VMware Cloud Director service allows cloud providers to partition and organize VMware Cloud on AWS resources into resource pools, facilitating multi-tenant service delivery for organizations’ virtual data centers, users and networks. Cloud providers can then offer organizations, Virtual Data Center services in VMware Cloud on AWS sized appropriately to their needs. VMware Cloud Director service is available via the MSP program and managed by the Cloud Provider Hub.

This is a differentiator for cloud providers to right size VMware Cloud on AWS for mid market and SMB segments. Typically these segments of customers don’t warrant an entire VMware Cloud on AWS Software Defined Data Center (SDDC) or fixed terms.

Doesn’t vSphere already do this?

Yes, vSphere can resource pools, but Cloud Director service provides securely isolated multi-tenanted self-service and additional / extensible services like networking and security without impacting other customers.

How does it work?

VMware Cloud on AWS vSphere infrastructure provides the foundation for Cloud Director service architecture, providing a consumable set of resources into a Cloud Director Provider Virtual Data Center (pVDC). These are directly mapped to vSphere clusters or to resource pools within a vSphere cluster.

As the diagram below shows, each customer Organization Virtual Data Center (Org VDC) uses resources from a provider VDC. The pVDC associates the Org VDC and vSphere resources. To control how much an Org VDC can consume, an allocation model is applied to the Org VDC restricting the vSphere resources, helping balance the needs of other Org VDCs sharing the same pVDC.
Fundamentally, cloud providers can partition resources to different organizations based on resource pools as the basic construct of boundary. This allows different classes of service to be associated to performance, availability and cost characteristics (derived from allocation models) to be sold to your customers and differing SLAs used to guarantee service.

What are the allocation models I can use in Cloud Director service?

There are 4 types of allocation models you can use in Cloud Director service (exactly like Cloud Director on-premise):

1. **Pay as you go** – provides a no up-front resource allocation in the Org VDC. Resources are committed as users power up VM/vApp in an Org VDC. Resources are committed at the VM level in terms of percentage vCPU and vGB RAM - a provider can use these commitments to specify an SLA.

2. **Allocation Pool** – each organization’s VDC gets an allocated pool of resources and only a percentage of resources are committed or reserved to the Org VDC. The provider can construct an SLA and pricing around the volume of reserved resources.

3. **Reservation Pool** – the organization is committed to 100% of the resources, whether needed or not – there is no sharing of resources with other Org VDCs. This ensures resources are available when needed and tenants can adjust their own reservations and limits per VM.

4. **Flex** – simplifies and provides the best of allocation pools and Pay-Go models, by controlling CPU and RAM consumption, both at the Org VDC and individual VM levels, through sizing policies, not to be confused with VMware Cloud on AWS Compute policies. The provider VDC (pVDC), can define VM to host affinity for tenant workload placement and define Org VDC compute policies to control the compute characteristics of VMs.

What sort of services could I offer?

The future opportunity for services, extends far beyond the base IAAS service, however in initial availability, Cloud Director service is not deployed with the RabbitMQ component, meaning any extensibility that has workflow will not work, such as DRaaS with Cloud Availability, Object Storage, Container Service Extension, etc. The solutions will be fully managed or self-service IAAS based and revolve around the type of allocation models you offer. In addition, catalogs can be used to support cloud provider and customer images. Networking services such as Edge firewall and NAT will also be available for customers’ Virtual Data Center services.
VMware Cloud Director service is a software-as-a-service application, providing multi-tenancy support for VMware Cloud on AWS in initial release.

VMware Cloud Director service is a SaaS solution deployed outside of VMware Cloud on AWS and connects to the managed gateway via VPN to apply tenancy isolation and resource pooling over the existing Software Defined Data Center fabric.

VMware Cloud Director service is backed by NSX-T so that it can connect and manage seamlessly into VMware Cloud on AWS Software Defined Data Center instances.

**KEY HIGHLIGHTS**

- Provides multi-tenancy to VMware Cloud on AWS SDDC allowing for self-service VM creation and resource pooling of SDDC resources over multiple tenants
- White labelled interface to represent the customer or cloud provider business with their branding
- Monetize Pay-as-you-Go on demand virtual servers, Allocation or Reservation Pool Virtual Data Centers depending on customer tier
- Quickly provision and scale high availability instances for tenants to achieve 99.9% uptime of VMware Cloud Director service
- Provides network isolation for each tenant with Firewall, NAT and Public IP services
- Common operational model for providers and tenants in self-service VMware Cloud Director experience
- Automatic upgrade for new features and release with no downtime impacts. Published on status.vmware-services.io and can be subscribed to.
- Inclusive monitoring of VMware Cloud Director instances and VMware Cloud on AWS SDDC with VMware service support and escalation
- Vary your SLA from 99.9% (single availability zone) to 99.99% with SDDC cluster stretched across more than one availability zone

**How do I migrate customers to Cloud Director service?**

Cloud Director service does not restrict you from running any of the native VMware Cloud capabilities, such as HCX for example. However, in the initial release, these will operate outside of the Cloud Director service scope. To onboard customers, cloud providers can use HCX and then import VMs into Cloud Director service.

**Business Results and Benefits**

This will depend totally on your use case. Many providers look at Cloud Director service to get their customers onto a full VMware Cloud on AWS stack, but offering the service to them in smaller start up chunks to up sell at a later stage. Equally, many providers are interested in taking on lots of smaller clients and providing the same solutions they provide today, by just using VMware Cloud on AWS as an endpoint.

Perhaps providers over the years, have become tied up in processes, particularly in the data center. These processes often impact service delivery and the agility of the organization to deliver new services to their customers.

In this respect, VMware Cloud on AWS and Cloud Director service offer agility and the ability to innovate, providing more intangible (rather than raw dollar comparison) benefits back to the provider and the customers. Agility and differentiation are key attributes for cloud provider’s growth; being able to respond to customer demand and spin up new hosts in 1-hour vs weeks and months in the data center. Let VMware do the hard lifting!

**USE CASES**

**Asset-Light Geo Expansion:** Cloud providers are looking for a way to expand their customer reach and offer managed services on VMware powered hyper-scale clouds like VMware Cloud on AWS, in an asset-light manner. However, even with the smallest configurations on VMware Cloud on AWS, the host building block is still too large for the needs of their wide target customer base of mid-market enterprises. Therefore, cloud providers are unable to fully achieve the economies of scale that are needed to expand globally with VMware Cloud on AWS. Cloud Director service enables cloud providers to add new lines of business, new customer segments and expand to new geographies quicker.

**Multi-Tenancy on VMware Cloud on AWS:** VMware Cloud Director service introduces multi-tenancy to VMware Cloud on AWS, allowing MSPs to offer custom-sized, tenant based VMware Cloud on AWS resources to better align with the needs of small to mid-size enterprises, by sharing the costs of VMware Cloud on AWS instances across multiple tenants. This allows customers of all sizes to enjoy agile cloud expansion with consistent operations.

**Data Center Extension:** VMware Cloud Director service also eases the burden of expansion, doing away with the need to purchase hardware, rent datacenter capacity and meet local compliance and governance requirements. It opens up an all new market for providers—without requiring any capital investment or data center expansion, allowing provisioning and consumption of virtual data center tenant based VMware Cloud resources and cloud expansion with consistent operations. The asset-light, pay-as-you-go model is delivered as-a-service with out-of-the-box integration.
Looking Ahead

In Initial Availability, there will be limited capability introduced into Cloud Director service. As the product evolves, VMware will provide as much feature parity to Cloud Director on premise capability as possible, including, but not limited to use cases such as (but not limited to):

- **Cloud Disaster Recovery and Migration**: Deliver vSphere based DRaaS and migration services for your end customers. Protecting from VMware Cloud on AWS to a remote site and visa versa. Also offer self service DRaaS and migration using cold and warm migration capabilities into VMware Cloud on AWS.

- **App Services**: Ability to deliver a curated catalog of applications to tenants and 1-click app deployment. No knowledge of the underlying infrastructure is required to provision and access apps. It will offer a developer-ready platform, backed by enterprise-grade K8s, infrastructure as code, and NSX-T multi-cloud fabric to build apps anywhere.

- **S3 Object Storage**: Will offer cloud provider tenants the ability to deploy, manage, and consume S3-compatible storage within their Cloud Director environment, using a Cloudian virtual appliance, integrated with the Cloud Director UI. This can also be linked to Amazon S3 to provide differing buckets of storage tiers for different customer needs.

- **Dell Data Protection**: Backup will be available, as well as support for many other vendors.
HOW DO CLOUD PROVIDERS BENEFIT? | HOW DO END CUSTOMERS BENEFIT?
--- | ---
**Expansion:** Cloud Providers can leverage a new VMware Cloud on AWS Software Defined Data Center in multi-tenant modality, providing right sized customer resources, enabling agile cloud expansion with consistent operations. Cloud providers can quickly add new customer segments and gain better economies of scale in an asset-light, pay-as-you-grow model | **Expansion:** Customers can rapidly expand their cloud footprint to new geographies and lines of businesses while reducing capex costs and enjoying a faster time to market

**Agility:** Cloud providers maintain control of their customers’ contracted support and lifecycle, whilst VMware components are managed by VMware | **Agility:** VMware Cloud Director service significantly reduces the operational overhead from the ongoing maintenance of a siloed multi-cloud environment. With automated workflows, rapidly delivered updates and limited interoperability needs, it drives increased business agility

**Fragmented Offerings:** Cloud providers and their customers do not need to re-skill and re-tool when providing services on VMware Cloud on AWS. This not only reduces operational overheads, but also helps cloud providers deliver a consistent experience to their customers, regardless of the underlying infrastructure | **Simplified User Experience:** End customers can now get a consistent, customized, simplified, self-service cloud user experience, irrespective of whether they are familiar with VMware technologies or not, and irrespective of whether the underlying resources are from the provider data centers, or from VMware Cloud on AWS

**Adaptability:** VMware Cloud Director service offers mixed-asset infrastructure management | **Unified Management:** Reduces operational overheads, and delivers a consistent experience to customers

**Subscription Based Model:** Service providers can consume services on a subscription-based model via the MSP program and delivered by the Cloud Provider Hub | **Right Sized Solutions:** Now that cloud providers can offer Virtual Data Center service of all sizes, benefits of subscription to the service can be passed onto customers.

**Flexible Resource Pool:** Cloud providers are now able to provide flexible resource pools on asset light VMware Cloud on AWS infrastructure in multiple global regions/availability zones | **Predictable Cost:** Service providers can offer an allocation pool to each org VDC where only a percentage of resources allocated are committed. This makes a predictable cost model for customers and lowers risk of a VM not being able to start due to resource constraints

**Continuity:** Service providers can quickly provision and scale high availability instances for tenants to achieve 99.9% uptime of VMware Cloud Director service | **Continuity and Security:** Tenants receive network isolation with Firewall, NAT and Public IP services as well as automatic upgrades of new features and releases with no downtime
“ITOCHU Techno-Solutions Corporation is the biggest reseller/solution provider of VMware in APJ and has been engaged in all aspects of the VMware Cloud Provider program’s asset-light and asset-heavy solutions. As many Providers know, running data centers is a costly business and ITOCHU Techno-Solutions Corporation wishes to complement their business over time with more VMware cloud-based solutions for their customers.”

SATOSHI KAWADA
General Manager, Cloud Services Development Department

ITOCHU Techno-Solutions Corporation

MSP Platform

The Managed Service Provider (MSP) route to market gives partners the option to use VMware software-as-a-service offerings without investment in their own data center infrastructure, delivering managed services on top. Cloud Director service will be offered to our MSPs through our centralized service provisioning portal, the VMware Cloud Provider Hub which helps cloud providers transact, deploy and provision SaaS offerings from a single pane of glass.

The following use cases are applicable for Cloud Director service on Cloud Provider Hub:

• Provider is an MSP for VMware Cloud on AWS
• Provider is an MSP for Cloud Director service

How to Get Started

Below is an overview of the VMware Cloud Provider’s Managed Service Provider (MSP) lifecycle:

• Commit Contract: Partner signs a VMware Cloud Director service Managed Service Provider commit contract with a VMware Aggregator. Partner then commits to VMware an MSRP (list price) spend to obtain a volume discount for their purchases.

• Cloud Provider builds Pipeline: Partner initiates go to market activities and starts building their business for Managed Services.

• Deliver Managed Services and Own the Terms of Service: Once the opportunity has been identified, partners can order Cloud Director service from VMware and provide Managed Services as part of the offering to their customers. Partners must provide their own terms of service and managed services as part of the offering to the end customer. At a minimum, this must include technical support for the service and all functions associated with service configuration, add-ons, renewals and anything pertaining to billing.

• On-Board and Provide Support to their Customers: Partner will on-board Cloud Director services for their customers. Subsequently, they may obtain technical support from VMware as needed, with the following provisions. In turn, partners are responsible for all customer support, which may include but may not be limited to customer communication, any managed services, answering installation, configuration and usage questions.

• Complete Monthly End Customer Reports and Pay Invoices: Every month, the partner will log into the Commerce Portal and review the prior month’s usage. Partner will review the report and submit it to their Aggregator. Following that, the Aggregator will send the Partner an invoice for the month.

RESOURCES

• Cloud Director service:
  o Webpage
• Managed Service Provider (MSP):
  o Webpage
• Cloud Provider Hub:
  o Webpage

FOR MORE INFORMATION ON CLOUD COMPUTING AND VMWARE VCLOUD POWERED SERVICES, PLEASE VISIT THE BELOW PAGE OR CONTACT YOUR VMWARE REPRESENTATIVE.

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