

# ITOps in a DevOps World

How to Utilize Intersight, Kubernetes, and Terraform to Converge the Worlds!

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## Agenda

- Introduction
- What is Intersight
- What is IKS
- RBAC
- ITOps/DevOps
- Conclusion



# Introduction



The COVID-19 pandemic forced organizations to quickly focus on three priorities:

preserve cash and optimize IT costs, support and secure a remote workforce, and ensure resiliency," said Mr. Nag. "Investing in cloud became a convenient means to address all three of these needs."

In fact, recent Gartner survey data indicates that almost 70% of organizations using cloud services today plan to increase their cloud spending in the wake of the disruption caused by COVID-19.

November 17, 2020 - Forecasts Worldwide Public Cloud

- Gartner Research



## How has Covid Changed the ecosystem?

- More services consumed like
  - Kubernetes
  - Storage
  - Virtualization

- Need for more remote work
- Need for distributed computing



What is Intersight?



## Cisco Intersight: Connect and Use the Data





### Cisco Maintained SaaS: Not "Another Tool"

#### Cisco UCS® capabilities today

- Infrastructure-as-a-service and orchestration
- Third-party integrations: infrastructure and toolchains
- Global resource pooling and policy management
- > Policy-based automation
- > Unified element management





#### **Traditional delivery model**

On-premises software and hardware-embedded tools



#### SaaS model

Cisco-hosted cloud Customer-hosted connected appliance Partner-hosted cloud



#### SaaS-consumption model

Frees customers from care and feeding of management tools and eliminates upgrade dependencies



#### Seamless extensibility

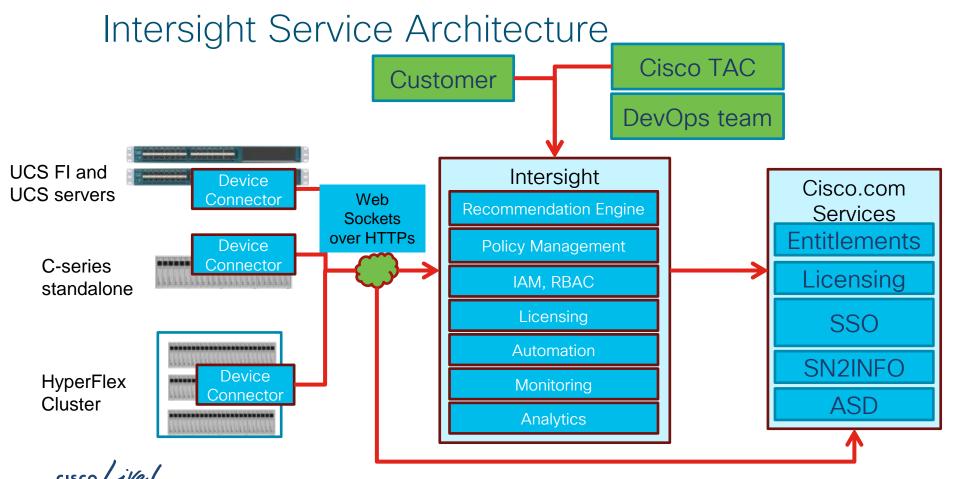
Simplifies management across technologies and geography



## Continuous feature integration

Rapid development, delivery, and customer feedback





What is IKS?



### IKS

- Intersight Managed Kubernetes Service
- Fully Upstream Compatible Kubernetes
- Control Plane in the cloud
- Add-ons
- Integration with DevOps platforms



## Cloud Native Operations: Kubernetes is the Bridge





### Write Once Deploy Anywhere

Agility, Flexibility & Speed of Cloud

CI/CD, DevOps tools with Managed Services

Choice of Open-source with Upstream Kubernetes

Infra-As-A-Code.

JIT compute/storage/networking

Always-On resources to ensure best Application experience

Data access for Machine Learning
Training & Inferencing









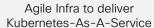
DC

**ROBO** 

CoLo

IoT

# Delivery challenges...





Manage Kubernetes clusters operating Anywhere Developer needs

Ensure & Maintain Interop, Compliance of Upstream K8s with Add-Ons

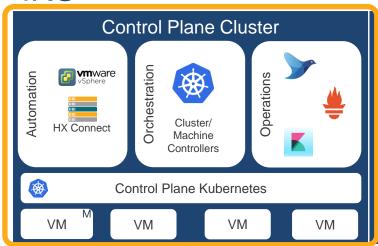
Cloud Provider for compute, storage, networking resources on-demand

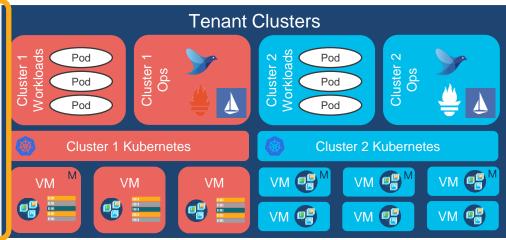
Full-Stack High Availability, Resiliency & Monitoring

Secured Integration of Data Pipelines with various Data sources



## IKS





Storage (HXDP / Local / External)

Hypervisor (VMware)

Compute Hardware (UCS / HX)

### Networking (FI / ACI / Nexus 9K)











Hyperflex





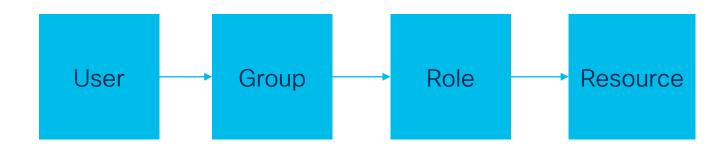
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# **RBAC**



### What is RBAC

In computer systems security, **role-based access control** (**RBAC**)<sup>[1][2]</sup> or **role-based security**<sup>[3]</sup> is an approach to restricting system access to authorized users. It is used by the majority of enterprises with more than 500 employees,<sup>[4]</sup> and can implement <u>mandatory access control</u> (MAC) or <u>discretionary access control</u> (DAC).





## What is RBAC (Part 2)

Role-based access control (RBAC) is a policy-neutral access-control mechanism defined around roles and privileges. The components of RBAC such as role-permissions, user-role and role-role relationships make it simple to perform user assignments.



ITOps/Devops



**ITOps** DevOps Management Needs Management Needs Configure, Servers Coding Analyze, Networking Gui/Cli API/Orchestrator Deploy Workloads CI/CD & Troubleshoot Virtualization Infrastructure RBAC to Kubernetes Clusters and/or Workloads RBAC to Manage Infrastructure

# Demo

### More Info:

- IKS: <a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/intersight/at-a-glance-c45-744332.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/intersight/at-a-glance-c45-744332.html</a>
- Intersight: <u>www.cisco.com/go/intersight</u>





# Thank you



