Container Service Extension (CSE)

Integrated container capabilities help cloud providers address the changing application landscape, where 95% of new apps in 2020 are using containers and their growing customer base (30% CAGR) wants digital and application transformation.[1] Cloud native is the platform you need.

What is Container Service Extension (CSE)?

Container Service Extension (CSE) is a go-to plug-in for VMware Cloud Director (VCD) that helps users create and work with Kubernetes (K8s) clusters. CSE brings Kubernetes-as-a-Service (KaaS) to VCD by creating customized K8 templates that enables users to deploy and manage fully functional Cloud Director provisioned Tanzu Kubernetes clusters alongside Tanzu Kubernetes Grid Integrated (TKGI) clusters.

What opportunity does it address?

CSE helps partners build a developer-ready cloud to expand their business by:

- Delivering enterprise grade, standards-based, Kubernetes Cluster services for developers
- Targeting a growing base of developers and DevOps engineers, where 58% are now the primary decision makers for selecting cloud endpoints[1]
- Complementing existing VM-based cloud services allowing co-existence (79% of businesses building cloud native apps want to move workloads between environments without refactoring[2]

Most tenants are looking for solutions that are 'developer-ready cloud' to simplify the complexity of a cloud-native strategy—i.e., suitable for their development teams to easily use while focusing on app development and not infrastructure.

CSE helps partners offer this while also delivering a simple tenant consumption interface, standards-compliant Kubernetes, and a tiered service with choice of runtimes:

- Enterprise-grade VMware Tanzu Basic for vSphere*
- Upstream compatible CSE managed clusters
- Integrated container service TKGI (aka VMware PKS) managed clusters

Kubernetes is only one piece of the service stack. Cloud Providers can offer complementary services from curated catalogs, third-party vendors, or the VMware Cloud marketplace of services using the VMware App Launchpad (ALP) therefore offering a complete developer-ready cloud portfolio.

What functionality is provided in 3.1.1?

Users with VCD 10.3.1, along with CSE 3.1.1 can deploy fully supported and secured VMware Tanzu Kubernetes Grid (TKG) clusters by importing their desired TKG OVA on to their VCD UI.

CSE 3.1.1 automatically creates VCD AVI based load balancer to secure Layer 4 traffic.

Providers can create K8s services using the Container Storage Interface (CSI) driver to dynamically allocate VCD named independent disk-based Persistent Volumes (PVs) that enforces and honours the tenant's storage limits. The CSI driver will also help enable common scenarios with persistent volumes and stateful-sets using VMware Cloud Director Shareable Named Disks.

Providers can publish the UI to desired tenants to give them complete control to upgrade and share their K8s clusters.

What else is required?

To offer a modern Kubernetes container service, cloud providers need to deploy VMware Cloud Director 10.2 (or subscribe to Cloud Director service), upgrade to vSphere 7 or greater (not relevant in VMware Cloud on AWS). install VMware Tanzu Basic, or utilize the CSE plugin, and install NSX-T 3.0 or greater.

Tenants will also need visibility on performance, capacity and pricing. It is recommended that Cloud Providers use the latest vRealize Operations Tenant App (2.0 or later) to apply pricing policies and view usage of CSE created k8s clusters.

Find out more >

A Natural Partnership

1. Cloud Transformation & managed Services 2020 - 451 Research
2. Evans Data Cloud Development Survey 2017
3. RightScale 2019 State of the Cloud Report - Flexera

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