The bridge to possible

Cisco Hybrid Cloud building blocks

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with the speaker after the session

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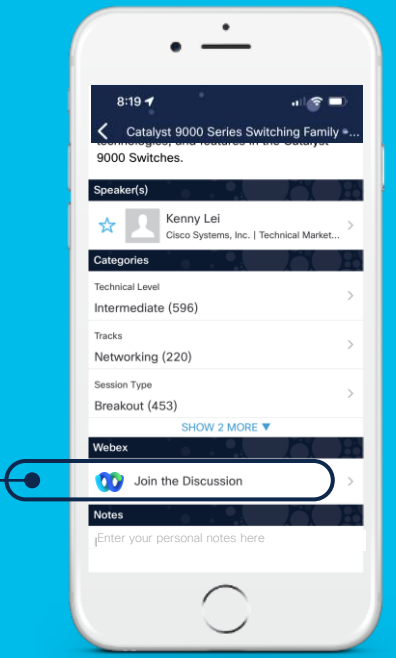
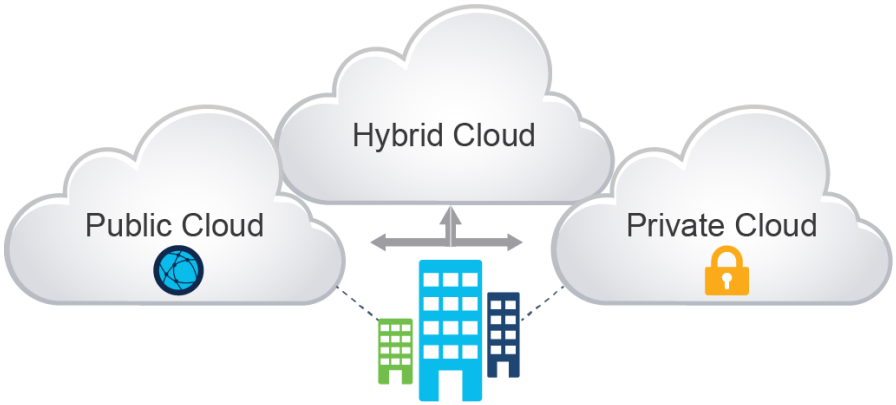


Agenda

- Introduction
- Hybrid Cloud Definition
- Cloud Computing Building Blocks
- Cloud Deployment & Service Models
- Hybrid Cloud Building Block
- Demo

What Is Hybrid Cloud

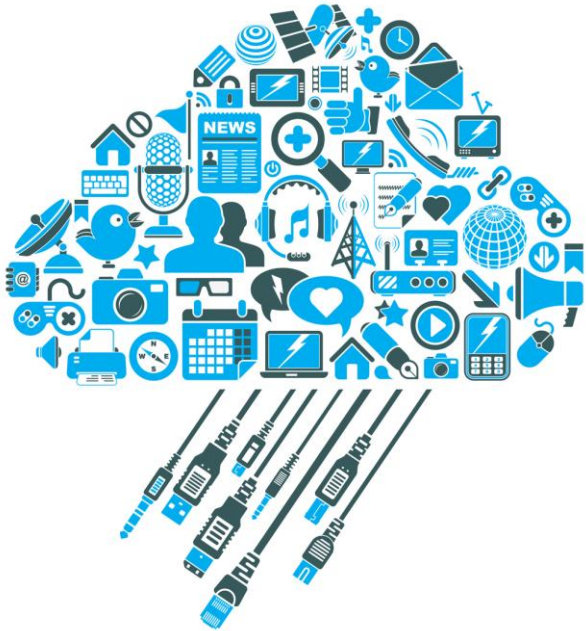
- Infrastructure combinations of two or more clouds
  - On-premises private cloud
  - Hosted private cloud
  - Public Cloud
- Centrally managed to enable interoperability for various use cases

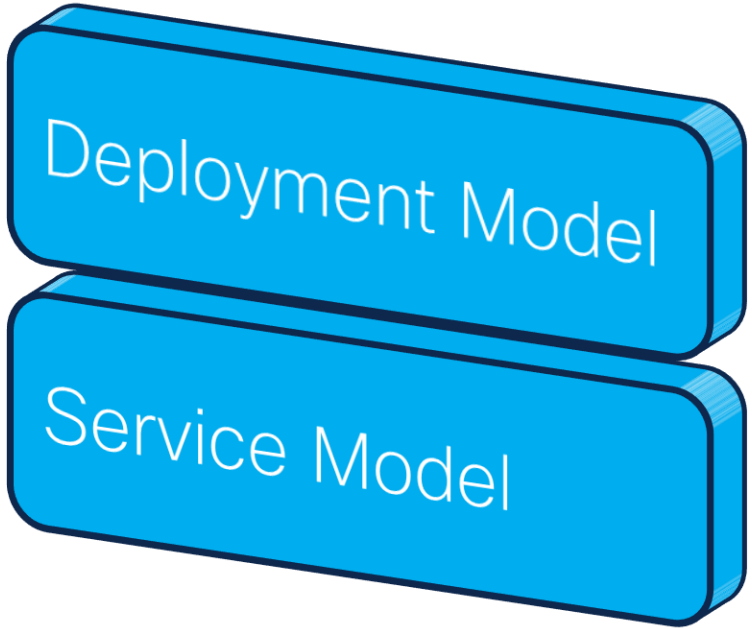


Cloud Computing - Components

- Bare Metal Servers
- Virtual Machine
- Containers
- Kubernetes

Cloud Computing - Models

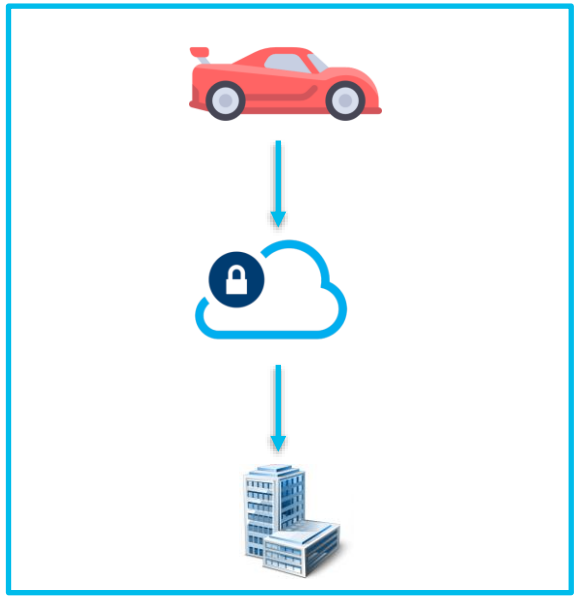




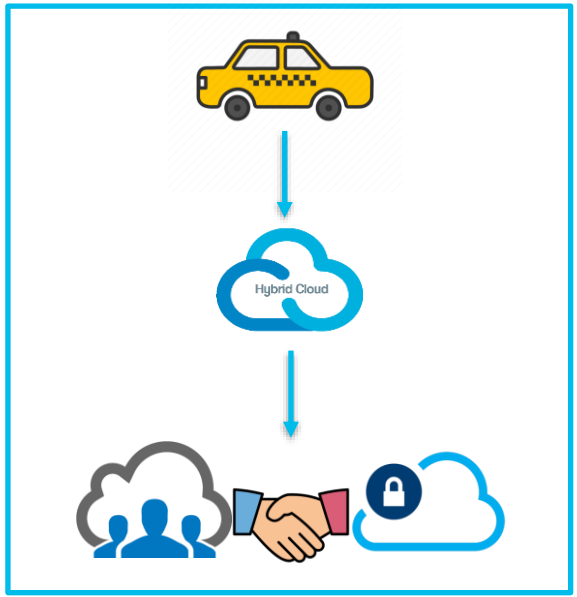
Cloud Deployment Models

Public Cloud

Private Cloud

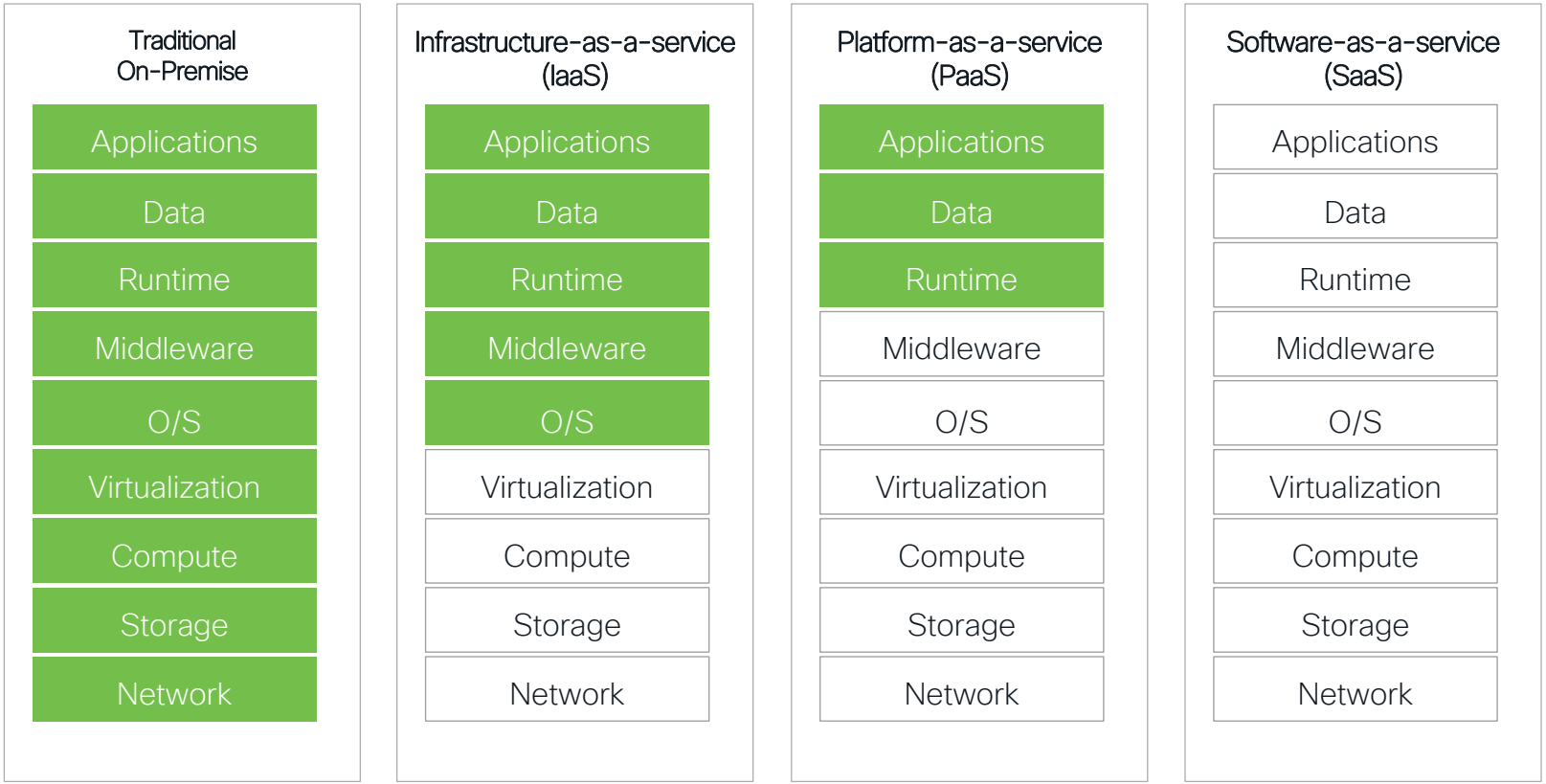


Hybrid Cloud



Cloud Service Models

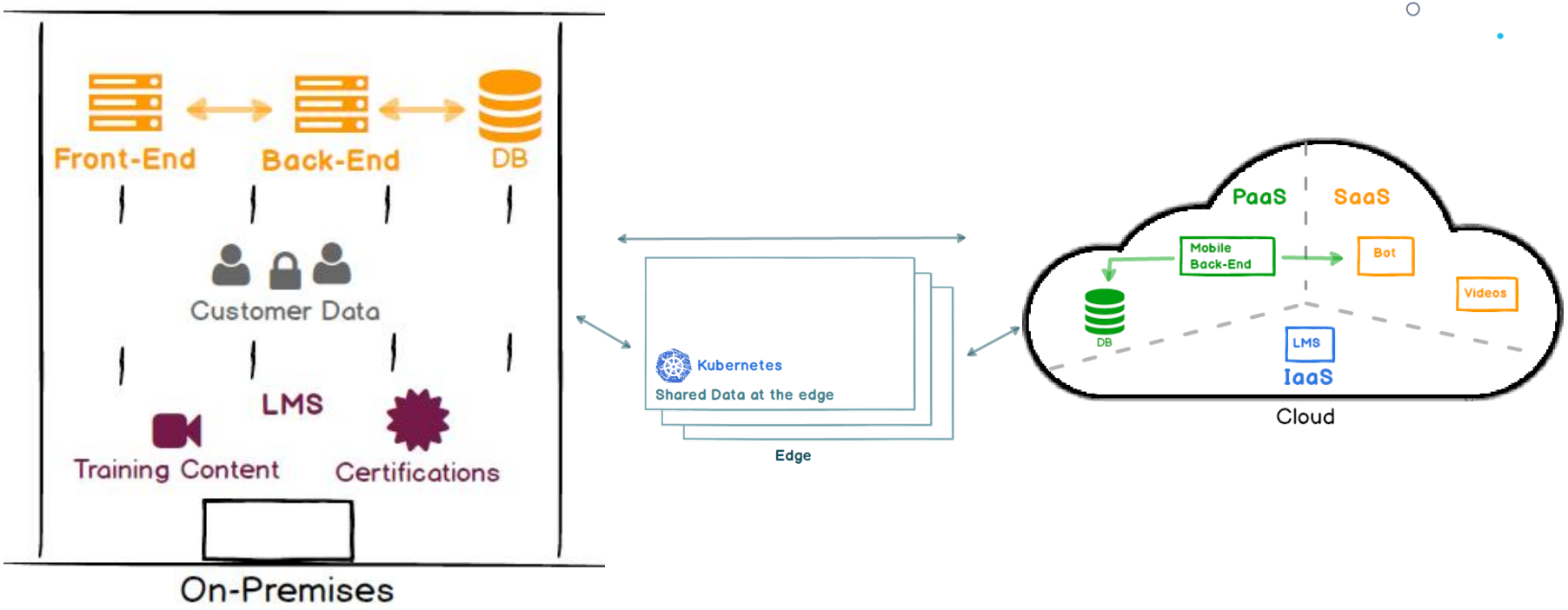
Customer | Service Provider



Hybrid Cloud Scenario

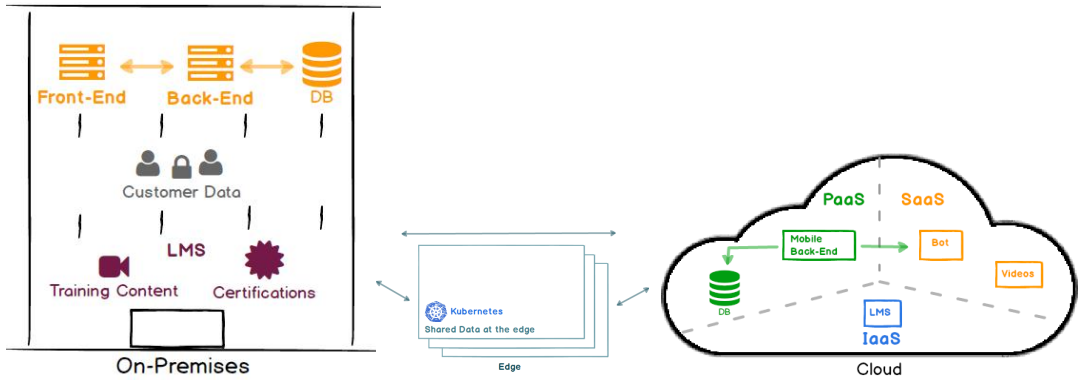
Hybrid Cloud Scenario

Snack Minute Inc.



Hybrid Cloud Scenario - Challenges

- Increased complexity
- Portability of Assets
- Security



Hybrid Cloud Scenario - Solution

Standardized Solution across the board

Infrastructure:

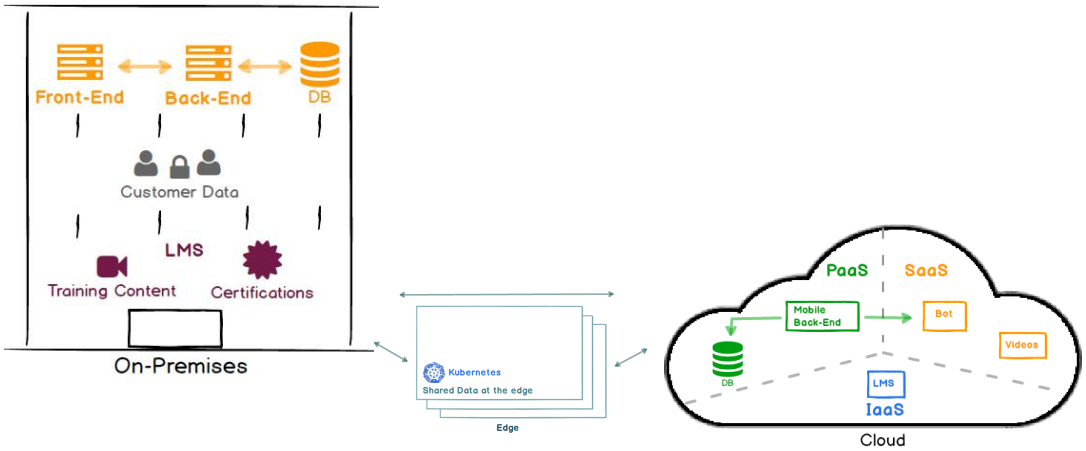
- On-Prem/Cloud

Foundation:

- OS(Linux) Container
- Platform(K8s,iKS)

Solution:

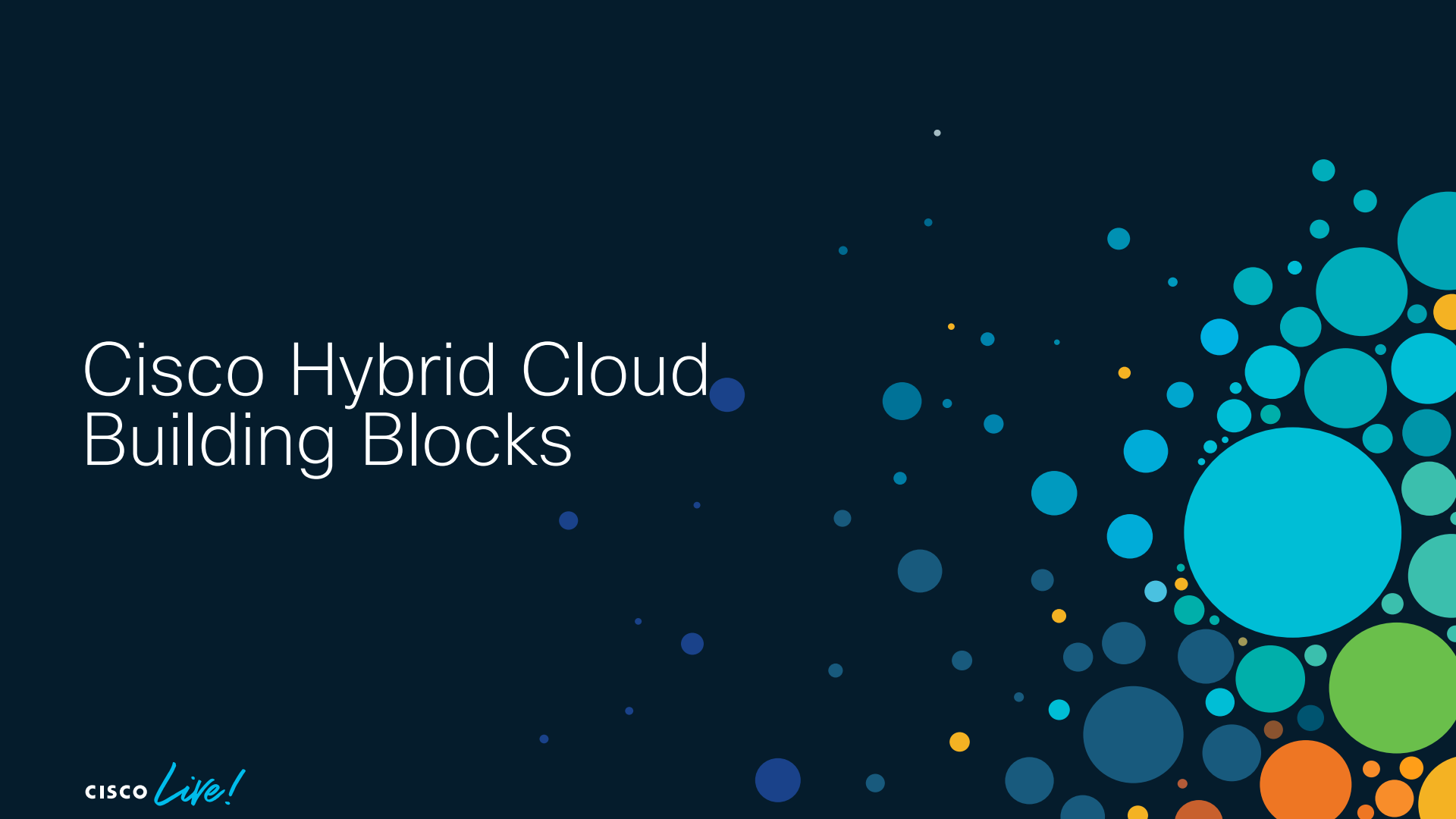
- Apps
- Data
- Security



Hybrid Cloud Benefits

- With your infrastructure being distributed you want to be able to have consistence
- Intelligent application resource management
- Multiple-element , low-code-orchestration
- Simplified Kubernetes and VM management
- On-premise compute
- Consistent deployment

Cisco Hybrid Cloud Building Blocks



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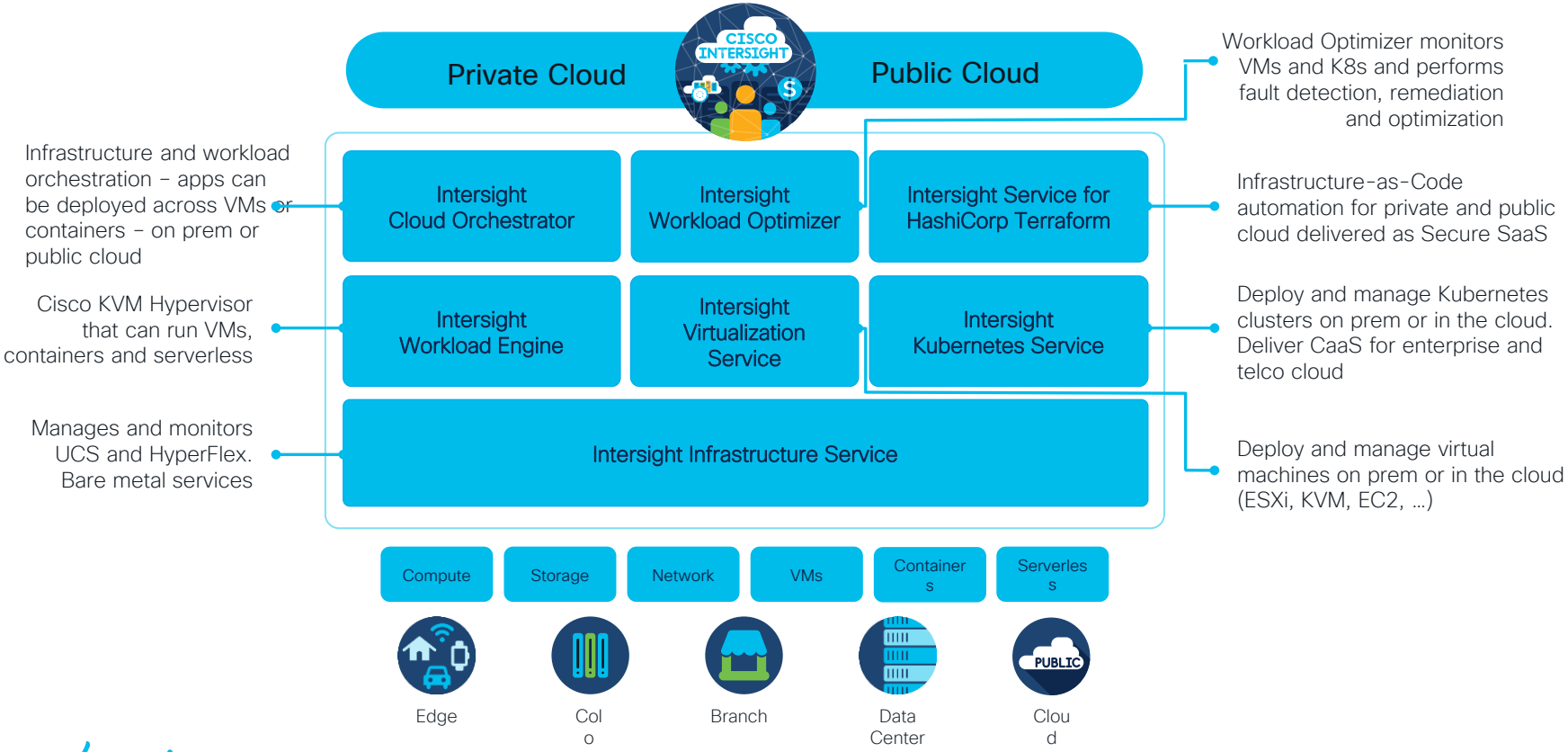
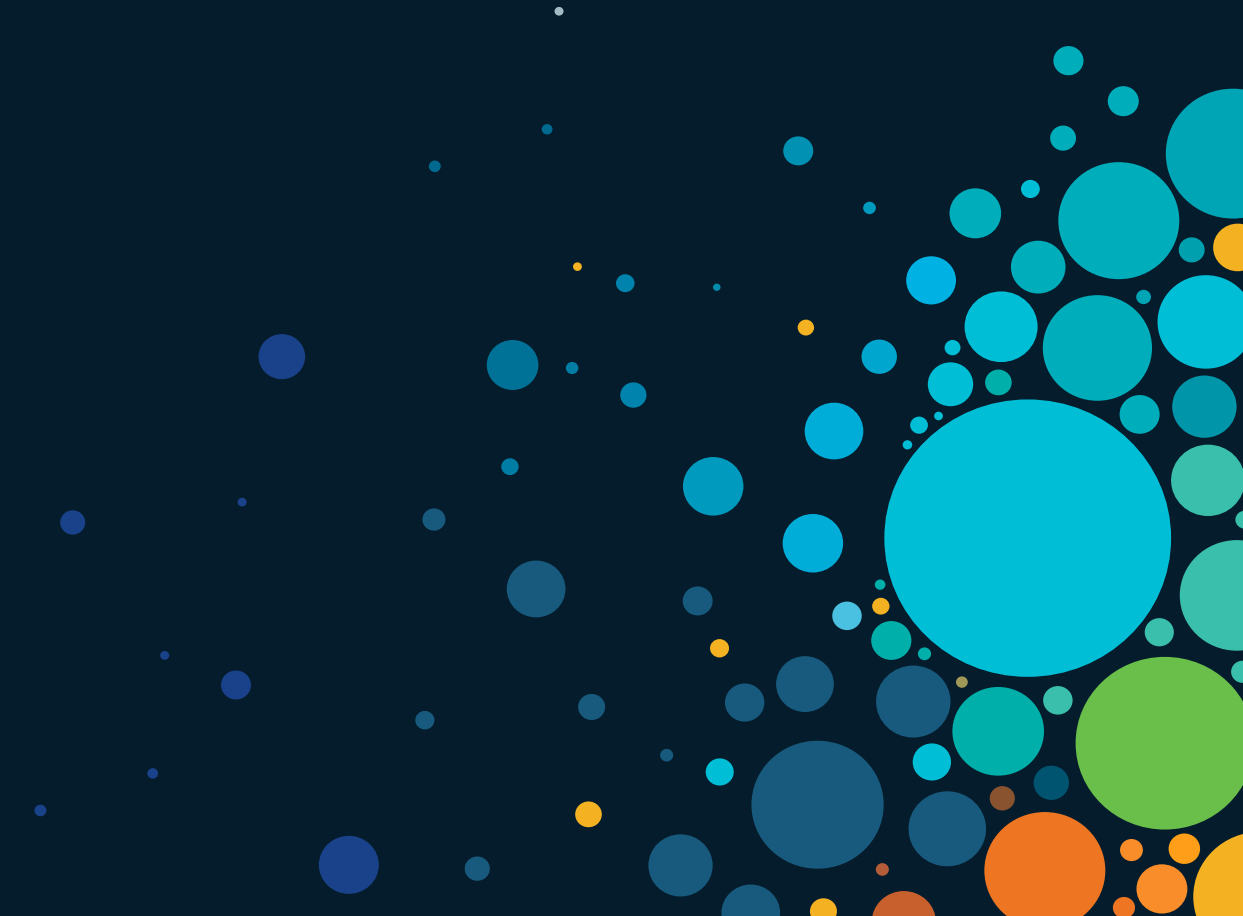
Intersight Hybrid Cloud Platform

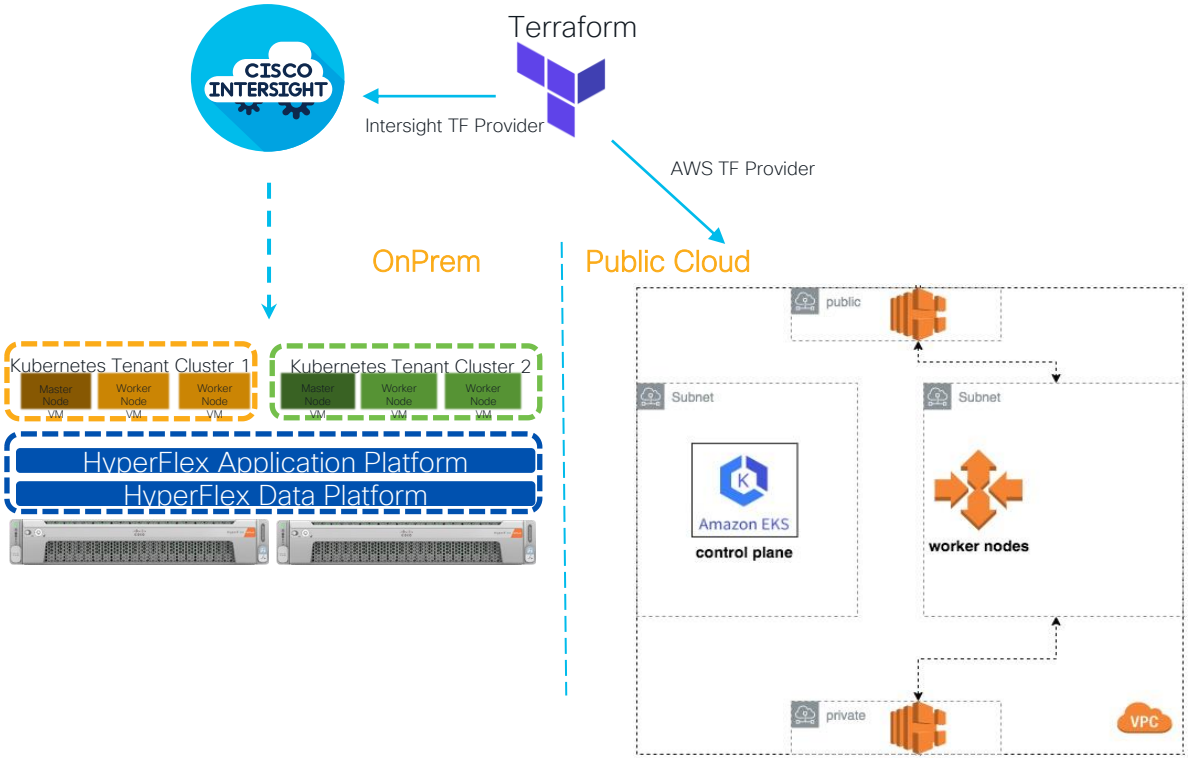


Use Case



Use Case -

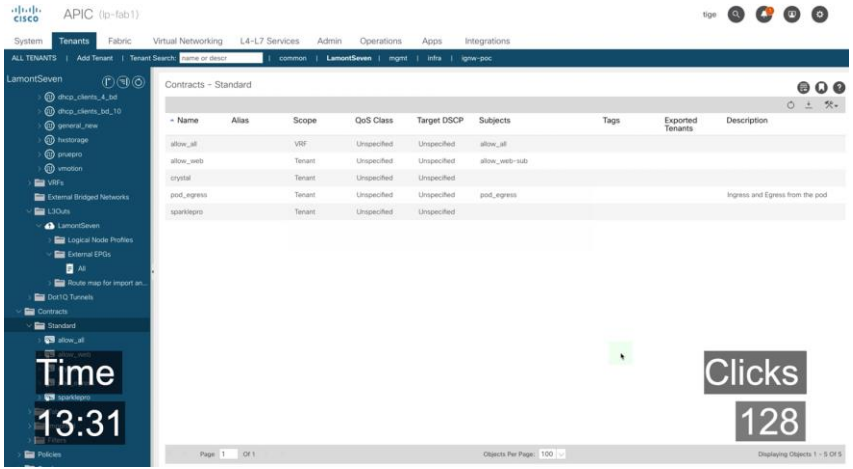
Build, deploy and operate a consistent Kubernetes platform across Multi-Cloud



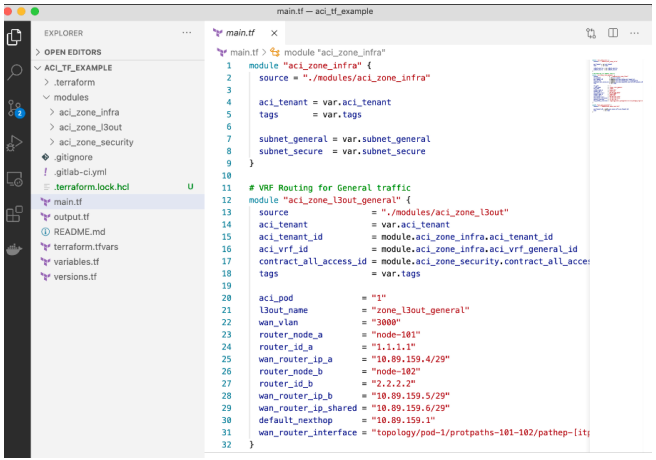
Infra-as-Code (IaC)

What is Infrastructure-as-Code?

Instead of all those CLI commands or GUI clicks to instantiate and configure infrastructure, what if you could describe the infrastructure *declaratively*?



Setting up an ACI Application Profile, an EPG, a Bridge Domain, a Subnet, a VMM Domain Association, and some Contracts

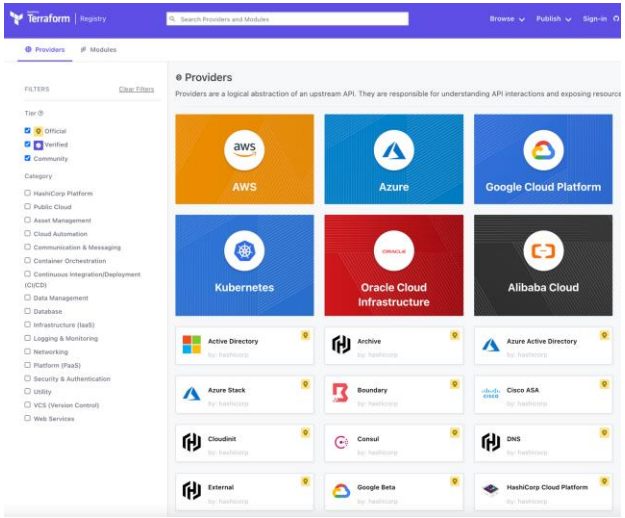


The same set up with 519 lines of Terraform configuration

Declarative description of infrastructure = Infrastructure-as-Code

Introducing Terraform

- Terraform is a popular open-source Infrastructure-as-Code tool.
  - Primarily maintained by HashiCorp
  - Debuted in 2014
  - Uses a custom language called HashiCorp Configuration Language (HCL)
- Manages resources using a pluggable component called a provider.
  - Providers are available for a wide variety of clouds and infrastructure vendors.
  - HashiCorp maintains a public provider registry for easy discovery and reuse of providers.



The public Terraform Registry

Core Terraform Commands and Workflow

- By convention a Terraform configuration is comprised of three files:
  - **variables.tf** – Declares variables used to parameterize the configuration.
  - **main.tf** – Describes the infrastructure to be provisioned declaratively, making frequent references to a variety of providers.
  - **output.tf** – Declares output values that are displayed upon instantiation of the declared infrastructure and can then be referenced by other tooling.
- A typical command flow using the Terraform CLI
  - `terraform init` – Initializes the working directory containing the *.tf files, including the creation of a state file and download of any referenced providers.
  - `terraform plan` – Creates and displays an execution plan based on the infrastructure declared in the *.tf files.
  - `terraform apply` – Executes the plan based on the infrastructure declared in the *.tf files and updates state as pieces of the declaration are instantiated.
  - `terraform destroy` – Delete all of the infrastructure declared in the *.tf files and updates state accordingly.

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