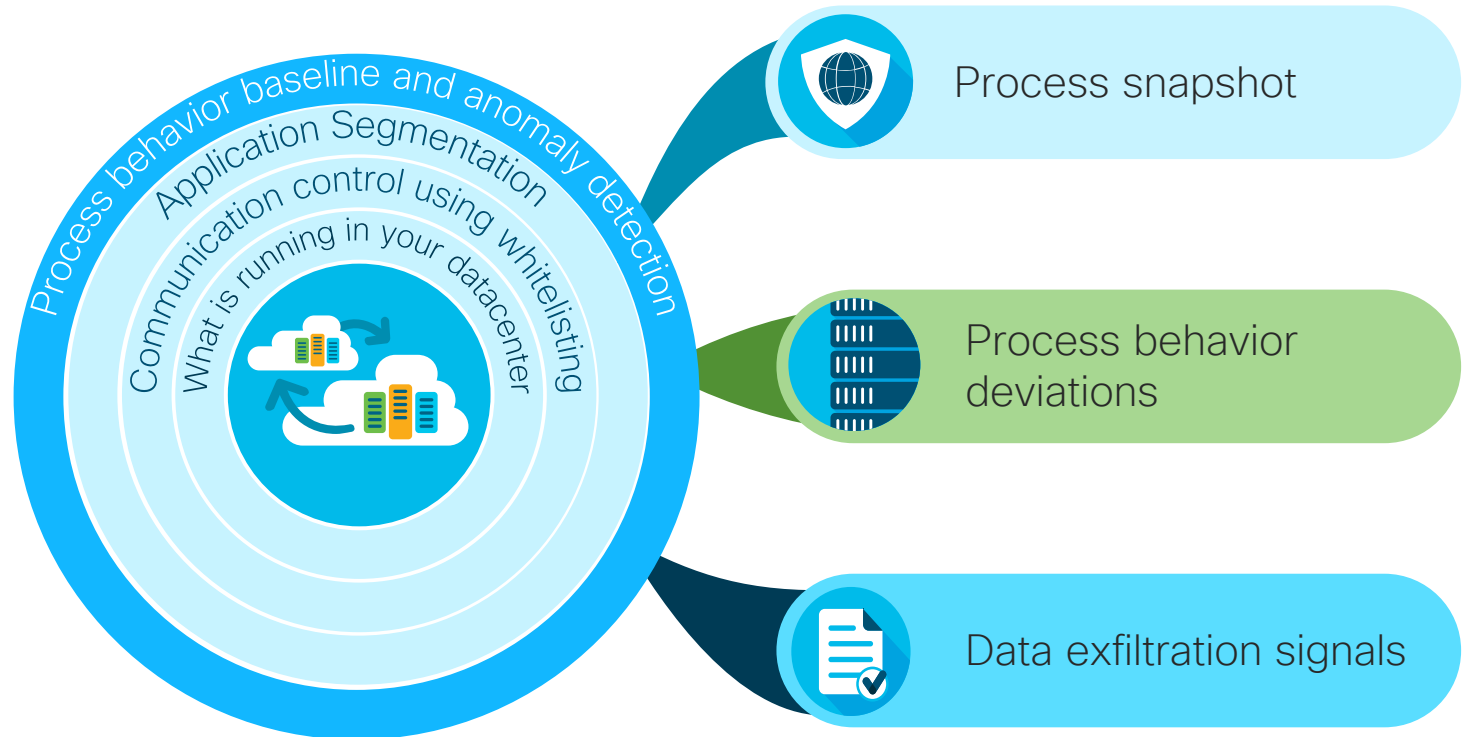
Application dependency maps

Cisco Tetration

Identify anomalous behavior deviations



Cisco Tetration





Cisco Security



Protect the
workload
everywhere



On prem



Public



Private

Cisco Data Center Security



Visibility
"See Everything"



Segmentation
"Reduce the
Attack Surface"



Threat Protection
"Stop the Breach"



Cisco Cloud Center

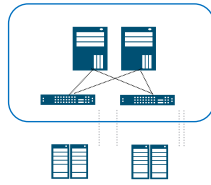
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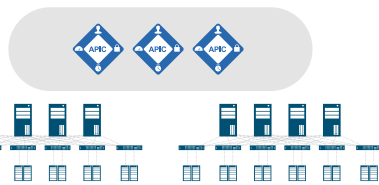
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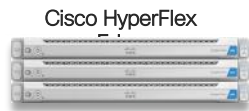
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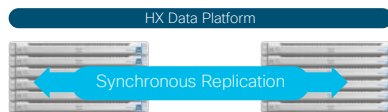
Edge Computing



Cisco UCS



Cisco Hyperflex



Edge DC

Core DC

Cloud

Security Everywhere



Analytics Everywhere



Policy Everywhere



Constantly
learning

Intent-based
data center

Constantly
protecting

Constantly
adapting





THANK YOU

