



You make multicloud **possible**

**CISCO** *Engage*

## Data Center Innovation

Bangkok, Thailand, 26<sup>th</sup> November 2019

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Making Multicloud Possible  
Powering the Application Revolution

# Aligning to You and Your Business



**Reimagine**  
your applications



**Secure**  
your data



**Transform**  
your infrastructure



**Empower**  
your teams



# SURGING E-COMMERCE

The e-commerce market in Thailand in 2014 is estimated to be US\$1 billion, with a strong predicted growth to \$6 billion between 2020 and 2025.

**\$**  
2014  
**\$1 billion**  
**\$\$\$\$\$\$\$**  
between 2020 and 2025  
**\$6 billion**

## Popular online shopping categories



POSTgraphics



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## Delicious and varied

Gourmet

Strange food

Afternoon

Japanese

Chinese

Thai

Special F B

Fresh fruits

Snacks

Italian

**WinCo Foods**  
**LOW PRICES**  
Every Aisle-Every Department-Every Day

**ORDER ONLINE**

**SAVE TIME**  
**ORDER ONLINE!**

*Need a Deli Tray?*  
1. Visit [WinCoFoods.com](http://WinCoFoods.com)  
2. Place your order (24 hour notice required)  
3. Pick up your order in the WinCo Deli

## Discover Bangkok

a Guide not just for visitors but residents, expats, anyone!

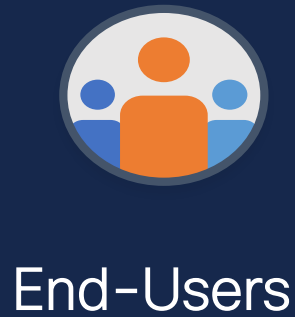
Thai cultural information  
Hospital information  
Overview of prices in Bangkok



Problems we are trying  
to solve

- How to Connect ?
- How do you know it works ?
- How do you now it is safe ?

# This is what we are trying to solve



3 Connection

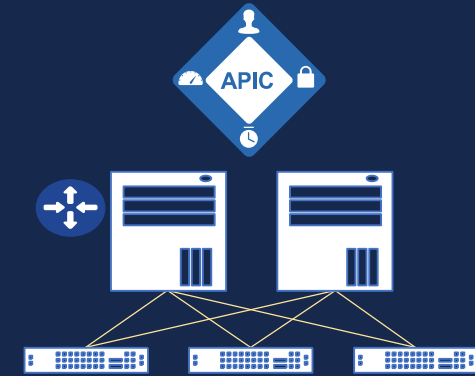
2 Consumer

1 Provider

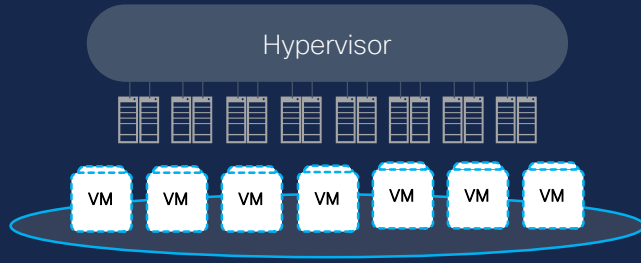
# Where the application sits ( It is all over the place )



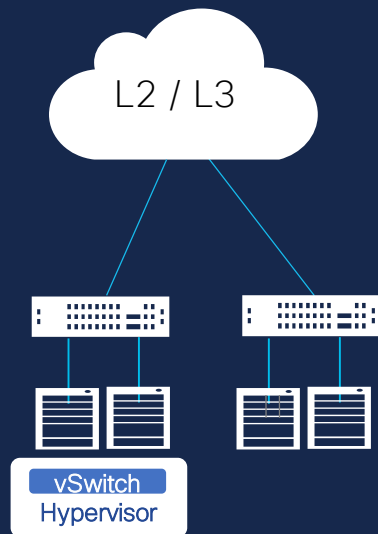
Application



On Prem DC



Co-Location



Remote Location

# Where are the consumers?



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Identity

Device Types

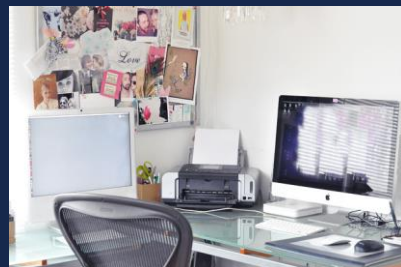
Trusted

Location

Time



CCTV Cameras



Office Desk



Home Office



Mobile



IoT

# Making Things Connected



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Business App

Web

Mail

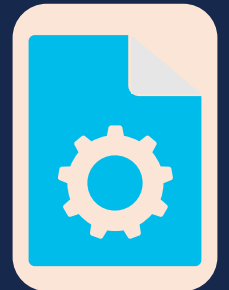
Control Traffic

Video/Audio

Bulk Data Transfer



“The PIPE”



Cost

Latency

Jitter

Reliability

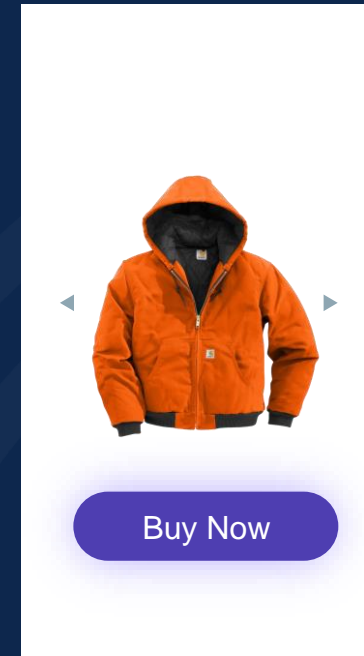
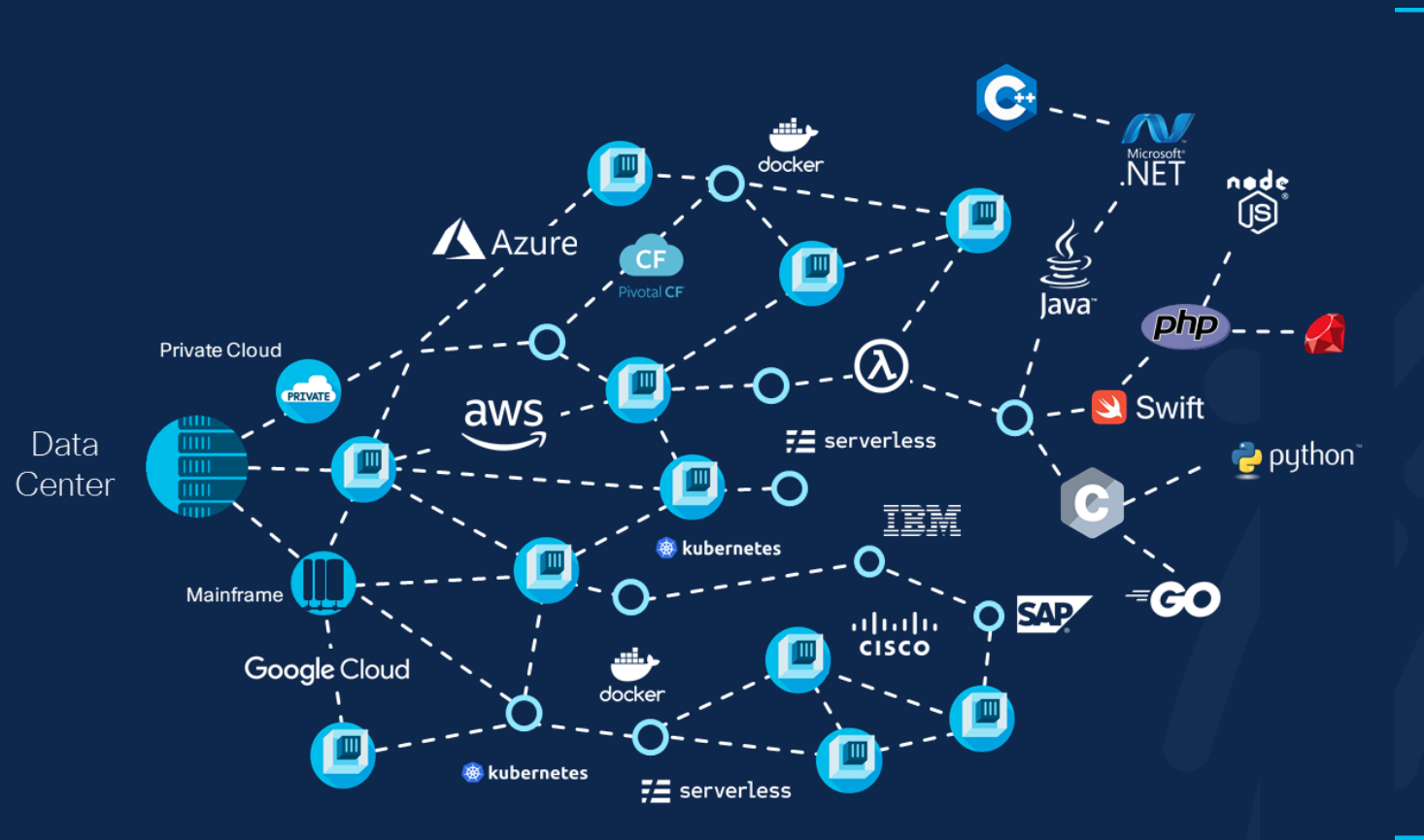
# Application loyalty is the new brand loyalty



Apps need to stack up against the new user expectation bar



# Apps rely on hybrid multicloud environments



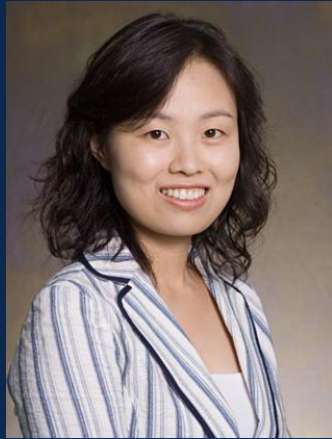
# We are in a Multicloud, Multi-Access, Multi-Domain world....



# Panelists



Craig



In-Sook



Jarut



Ramitha

**Impact of changing application landscape on  
Business, Process & People?**

# Impact of changing application landscape on Business, Process & People?

## Traditional Applications

Monolithic Model  
Multi-tier Apps



Open Source



## Cloud-based applications

Business Agility with cloud model  
Micro-services / Bi-Modal IT / DevOps

## Manual Interaction

IT Silos based approach  
Configuration driven



DevOps



## Policy and Automation

Enterprise-wide policy, hyper-convergence  
and cross-domain automation  
Consumption driven with analytics and  
programmability

## Focus on products

Disjoint approaches to solve technical demands.  
Cohesiveness as “after thought”



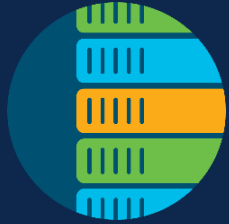
Agility &  
Scale



## Focus on business solutions

Data Center is the foundation for  
business agility. Delivered as a  
solution and / or as a service,

# Impact of changing application landscape on Business, Process & People?



## Business – Leverage Advantage of MultiCloud

- The data center needs to be where the application and data is to gain competitive advantage



## Process – Multicloud Hurdles

- Ensuring Security, Compliance, Performance, Migration, Cost Control, Lock-in



## People – Operation Complexity

- Skills gap due to inconsistent policies and governance

# Impact of changing application landscape on Business, Process & People ?



# Impact of changing application landscape on Business, Process & People ?



- Know what applications are running and what's critical
- Understand who is accessing the applications



- Minimize lateral movement with fine-grained segmentation, zero-trust policy



- Identify behavior deviations and vulnerability quickly to reduce attack surface

# Impact of changing application landscape on Business, Process & People?

## Service Catalog for Developers

- Access Tools
- Spin-up Resources On-demand

## ITOps – Set, Enforce Policies

- Placement – Private/Public, Priorities
- Access Control/Security
- Resource Allocation – Size, Performance
- Cost/Spend

Speed – Agility – Governance  
**ITaaSO**





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**How does policy & automation augment the changing application landscape?**

# How does policy & automation augment the changing application landscape?



Under subscription results in negative outcomes

- Expensive resources sit idle

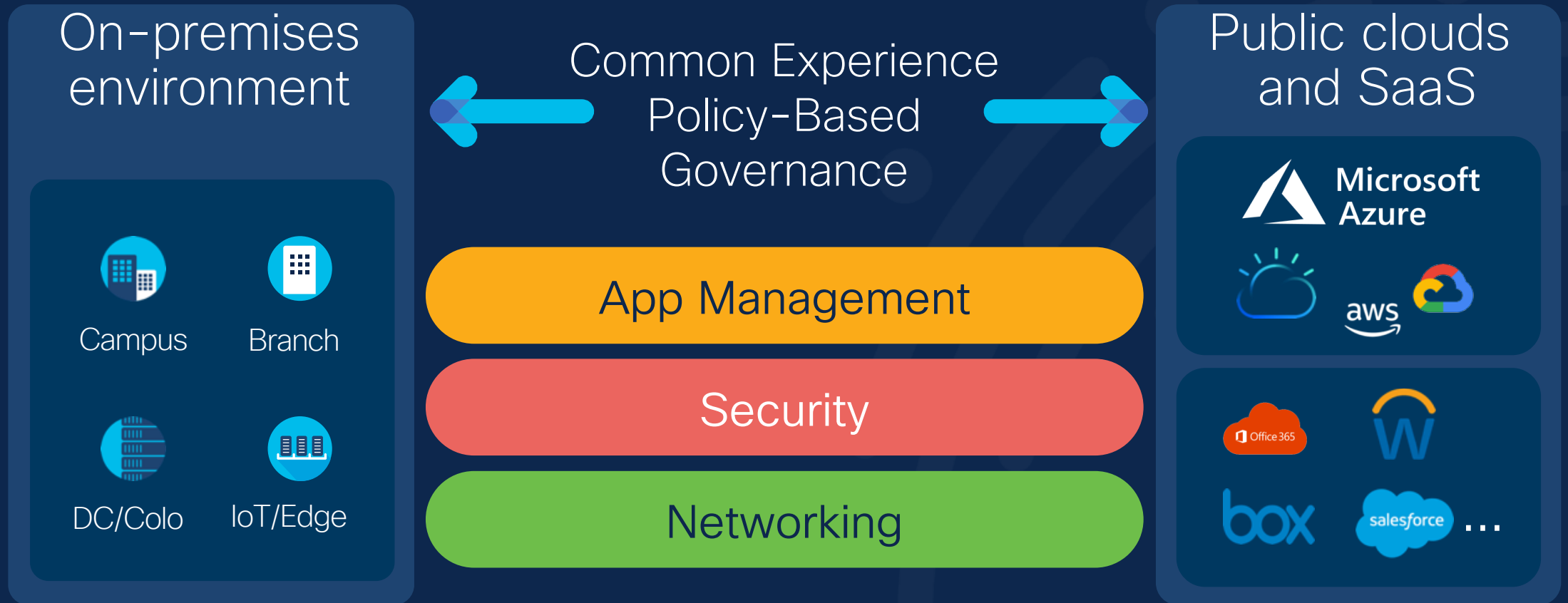


Over subscription also results in negative outcomes

- Customer satisfaction affected
- Loss of revenue

*You can't bump applications*

# How does policy & automation augment the changing application landscape?



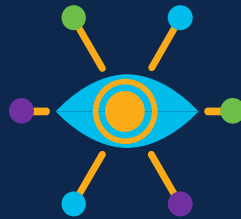
# How does policy & automation augment the changing application landscape?

Take a zero-trust approach to security to secure access across your entire IT environment.



## Prevent Risks

Reduce risk of a breach before it happens



## Gain Visibility

Identify risks and indicators of a breach of trust



## Reduce Attack Surface

Contain breaches and stop attacker lateral movement

## The Zero Trust Approach

Enable policy-based controls for every access request in a corporate environment

See who and what is accessing applications, workloads & the network

Segment your network & workloads by enforcing granular controls

# How does policy & automation augment the changing application landscape?

New and evolving cloud/ IT technologies

New operational processes

Data explosion

Labor-Intensive Tasks

- Offer a fully-integrated DevOps platform for automated software deployment
- Enable end-to-end CI/CD between multiple vendors and end users
- Deliver real hyper automation from integration to pre-production of critical processes incl. scope, development, test, defect and release management as well as security compliance

\$1.9 BN

In 2017

\$9.3 BN

By 2024

Global Automation-  
as-a-Service



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**How are these changes impacting the on-premise infrastructure & business requirements ?**

# How are these changes impacting the on-premise infrastructure & business requirements ?

## Hyperconverged Infrastructure and Automation Are Overcoming Some of the Infrastructure Challenges

### Speed and Simplicity

Common platform across data center

Predictable, reliable performance



### Pay as you grow

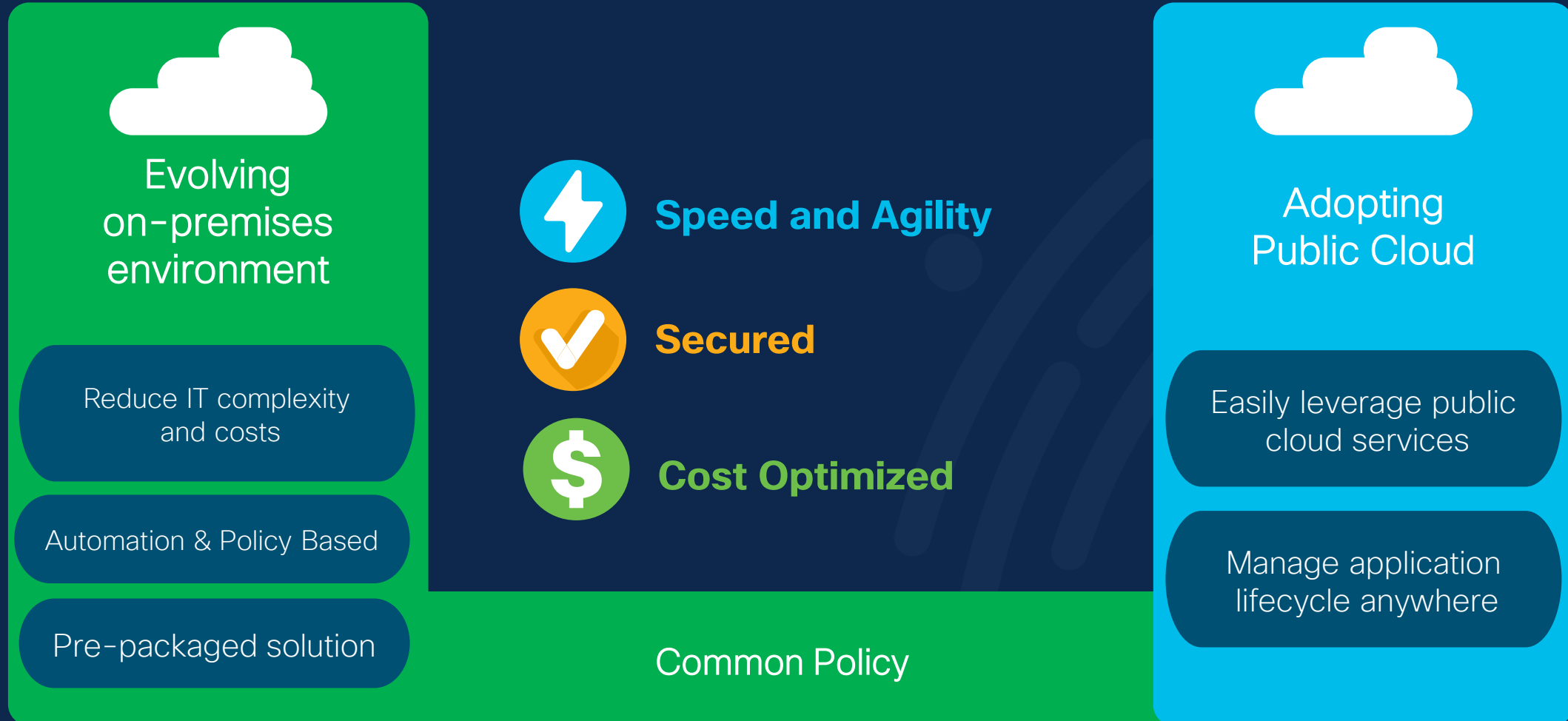
Pay-as-you-grow  
Economics with  
Resource Scaling On-Demand



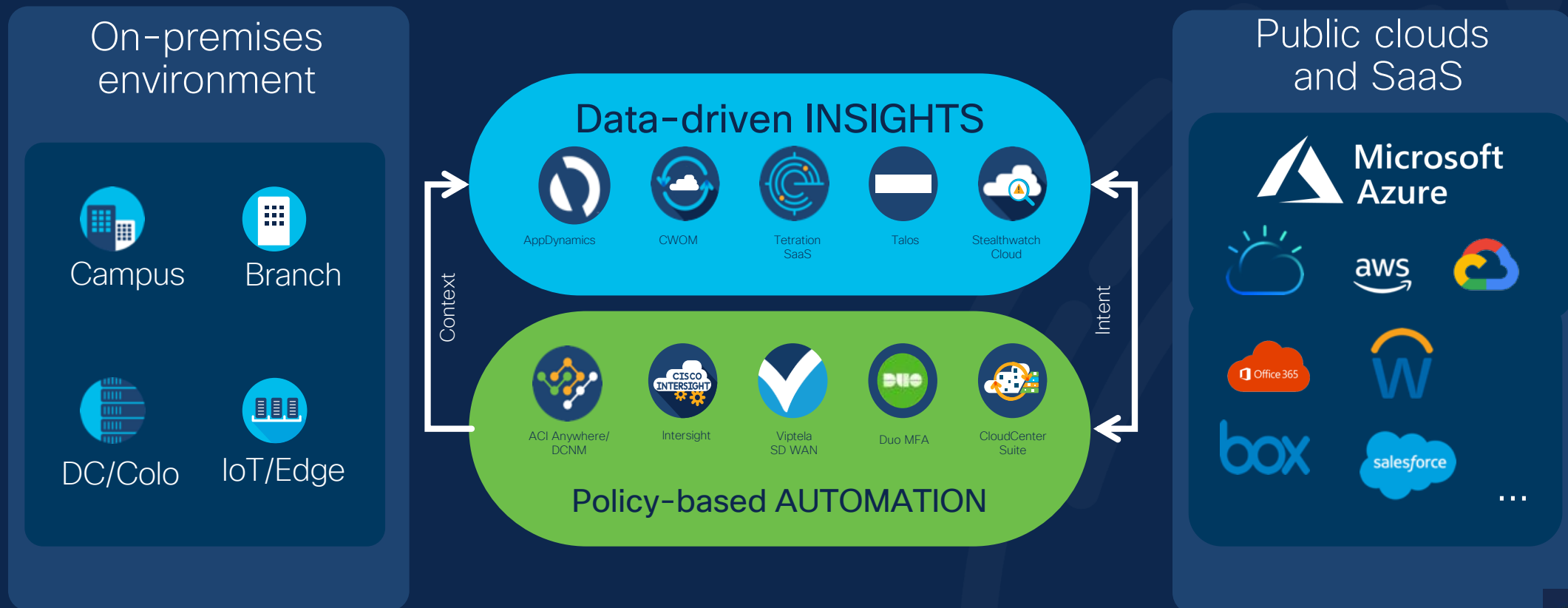
### Operations

Cloud like , simplified and predictive management and orchestration

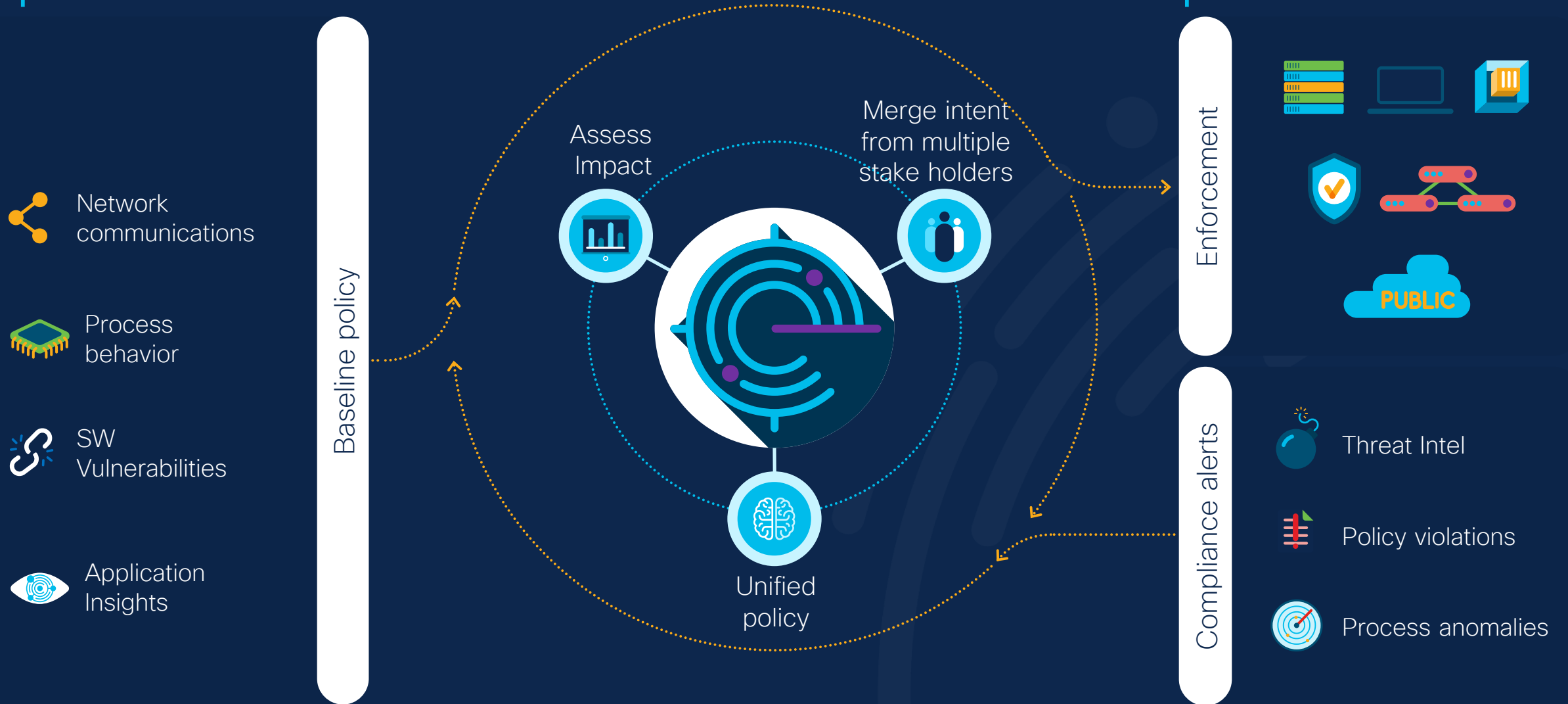
# How are these changes impacting the on-premise infrastructure & business requirements ?



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# How are these changes impacting the on-premise infrastructure & business requirements ?

IT-as-a-Service &  
DevOps

MultiCloud Migration

Application Experience

MultiCloud Governance

MultiCloud-based HA/DR

Application Segmentation

App/Workload Mgmt

MultiCloud Security

Application Performance  
& Infrastructure  
Optimization

Multicloud Networking

Business Impact and  
AIOps

Application First Security

Use cases need to be delivered across on-prem and Cloud Infrastructure

# Application's Impact to Businesses....



Every **100ms** delay  
costs **1%** of sales

**48%** of all downtime  
incidents cost **\$100,000+**



**22%** of all data breach  
incidents cost **\$500,000+**

Can you estimate the total cost of a downtime incident (from outage to full recovery) for your organization, including direct, opportunity and reputation costs? (n=271) Source: Uptime Institute Research, 2018

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# Aligning to You and Your Business



We help to Reimagine  
your applications



We help to Secure  
your data



We help to Transform  
your infrastructure



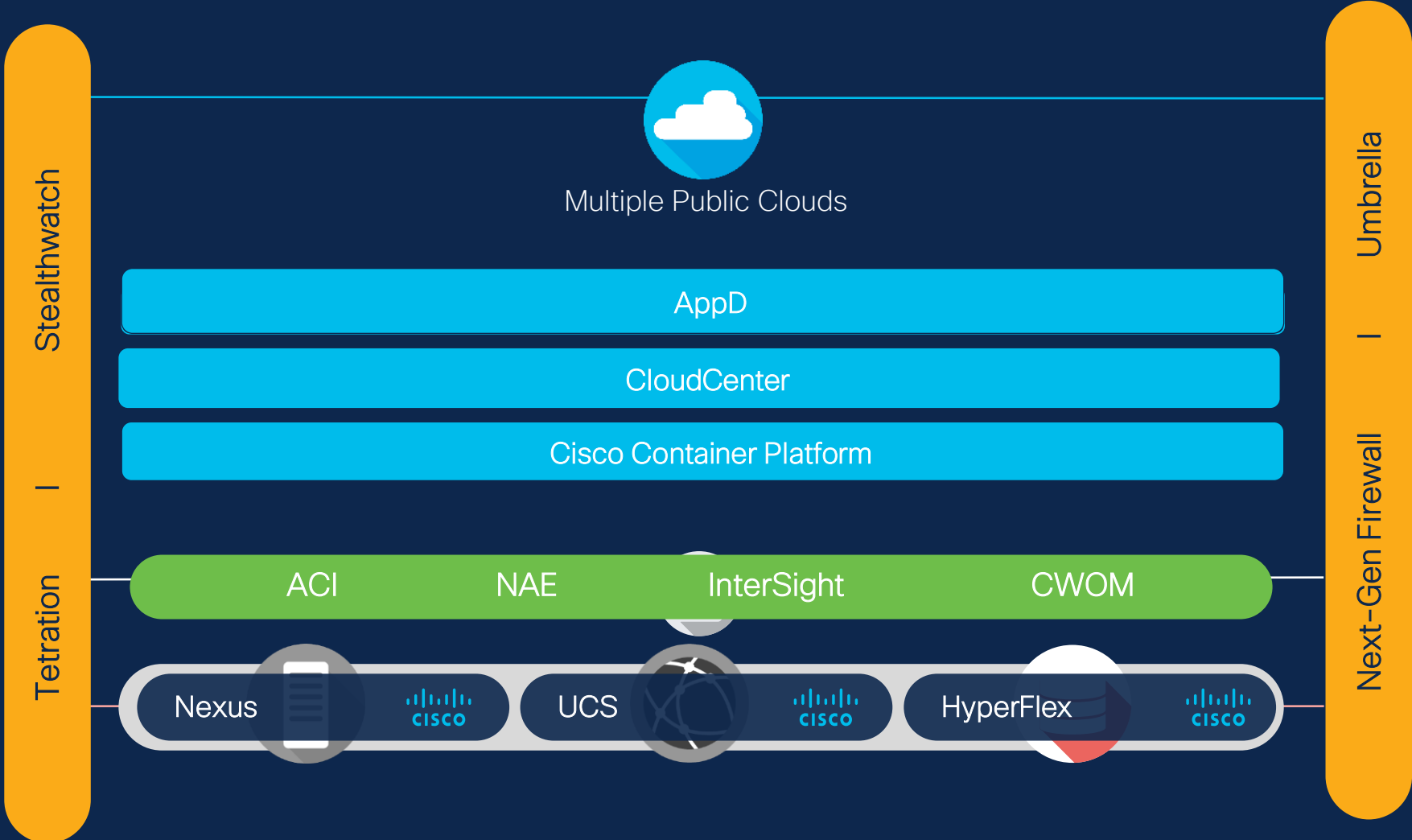
We help to Empower  
your teams



Cisco HyperFlex™ Systems with Intel® Xeon® Platinum processors

# Cisco Data Center Architecture Stack

- Security
- Multicloud
- Automation





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**Data Center Innovation**