



Cloud Provider Program

Q1 CY2022





CLOUD PROVIDER PROGRAM

Q1 CY2022

Product Usage Guide is effective for program product usage as of January 1, 2022. This Cloud Provider Program Product Usage Guide replaces all previous VCPP Product Usage Guides or vCloud Air Network Product Usage Guides. The information provided in this Product Usage Guide applies to all of the program products and bundles that are available in the VMware Cloud Provider Program (the “Products”) as listed below in the VMware Cloud Provider Program Pricing Model, and may be updated by VMware at any time. To have access to these Products, a Service Provider must have a valid rental agreement with a VMware Aggregator as of or after July 1, 2019 for the applicable reporting and purchase of VMware Cloud Provider Program.

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What's New CY2022 Q1

The following products have been updated or added to the VMware Cloud Provider Program:

1. [VMware Cloud Director Availability](#)
2. [VMware vRealize Operations](#)
3. [VMware NSX Advanced Load Balancer \(Avi Network Load Balancer\)](#)
4. [VMware Tanzu Standard](#)
5. [VMware Cloud Director Data Protection Solution](#)

The following products have been placed on "Special Terms" in the VMware Cloud Provider Program:

1. VMware vRealize True Visibility Suite Standard has reached End of Availability (EOA) as of November 4, 2021.
2. vCloud SP Bundles are replaced by the Flex Model and are no longer available as of July 31, 2021. The information has been removed in this Product Usage Guide update.
3. Usage Meter 3.6.X is now End-of-Life and no longer available. VMware recommends that Partners migrate to latest version - UM 4.4.
4. NSX for vSphere will reach End of Availability on January 16, 2022.
5. vSAN Enterprise Add-Ons has reached End-of-Availability as of October 29, 2021, and will reach End-of-Life on February 1, 2022.

You can find the most current information about VMware Cloud Provider Platform Products on VMware Cloud Solutions

VMware Cloud Solutions is dedicated to VMware Cloud Provider Platform solutions, products, and the latest information available to cloud providers and aggregators, driving the success of public and hybrid clouds. Visit VMware Cloud Solutions to find the most current information you need - technical whitepapers, VMware Cloud Architecture Toolkit, and customer case studies - in one location on an easy-to-use website. <https://cloudsolutions.vmware.com/>

Support Overview

Support coverage provided for VMware Cloud Provider Program products is listed in this guide for each product. Product Support renewal is automated without any required action by Service Providers or Aggregators. Production Support is automatically extended for any Service Provider with an effective VMware Cloud Provider Program Agreement (“VMware Cloud Provider Program Agreement”) that is not delinquent in monthly reporting or payment as of the VMware Cloud Provider Program agreement anniversary date. All support is governed by the VMware Support Policies set forth on

https://www.vmware.com/support/policies/policy_index.html

For further technical assistance, please contact VMware Global Support Services at:

<http://www.vmware.com/support/contacts>, or call the hotline at 1-877-4VMWARE(use Option 4 for Technical Support).

Product Lifecycle

VMware manages product availability in accordance with its Lifecycle Policies described at [Lifecycle Policies](#). Unless otherwise indicated in this guide, the VMware Cloud Provider Program products and services will follow VMware’s general Lifecycle Policies. For the VMware Cloud Provider Program, a product or service is considered on “Special Terms” when it has reached the End of Availability under the Lifecycle Policies. While a product or service is on Special Terms, Service Providers using the product or service prior to the End of Availability may continue to use (and report usage of) the product or service and request additional licenses, but usage by new Service Providers is not allowed. When a product or service has reached either the End of Support Life or the End of Technical Guidance, then all Service Providers must stop using the applicable product or service. For a complete list of the lifecycles for VMware products and services, please refer to:

<https://lifecycle.vmware.com/#/>

Sign up for VMware Security Advisories

VMware takes security seriously. VMware Security Advisories notify partners and customers of known security vulnerabilities in VMware products. To receive new and updated VMware security notifications, sign up for VMware Security Advisories at VMware Security Response Center.

<https://lists.vmware.com/mailman/listinfo/security-announce>

Translation

To the extent that this guide has been translated into any language besides English, the English version of the guide will prevail over any inconsistencies with a non-English version of the guide.

VMware Cloud Provider Program Reporting Requirements

The VMware vCloud Usage Meter must be used to monitor Flex Core as well as stand-alone products. Separate license keys must be identified by the Usage Meter in order to meter the Cloud Test Demonstration Environment. In order to report Flex Core, Service Providers must utilize the latest version of vCloud Usage Meter 4.4. Older vCloud Usage Meter versions must be upgraded to a supported version in order to have accurate metering and to avoid compliance issues.

Refer to Usage Meter's supported versions and End of General Support dates here:

<https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/support/product-lifecycle-matrix.pdf>

Refer to Usage Meter's metering interoperability here:

https://www.vmware.com/resources/compatibility/sim/interop_matrix.php#interop

Service Providers must report their monthly usage of products to VCPP Commerce Portal (<https://vcp.vmware.com>) using the following methods:

- Partners are required to deploy and use a supported version of Usage Meter as is required in the Program Guide and this Product Usage Guide. At the time of this update, the supported versions are Usage Meter 4.3 and Usage Meter 4.4.
- Since Usage Meter 4.X requires Usage Insight as part of the architecture, all partners are also required to use Usage Insight service.
- Partners who run isolated environments may deploy Usage Meter in Offline Mode to manually export the usage data and upload it from a machine that is connected to the internet. Offline mode does still require registering the Usage Meter appliance in Usage Insight and reports will still be generated by the Usage Insight service.
 - Offline Mode requires that partners manually export usage details and upload the unprocessed data file each month within 48 hours of the following month start.
 - Example: Usage for August 2021 must be uploaded by 11:59 PM UTC on September 2, 2021.
 - Partners that miss the 48 hours cutoff for upload will still need to upload their usage data, but must open a support ticket requesting reprocessing of the reports.
- Partners who do not run isolated environments can use the automatic upload functionality of Usage Meter 4.X to have their usage uploaded either directly or via Proxy.
- Partners must deploy one or more Usage Meter appliances per Contract. If a partner is utilizing site reporting in the Commerce Portal, they must deploy one or more Usage Meter appliances per site
- Partners that utilize vSphere for hosting and Horizon View for VDI workloads must deploy the workloads in separate vCenter Servers to accurately report usage through Usage Meter and/or manual reporting
- Cloud Providers must deploy Demo environments on separate vCenter Servers to accurately meter their Production Hosting environments and Demo usage based on allowance.
- Partners are required to meter all management components that oversees or touches production as well as customer workloads.
- A copy of monthly usage report may be sent to the Aggregator in accordance with the contract between the Aggregator and the Partner.

The total of these submissions will be used by the Aggregator to calculate the total point usage for the month. See the [Partner Connect Program Guide](https://sforce.co/2Z0Tfhk) (<https://sforce.co/2Z0Tfhk>) for information on the Cloud Test Demonstration Environment.

vCloud Usage Meter

For all products in this VMware Product Usage Guide, unless otherwise stated, monthly usage total consists of the total of all products used. The Service Provider Program Agreement requires Service Providers to retain certain records relating to usage. Those records include all data used for reporting, including but not limited to the Usage Meter data and reports, and manually reported points. All data is automatically archived for 3 years. When partners opt in to Usage Insight, it (Usage Insight) starts archiving the usage reports for their UMs (UM 3.6.1 and higher) as long as they are able to successfully send their usage to VMware. When reporting manually, save a screenshot of reported points in a folder. Each file should be labeled with the month reported and product name. When migrating to new versions of vCloud Usage Meter, make sure to backup data from previous versions.

Usage Meter 3.6.X is now End-of-Life and no longer available. VMware recommends that Partners migrate to latest version - UM 4.4.

Partners on UM 4.4 need to opt in for Usage insight service for reporting as it is essential for UM 4.4 to function. Partners can opt-in to Usage Insight by [following this video](https://www.youtube.com/watch?v=njT8XuVeW5s) (<https://www.youtube.com/watch?v=njT8XuVeW5s>). Partner can take advantage of those troubleshooting and config features by [signing up here](https://cloud.vmware.com/cloud-provider-metering/) (<https://cloud.vmware.com/cloud-provider-metering/>).

Note: Service Providers must be registered users of the MyVMware.com site to download vCloud Usage Meter.

This section is a summary of the required information for the vCloud Usage Meter. The complete documentation is available on Partner Central at the following locations:

1. [Usage Meter User Guide and Release Notes](#)
2. [Usage Insight User Guide](#)
3. [Usage Meter API Guide](#)
4. [Data Guidelines](#)
5. [Metering product detection whitepaper](#)

vCloud Usage Meter collects the following information:

1. Time at which data is collected
2. Host DNS name
3. Host RAM (physical memory)
4. vSphere license type
5. Virtual machine vCenter name (optional field for Service Providers)
6. Virtual machine host name (optional field for Service Providers)
7. vRAM (allocated virtual memory)
8. Billing vRAM (calculation based on metered virtual memory and memory cap per virtual machine)
9. Virtual machine CPU (count of virtual CPUs)
10. Virtual machine instance UUID (universal unique identifier)
11. Virtual machine location in vSphere inventory
12. Horizon Workspace disk usage
13. Used Storage Capacity for vSAN Deployments (GB)

For more information about the data collected by Usage Meter and for the Usage Meter Guidelines, please visit: <https://sforce.co/300pm5S>

By installing vCloud Usage Meter (version 3.6 or above), you acknowledge that you will automatically send data to VMware. This data 1) confirms your installation of vCloud Usage Meter Version 3.6 or above and 2) includes Monthly Usage, Customer Usage, VM History and anonymized metering event data. All data collected will only be used for the

purpose of improving usage meter support and automation of reporting the billing data available if the partner utilizes vCloud Usage Insight Service.

vCloud Usage Meter Billing vRAM Calculation

vCloud Usage Meter 3.6 (and higher versions) calculates billing RAM for the powered on VM by taking the greater value of:

1. Reserved RAM
2. $\frac{1}{2}$ of the allocated RAM

Billed RAM is billing RAM x Time in hours. The billed RAMs are summed, converted to GB and then divided by the number of hours in the month to give the Average Billed RAM (GB) that can be found on the Monthly Usage Report.

Once the value is taken from the two calculates above, all GB above 24 will be capped at 24GB

Example:

During a one 30-day calendar month, a Service Provider uses Flex Core to configure her virtual machine with 16 vGB for 15 days and 48 vGB for the remaining 15 days. The reservation level for the virtual machine is set at 75 percent for the entire month (if no reservation is set, use 0.5 instead).

- $15 \text{ days} \times 24 \text{ hours} \times 16 \text{ vGB} \times 0.75 = 4,320 \text{ vGB hours}$
- $15 \text{ days} \times 24 \text{ hours} \times 24 \text{ vGB} (48 \text{ vGB} \times 0.75 \text{ but capped at } 24 \text{ GB}) = 8,640 \text{ vGB hours}$
- Total vGB hours = 12,960 vGB hours
- $\text{Total points} = 12,960 \text{ vGB hours} \div 720 \text{ hours/month} \times 7 \text{ points (for Flex Core)} = 126 \text{ points}$

How Information is sent to Aggregators for Billing Purposes

Service Providers report to their Aggregators in the agreed to method between them and the Aggregator. Reports generated by the vCloud Usage Meter can be sent to Aggregators, if requested, but are not required to be sent as part of the Program Reporting requirements.

Note: All data is due to the Aggregator by the date specified in the Aggregator contract. Service Providers must adhere to reporting requirements that are designated in their Aggregator contract. Additionally, Service Providers must use the vCloud Usage Meter to generate their Monthly Usage Report for billing purposes and enter their monthly usage into the VCPP Commerce Portal.

Information that is Available in the Reports

The report includes customer name, vSphere license type, if the usage is billable, and the amount of billed vRAM—including memory cap per virtual machine—consumed for the month.

Service Providers also have the ability to filter reports as follows:

1. By customer:
 - a. Names: Filter based on a single customer, multiple customers, or all customers
 - b. Country: Filter based on a single country, multiple countries, or all countries
 - c. Postal Code: Filter based on a postal code, multiple postal codes, or all postal codes
2. By license set: Filter based on one or more user-defined license sets
3. By month/year: Filter based on a single month and year as well as the option to provide a range limited to month and year

How to Manage Customer Information

In order to prevent an excessive amount of manual data entry, the vCloud Usage Meter enables users to import and export customer lists. Users can also create, read, update, and delete customers and customer relationships to virtual machines with the vCloud Usage Meter.

vCloud Usage Meter is included, at no additional cost, in the Flex Model Core.

Customer Monthly Reports is a feature found on Usage Meter 3.6 and Usage Meter 4.4 and later. Usage Meter 4.0 through 4.3 did not have the Customer Monthly Reports feature.

Here is a comparison between Usage Meter 3.6 and Usage Meter 4.4 in terms of products metered.

Products	UM 3.6.1 with Hot Patch 5 Note: EoGS July 31, 2021	UM 4.4
VMware vCenter Server / vSphere	✓	✓
VMware Cloud Director	✓	✓
VMware Cloud Director Availability (vCAv)	✓	✓
VMware vRealize Operations	✓	✓
VMware NSX-V	✓	✓
VMware NSX-T		✓
VMware vRealize Network Insight (vRNI)		✓
VMware Horizon DaaS	✓	✓
VMware Cloud Foundation (Core Based Pricing)		✓
VMware vSAN	✓	✓
VMware Site Recovery Manager	✓	✓
VMware vRealize Automation	✓	✓
SDDC Manager		✓
VMware Tanzu Basic		✓

vCloud Usage Insight

vCloud Usage Insight is a SaaS based product used for automatically filling out monthly usage reports in the Commerce Portal. The service also provides data retention for monthly usage files for Usage Meter appliances that are registered. Partners can sign up and receive an invitation to onboard at <https://cloud.vmware.com/vcloud-usage-meter>

The Usage Insight service, used for Automatic Reporting of Cloud Provider Rental and Term usage, is currently split across multiple portals. This is a temporary state that is undergoing some short- and long-term transitions to simplify the experience for partners. vCloud Usage Insight is available through either Common Services Portal (CSP) or Cloud Partner Navigator (CPN). Any partners using vCloud Usage Insight on CSP will eventually be migrated to CPN.

As of this PUG Update:

- Features via VMware Commerce Portal (vcp.vmware.com)
 - Register Usage Meter appliances for Automatic Reporting
- Features via vCloud Usage Insight (CSP or CPN)
 - Download a copy of reports
 - View Usage Meter upload status and timestamp
 - Settings to change vROps & vRNI from vRAM to Per VM metering (Per Usage Meter)
- Features via Cloud Partner Navigator only (Beta Features)
 - Monthly vs Month Report Comparison
 - Products Deployed and Related End-of-Support Dates

Upcoming Changes:

- Migrating all CSP Orgs to CPN
 - This moves VUI from being a standalone service to a feature of CPN on the "Usage & Commerce" page
- Enable customerconnect.vmware.com SSO for partners to login to CPN, VCP, and customerconnect.vmware.com
- Enable registering Usage Meter instances from CPN

No ETA for the above upcoming changes are available at this time. Notifications will be sent to partners ahead of the changes going live.

VMware Professional Services and VMware General Support Services

VMware Professional Services and VMware General Support Services for Cloud Providers can be procured through authorized Aggregators. Please contact your Aggregator for details on purchasing PSO credits, Technical Account Managers, Professional Services and enhanced technical and extended support offerings.

VMware Flex Model

VMware Flex Model delivers simplicity, flexibility and value. Flex Core brings unification allowing both Service Providers and Cloud Providers, as applicable, the option to add-on products while eliminating complex decisions. This model promotes predictability and consistency that is built from solutions most commonly used today. With Flex Core standardization, add-on products in Management, Metering and Billing, Networking, and Compute offer more value to you at a 7 point / month baseline.

All Service Providers currently able to license under VMware Cloud Provider Program may utilize VMware Flex Model. All products used must be reported to the Aggregator on a monthly basis. Service Providers with valid VMware Cloud Provider Agreements will have the products with points value listed below delivered in their MyVMware license portals automatically, unless indicated otherwise.

Flex Model Core* (7 points per vGB Metered RAM per month)	
Category	Included Products
Management	VMware Cloud Director
	vRealize Log Insight
	VMware Cloud Director Availability – Migration**
Metering/Billing	vRealize Operations Chargeback
	vCloud Usage Meter
Networking	NSX Data Center SP Base
Compute	vSphere Enterprise Plus
	vCenter Server Standard
Support	Production Level Support

The Flex Model Pricing FAQ can be found on Partner Central. If you have additional questions, please reach out to your aggregator or VMware Business Development Manager.

* Existing partners, as of May 1, 2019 may continue to use current bundles. Current bundles are not available to new VCPP partners that joined after April 30, 2019.

** Other VCDA features are not included

VMware Flex Model Add-Ons		
Product Name	Points/Month	Charged Per
VMware vRealize Operations Standard	1.00	1 GB Metered RAM (based on average monthly usage)
VMware vRealize Operations Advanced	1.75	
VMware vRealize Operations Enterprise ¹	3.00	
VMware vRealize Automation Advanced	1.75	
VMware vRealize Automation Enterprise	2.75	
VMware vRealize Network Insight Advanced	0.75	
VMware vRealize Network Insight Enterprise	1.50	
VMware vRealize Suite Standard	2.00	
VMware vRealize Suite Advanced	3.50	
VMware vRealize Suite Enterprise	4.25	
VMware NSX DC SP Professional ¹	1.00	
VMware NSX DC SP Advanced ¹	3.00	
VMware NSX DC SP Enterprise Plus	4.50	
VMware SDDC Manager	1.00	
VMware HCX for Cloud Providers ²	2.00	

¹ vRealize Operations and NSX add-ons are part of Bundle-to-Flex translation built into the Commerce Portal. To manually report add-on products in a monthly usage report, refer to [Appendix A](#).

² VMware HCX for Cloud Providers is a restricted product and may require validation before being provided activation and software access. To learn more, please see the product page for VMware HCX for Cloud Providers.

Complete Product List	Points / Month	Charged Per
Management Products		
VMware Cloud Director Availability - Disaster Recovery	10	Protected Virtual Machine (VM)
VMware Cloud Director Availability - Migration	0	N/A
VMware vRealize Automation Advanced	5	Virtual Machine or OSI**
VMware vRealize Automation Enterprise	8	Virtual Machine or OSI**
VMware vRealize Log Insight	4.5	Virtual Machine or OSI**
VMware vRealize Network Insight Advanced	3	Virtual Machine per month
VMware vRealize Operations Standard	2.5	Managed Virtual Machine or OSI**
VMware vRealize Operations Advanced	6	Managed Virtual Machine or OSI**
VMware vRealize Operations Enterprise	12	Managed Virtual Machine or OSI**
VMware vRealize True Visibility for vRealize Operations Standard	1.25	VM or OSI** per month
VMware vRealize True Visibility for vRealize Operations Advanced	3	VM or OSI** per month
VMware vRealize True Visibility for vRealize Operations Enterprise	6	VM or OSI** per month
Networking & Security Management		
VMware NSX Advanced Load Balancer	917	Service Core per Month
Storage and Availability		
VMware Site Recovery Manager	24	Protected Virtual Machine (VM)
VMware vSAN Standard	0.02	GB per month for Used Capacity
VMware vSAN Advanced	0.03	GB per month for Used Capacity
VMware vSAN Enterprise	0.04	GB per month for Used Capacity
Integrated Stack		
VMware Cloud Foundation	***	Core Per Month
SDDC Manager	1	1 GB Metered RAM (based on average monthly usage)
VMware Cloud Director	12	Core Per Month

Desktop & Application Virtualization		
VMware App Volumes Standard	4	Concurrent Connection
VMware App Volumes Advanced	7	Concurrent Connection
VMware App Volumes Enterprise	9	Concurrent Connection
VMware Horizon DaaS - VDI Edition	16	Created Desktop
VMware Horizon DaaS - RDSH Edition	13	Created Session (including Application publishing)
VMware Horizon Standard	12	Concurrent Connection
VMware Horizon Advanced	19	Concurrent Connection
VMware Horizon Enterprise	28	Concurrent Connection
VMware Horizon for Linux	7	Concurrent Connection
VMware Horizon Apps Standard	11	Concurrent Connection
VMware Horizon Apps Advanced	18	Concurrent Connection
VMware ThinApp Client	2	ThinApp Client
VMware ThinApp Packager	1	ThinApp Packager
VMware Dynamic Environment Manager	2	Named User
VMware vSAN Standard for Desktop	2	Concurrent Connection
VMware vSAN Advanced for Desktop	4	Concurrent Connection
VMware vSAN Enterprise for Desktop	5	Concurrent Connection
VMware NSX Data Center Advanced for Desktop	5	Concurrent Connection
VMware NSX Data Center Enterprise Plus for Desktop	8	Concurrent Connection
Application Modernization		
VMware Tanzu Basic	0	N/A
VMware Tanzu Kubernetes Grid Plus (TKG+)	24	CPU Core per month
Third-Party Products		
Caveonix RiskForesight Standard	15	VM***
Caveonix RiskForesight Extended	13.5	VM***
Caveonix RiskForesight Classic	12.8	VM***
Caveonix RiskForesight Premium	12.2	VM***
Caveonix RiskForesight Global	11.6	VM***
VMware Cloud Director Data Domain Virtual Edition Standard	23.47	VM***

VMware Cloud Director Data Domain Virtual Edition Extended	9.15	VM***
VMware Cloud Director Data Domain Virtual Edition Classic	8.68	VM***
VMware Cloud Director Data Domain Virtual Edition Premium	7.98	VM***
VMware Cloud Director Data Domain Virtual Edition Global	7.04	VM***
VMware Cloud Director Data Protection Suite Standard	8.87	VM***
VMware Cloud Director Data Protection Suite Extended	3.46	VM***
VMware Cloud Director Data Protection Suite Classic	3.28	VM***
VMware Cloud Director Data Protection Suite Premium	3.02	VM***
VMware Cloud Director Data Protection Suite Global	2.66	VM***

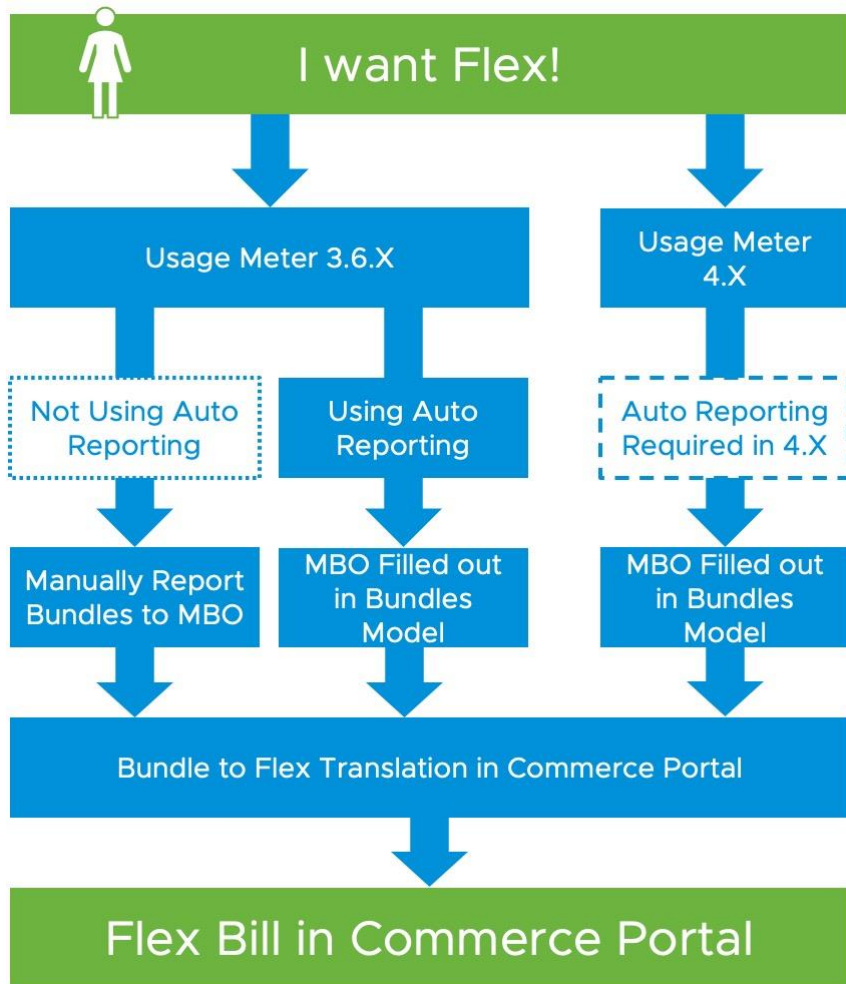
Restricted Products		
(Requires special qualification - see details on product specific pages)		
VMware vCloud SP Hyper-Converged Infrastructure Bundle	6	GB Metered RAM per month
VMware vSAN Enterprise for HyperConverged Infrastructure	0.04	GB per month for Used Capacity
VMware Horizon Advanced for Hyper-Converged Infrastructure	21	Concurrent Connection
VMware Horizon Enterprise for Hyper-Converged Infrastructure	30	Concurrent Connection
VMware Horizon DaaS Bundle – RDSH Edition	13	Created Session (including Application publishing)
VMware Horizon DaaS Bundle – VDI Edition	16	Created Desktop
VMware Desktop Disaster Recovery for Horizon DaaS Bundle(s)	4	Total Allocated Insurance Quota for VDI and RDSH Connections per month

**OSI stands for OS Instance. This measure is used for non-VMware environments, including physical.

*** See product-specific details. Also note: Price per point for third party products VM is different to your contracted VCPP price per point

VMWARE FLEX MODEL FOR USAGE METER

There are no changes needed to the Usage Meter instances that are deployed in your datacenter in order to adopt Flex.



VMWARE CHARGEBACK MANAGER FOR FLEX MODEL

If you have vROps 7.5 installed, no change to metering is required in order to use vROps Chargeback Edition. If you instead use vROps version 7 or earlier for tenant facing chargeback functions only, you should not report its usage as vROps Chargeback as it is included in Flex Core at no additional cost. For Usage Meter to not include it into metering, please perform the following action: on the Usage Meter product screen, do not submit vROps credentials when prompted.

vRealize Operations Manager

The vroops server host/port will be auto-detected. Please accept the certificate first and type in username/password using "Edit" b

Server	Version	Product Name	Referencing vCenter Servers	User	Actions
10.199.58.106	6.7.0.000000	VMware vRealize Operations Not yet discovered	10.139.0.24		<input type="button" value="Edit"/>

Product Specific Usage Information

VMware Cloud Provider Program Specific Licensing Usage Information

The VMware Cloud Provider Program Partner Agreement provides a VMware EULA exception for Service Providers to install and use VMware Products as part of a Hosted IT Service. Prior written approval is required from the VMware Cloud Provider Program Office for any deviation from the requirements outlined below.

VMware Cloud Provider Program partners can only leverage VMware perpetual licenses, including OEM versions, to support internal IT operations. Internal IT operations are any IT function that exclusively supports a system that is not connected, either directly or in an ancillary manner, to the partner's hosting environment. In addition, VMware perpetual licenses may not be used to support the management or operations of an environment utilized to host for unaffiliated third parties. Virtual machines running on hosts with perpetual license keys should be tagged in the vCloud Usage Meter and are not considered billable.

In the VMware Cloud Provider Program, a Hosted IT Service means the provision of services created by a Service Provider for its tenants that:

1. Provide access to compute, storage, network resources or software applications ("hosting infrastructure") from systems that are installed and operated by Service Provider among its customers; and
2. May be accessed via the Internet, telephone or private network based.

There are two categories of Hosted IT Service architectures:

- **Multi-tenant:** The hosting infrastructure is hosted by Service Provider at the Service Provider's premise(s) and shared between multiple tenants.
- **Single-tenant:** The hosting infrastructure is dedicated to a particular tenant and not shared with other tenant(s). Single-tenant Hosted IT services may be delivered by the Service Provider at their premise(s) or offered as a managed service at the tenant's premise(s).

The VMware Cloud Provider Program allows for Service Providers to install and use VMware products as part of a Hosted IT Service. "Hosted IT Services" means Service Provider's internet, telephone or private network based, subscription computing service that allows third party companies to access the processing power, computing, or software applications from systems that are installed and operated by Service Provider. Except as expressly approved by VMware in writing, Service Providers may install software only on hardware systems that are (a) owned or leased by Service Provider for its dedicated use, or owned or leased by the End User for the Service Provider's dedicated use to provide Hosted IT Services solely to the End User and (b) located either within datacenter space owned or leased by Service Provider or on an End User's premises solely to provide Hosted IT Services to the End User, provided that the Service Provider maintains day-to-day management and administrative control of the systems.

Upon request, Service Provider will promptly identify the license keys installed on the systems located at each End User site. Service Provider shall not permit End User (or any third-party agent providing service to the End User) to access, maintain, or otherwise use the software, except for the sole purpose of accessing the functionality of the software in the form of hosted IT Services in accordance with the terms of the [Partner Connect Program Guide https://sforce.co/2ZoTfhk](https://sforce.co/2ZoTfhk)). The Service Provider is responsible for usage reporting and all obligations of the [Partner Connect Program Guide \(https://sforce.co/2ZoTfhk\)](https://sforce.co/2ZoTfhk) regardless of the physical location of the servers. Service Provider will be responsible to VMware for any unauthorized installation, use, copying or distribution of the software by the End User.

MANAGEMENT PRODUCTS

VMware Cloud Director Availability

Description	<p>VMware Cloud Director Availability enables Service Providers to deliver simple, secure, and cost-effective onboarding, migration, and disaster recovery services. Supports DR and migration from on customer premises to Cloud Director OrgVDC, between different Cloud Director orgs and migration to VMware cloud on AWS.</p> <p>In addition to the core product, a vRealize Operations Management Pack for Cloud Director Availability is available. It allows cloud providers to monitor the VMware Cloud Director Availability incoming replicated workloads and provides key insights about the state of the replications, replications resource consumption and recovery statistics for migrations and protections.</p> <p>VMware Cloud Director Availability supports integration with VMware Cloud Director Tenant App for metering that allows the service providers to charge back their customers adding metrics specific for VMware Cloud Director Availability as SLA profiles and Storage policy used by replications. Tenant App has a prerequisite that vRealize Operations Management Pack for VMware Cloud Director is installed.</p>
Point Value / Charged Per	<p>Standalone</p> <p>Disaster Recovery: <u>10 points</u> per protected virtual machine per month. A protected VM is any virtual machine that is replicated from the primary site to the recovery site, regardless of whether the VM is powered on or off.</p> <p>Migration: <u>0 points</u> per migration. To be counted as migration, the workload replication must be configured by using the button “New migration” from the UI or by invoking an API call that sets the replication type to migration.</p>
Components	<p>VMware Cloud Director Availability™</p>
Reporting	<p>VMware Cloud Director Availability™ reporting consists of:</p> <ul style="list-style-type: none"> • The number of VMs under protection • The number of VMs configured for migration (no charge) <p>Usage of VMware Cloud Director Availability™ is reported using Usage Meter. All instances must be configured in Usage Meter 3.6 and above. Please note that usage should be reported to the following SKUs, regardless of the version in use:</p> <ul style="list-style-type: none"> • VMW-VCAN-CA-C – VMware Cloud Director Availability – Disaster Recovery • VMW-VCAN-CA-MIG-C – VMware Cloud Director Availability – Migration <p>The management appliances of VMware Cloud Director Availability™ must be reported separately using your standard Flex model.</p>
Support	<p>Production Level Support</p>
More Information	<p>For more information visit: https://www.vmware.com/products/cloud-director-availability.html ; https://cloudsolutions.vmware.com</p>

Cloud Providers who are delivering DRaaS with Cloud Director Availability can be eligible for our Validated Service and listen on <https://cloud.vmware.com/providers/draas-powered>. Please see <https://bit.ly/ApplyDRaaS> for more information.

Go-To-Market kits are available to help jump start your sales and marketing, these can be found on <https://partnerdemandcenter.vmware.com/>, requiring a Partner Connect account.

Checklist to make sure you and your team take full advantage of all the program initiatives around VMware Cloud and Cloud Director Availability - <https://bit.ly/DRWelcomePack>

As of November 14th, 2021, vCloud Availability, version 3.5 is no longer available for download from VMware and has also reached End of General Support (EOGS). Note: VMware Cloud Director Availability, formerly known as vCloud Availability.

VMware Cloud Director

Description	VMware Cloud Director, the strategic cloud management platform for the VMware Cloud Provider Program, enables Service Providers to rapidly build and monetize cloud-scale, agile, differentiated cloud environments. Cloud Director enables services providers to deliver multi-tenant, self-service, NSX-based networking services, thus deriving additional revenue from their Cloud Director environment.
Point Value / Charged Per	<u>Flex Model</u> Cloud Director is included, without additional charge, in the Flex Core
Components	Cloud Director
Reporting	Cloud Director must be used with the Flex Model. See reporting guidelines for details. The standalone option is restricted and only available for certain use cases.
Support	Production Level Support
More Information	More information is available at VMware Cloud Provider Program Cloud Director or https://cloudsolutions.vmware.com

VMware vRealize Automation

VMware vRealize Automation is available to VMware Cloud Provider Program Service Providers in two editions (refer to Table 2):

- vRealize Automation Advanced
- vRealize Automation Enterprise

Features/Editions	Advanced	Enterprise
Points per Managed VM or OSI per Month	5	8
VMware Infrastructure Services, Cloning Only, VMware vRealize Orchestrator Integration	✓	✓
Multi-Vendor, Multi-Cloud Infrastructure and Multi-Vendor SW Provisioning	✓	✓
Custom Services (XaaS), Approvals, Reclamation, Chargeback, Multi-Tenancy	✓	✓
IaaS services	✓	✓
Self-service catalog	✓	✓
Centralized policy and control	✓	✓
Resource lifecycle management	✓	✓
Resource rightsizing and reclamation	✓	✓
Extensibility with vRealize Orchestrator and ABX	✓	✓
VMware Solution Exchange support	✓	✓
XaaS (Anything as a Service)	✓	✓
Hybrid Cloud with VMware Cloud on AWS	✓	✓
Multi-tenancy (w/ dedicated infrastructure)	✓	✓
VMware Cloud Foundation integration	✓	✓
Self-service networking	✓	✓
Infrastructure as Code	✓	✓
VMware Cloud Templates	✓	✓
Salt Stack config	✓	✓
Application Services, Release Automation, DevOps Integration		✓
Support for multi-cloud (w/ public cloud end points)		✓
Infrastructure pipelining (w/ Code Stream)		✓
Application provisioning and management		✓
Integration with configuration management tools		✓
Kubernetes infrastructure automation		✓
Cloud agnostic templates		✓

Table 1

VMware vRealize Automation Advanced

Description	<p>VMware vRealize Automation provides business agility to service providers by automating the delivery of personalized IT services to end customers. The VMware vRealize Automation, through a self-service catalog, enables end customers to request and manage a wide range of multi-vendor, multi-cloud, applications, infrastructure, and custom services. Policy-based governance assures that users receive the right size resources for a given task across the service lifecycle. To learn more about vRealize Automation visit: http://www.vmware.com/products/vrealize-automation/</p>
Point Value / Charged Per	<p>Stand Alone 5 Points per Managed VM or OSI per month</p> <p>Flex Model Add-On 1.75 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	<p>VMware vRealize Automation Advanced</p>
Reporting	<p>As vRealize Automation does <u>not</u> include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Automation (based on edition).</p> <p>vCloud Usage Meter UM 3.6.1 HP 5 or UM 4.4 registered in vCloud Usage Insight will automatically pre-populate usage data in the Commerce Portal for VMware vRealize Automation.</p> <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>vRealize Automation 7.X and older can be metered by Usage Meter. vRA 8.X requires manual metering at this time. To manually meter for Per VM, use the license capacity used of vRA each month. For vRAM, use the calculation of vRAM from the appendix.</p>
Support	<p>Production Level Support</p>
More Information	<p>https://cloudsolutions.vmware.com</p>

VMware vRealize Automation Enterprise

Description	<p>VMware vRealize Automation provides business agility to service providers by automating the delivery of personalized IT services to end customers. The VMware vRealize Automation, through a self-service catalog, enables end customers to request and manage a wide range of multi-vendor, multi-cloud, applications, infrastructure, and custom services. Policy-based governance assures that users receive the right size resources for a given task across the service lifecycle. To learn more about vRealize Automation visit: http://www.vmware.com/products/vrealize-automation/</p>
Point Value / Charged Per	<p>Flex Model Add-On 2.75 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	<p>VMware vRealize Automation Enterprise</p>
Reporting	<p>As vRealize Automation does <u>not</u> include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Automation (based on edition).</p> <p>vCloud Usage Meter UM 3.6.1 HP 5 or UM 4.4 registered in vCloud Usage Insight will automatically pre-populate usage data in the Commerce Portal for VMware vRealize Automation.</p> <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>vRealize Automation 7.X and older can be metered by Usage Meter. vRA 8.X requires manual metering at this time. To manually meter for Per VM, use the license capacity used of vRA each month. For vRAM, use the calculation of vRAM from the appendix.</p>
Support	<p>Production Level Support</p>
More Information	<p>https://cloudsolutions.vmware.com</p>

VMware vRealize Log Insight

Description	<p>VMware vRealize Log Insight delivers automated log management through aggregation, analytics and search, providing operational intelligence and enterprise-wide visibility in hybrid cloud environments. It collects and analyzes all types of machine-generated log data (such as application logs, network traces, configuration files, messages, and performance data and system state dumps). By using vRealize Log Insight with vRealize Operations, service providers can extend operational visibility and proactive management capabilities across their cloud. The product provides flat pricing for unlimited amounts of data per VM or OSI.</p>
Point Value / Charged Per	<p>Stand Alone 4.5 points per managed virtual machine or OSI* per month.</p> <p>Flex Model vRealize Log Insight is included, without additional charge, in Flex Core</p>
Components	<p>VMware vRealize Log Insight</p>
Reporting	<p>As vRealize Log Insight does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Log Insight.</p> <p>When vRealize Log Insight is used as a component of Flex Core, ESXi and vCenter Server monitoring is included in the bundle pricing for hosts using Flex Core.</p> <p>When used as a component of Flex Core, reporting may consist of two parts, depending on whether the log sources ingested by vRealize Log Insight are vRAM-based or non-vRAM-based.</p> <ul style="list-style-type: none"> • Monthly reporting (via Usage Meter) will be provided on Flex Core that is installed and being utilized as the basis for vRealize Log Insight. Refer to the instructions on bundle usage reporting in Appendix A. • vRealize Log Insight usage will be included in the Flex Core usage reporting for logs ingested from VMware vSphere-based log sources, using bundle-based pricing and usage reporting. • Additional monthly manual reporting is required for the number of virtual machines or OS instances being monitored for non-vSphere- based log sources, using the standalone product pricing above.
Support	<p>Production Level Support</p>
More Information	<p>When used with Flex Core:</p> <ul style="list-style-type: none"> • The vRealize Log Insight license included in Flex Core is a "full" Log Insight license. • vRealize Log Insight is priced per "pipe" of data. This means that vRealize Log Insight may be used to ingest log files from any source in the Service Providers environment – some of those sources may be VMware vSphere-based and some may not be vSphere-based. • Examples of vSphere-based log sources include: VMs, vCenter Servers running on hosts using Flex Core. • Examples of non-vSphere-based log sources include: Switches/routers, ILO/iDRAC in ESX hosts, firewall, SAN's or storage devices. • When reported as part of Flex Core, pricing is included for the vRealize Log Insight usage within the bundle, but only for vSphere-based log sources because the bundle usage is measured by GB Metered RAM.

- However, if you are using vRealize Log Insight as part of Flex Core but ingesting logs from non-vSphere-based log sources, you must report this incremental non-vSphere-based usage using the standalone product pricing at 4.5 points per managed virtual machine or OSI* per month (but only for the non-vSphere-based log sources). For OSI, we use the hostname fields of ingested events.
- *OSI stands for Operating System Instance, which includes any server with an IP address that generates logs, including network devices and storage arrays.

To learn more about vRealize Log Insight visit:

<http://www.vmware.com/products/vrealize-log-insight> or <https://cloudsolutions.vmware.com>

*OSI stands for Operating System Instance. This measure is used for non-VMware environments, including physical.

VMware vRealize Network Insight

VMware vRealize Network Insight delivers intelligent operations for software-defined networking and security, optimizes network performance and availability with visibility and analytics across virtual and physical networks, and provide planning and recommendations for implementing micro-segmentation security, plus operational views to quickly and confidently manage and scale VMware NSX deployments.

Plan Micro-Segmentation and Deployment and Ensure Compliance

Comprehensive net flow assessment and analysis lets you model security groups and firewall rules. vRealize Network Insight collects and analyzes network flows in real time and puts them in the context of the source and destination of the VMs and applications. Users can easily understand who is talking to whom and what flows need to be allowed or blocked. Recommendations make micro-segmentation easier to deploy and continuous monitoring keeps configurations in compliance over time.

Optimize Network Performance with 360 Visibility

Get converged visibility across overlay and underlay, virtual and physical, private and public clouds. Integration with virtual (NSX) and physical layers (physical switches, routers, firewalls) connects the dots across vendors and clouds.

Ensure Health and Availability of NSX Deployment

The simple search and intuitive UI lets admins and operators easily manage and troubleshoot NSX. Best practice checks guide users through their VXLAN and firewall implementation and alerts them to any pitfalls in their design and implementation of NSX.

Deliver Audit and Compliance

A data center time machine tracks all changes for audit and compliance purpose. Customers can go back in time and look at historical changes and see how each change impacted the security of a virtual machine.

VMware vRealize Network Insight is available to Service Providers in two editions through Flex Model and standalone (refer to Table 3):

- vRealize Network Insight Advanced
- vRealize Network Insight Enterprise

VMware vRealize Network Insight Advanced is also available as part of the NSX Data Center Service Provider Enterprise Plus edition.

Features/Editions

	vRNI Advanced	vRNI Enterprise
Standalone Points (per VM or OSI per Month)	3	5
Flex Model Points (per GB per Month)	0.75	1.5
Virtual Flows (VDS IPFIX, V2V, V2P)	✓	✓
NSX Firewall MicroSegmentation Planning and Operations (NSX IPFIX)	✓	✓
Application Discovery Dashboard (Names, Tags, RegEx)	✓	✓
NSX Day 2 Ops (Topology View, Health Checklist, Edge Load Balance Dashboard)	✓	✓
Visibility Across ThirdParty Switches, Routers, Firewalls and Load Balancers	✓	✓
Public APIs	✓	✓
DNS Mapping (Import Bind File)	✓	✓
NSX PCI Compliance Dashboard		✓
ServiceNow Integration for App Discovery		✓
Security Planning and Visibility for VMware Cloud on AWS		✓
Amazon Web Services (AWS)		✓
VMware Cloud™		✓
VMware Cloud on AWS Direct Connect		✓
Microsoft Azure		✓
DNS Resolution with Infoblox		✓
Physical Flows (NetFlow v7 and v9, and sFlow)		✓
Visibility for VMware Tanzu, Kubernetes and Red Hat OpenShift		✓
Network and Security Analytics (Top Talkers, Anomalies, Outlier Detection, etc.)		✓
Configurable and Extended Retention Period for Data		✓
Cisco ACI, BGP-EVPN Underlay Visibility		✓
vRealize Operations Manager™ Integration		✓

Table 3

VMware vRealize Network Insight Advanced

Description	VMware vRealize Network Insight Advanced delivers intelligent operations for software-defined networking and security, optimizes network performance and availability with visibility and analytics across virtual and physical networks, and provide planning and recommendations for implementing micro-segmentation security, plus operational views to quickly and confidently manage and scale VMware NSX deployments.
Point Value / Charged Per	<p>Standalone 3 points per managed Virtual Machine (VM) per month or Operating System Instance (OSI) per month</p> <p>Flex Model Add-On 0.75 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	VMware vRealize Network Insight Advanced
Reporting	<p>Service Providers must manually report the number of virtual machines or Operating System Instances (OSIs) being monitored by vRealize Network Insight Advanced using standalone product pricing in the VMware Cloud Provider Program Commerce Portal. There is no automated report that keeps track of the number of managed VMs at this time, so it is the Service Provider's responsibility to accurately track and report this information each month.</p> <p>The number of virtual machines being monitored can be viewed in the vRealize Network Insight user interface by running a UI search query for "count of vmware vms". This is the number that should be reported to VMware.</p>
Support	Production Level Support
More Information	For more detailed product information on vRealize Network Insight Advanced go to the VMware web site: http://www.vmware.com/products/vrealize-network-insight.html or https://cloudsolutions.vmware.com

VMware vRealize Network Insight Enterprise

Description	VMware vRealize Network Insight Enterprise delivers intelligent operations for software-defined networking and security, optimizes network performance and availability with visibility and analytics across virtual and physical networks, and provide planning and recommendations for implementing micro-segmentation security, plus operational views to quickly and confidently manage and scale VMware NSX deployments.
Point Value / Charged Per	<p>Standalone 5 points per managed Virtual Machine (VM) per month or Operating System Instance (OSI) per month</p> <p>Flex Model Add-On 1.5 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	VMware vRealize Network Insight Enterprise
Reporting	<p>Service Providers must manually report the number of virtual machines or Operating System Instances (OSIs) being monitored by vRealize Network Insight Enterprise using standalone product pricing in the VMware Cloud Provider Program Commerce Portal. There is no automated report that keeps track of the number of managed VMs at this time. It is the Service Provider's responsibility to accurately track and report this information each month.</p> <p>The number of virtual machines being monitored can be viewed in the vRealize Network Insight user interface by running a UI search query for "<i>count of vmware vms</i>". This is the number that should be reported to VMware.</p>
Support	Production Level Support
More Information	For more detailed product information on vRealize Network Insight Enterprise go to the VMware web site: http://www.vmware.com/products/vrealize-network-insight.html or https://cloudsolutions.vmware.com

VMware vRealize Operations

VMware vRealize Operations delivers Self-Driving operations management across physical, virtual, and cloud infrastructures – from on-premises VMware vSphere management to planning migration and capacity and what-if scenarios across VMware Cloud on AWS, Microsoft Azure, Google Cloud Platform, IBM Cloud, and more. It correlates data from enterprise applications to storage utilization in a unified, easy-to-use management console that provides actionable recommendations over performance, capacity, and configuration, with predictive analytics driving proactive action and policy-based automation.

vCenter servers that are not monitored by vCloud Usage Meter using vRealize operations will always be reported as a standalone line item on the monthly usage report. Usage of vRealize Operations is reported using vCloud Usage Meter 3.6.1 HP 5 (or) Usage Meter 4.4.

Actual capabilities of vRealize Operations Manager vary by edition. License keys for vRealize Operation 8.x will also work for vRealize Operations 7.x.

VMware vRealize Operations is available to Service Providers in four editions (refer to Table 4):

- vRealize Operations Chargeback
- vRealize Operations Standard
- vRealize Operations Advanced
- vRealize Operations Enterprise

Features/Editions	vROps Chargeback	vROps Standard	vROps Advanced	vROps Enterprise
Standalone Points per Managed VM or OSI per Month	N/A	2.5	6	12
Flex Model Points per GB per Month	Part of Flex Core	1.00	1.75	3.00
Pricing and chargeback billing for VMware Cloud Director and vCenter	✓	✓	✓	✓
Scale Out Operations Platform		✓	✓	✓
Single Sign-On		✓	✓	✓
Remote Collectors		✓	✓	✓
Visualization: Out-of-the Box Dashboards, Views, Reports, Heat Map, Performance Charts		✓	✓	✓
Performance Monitoring and Analytics		✓	✓	✓
vSphere Security and Compliance, including DISA, FISMA, ISO, CIS, PCI and HIPAA		✓	✓	✓
Real-Time Predictive Capacity Management Including Trending, Metering, Right-Sizing, Optimization		✓	✓	✓
Overall Data Center Cost Views		✓	✓	✓
What-If Scenarios for Adding / Removing VMs		✓	✓	✓
Manual Workload Optimization		✓	✓	✓

Features/Editions	vROps Chargeback	vROps Standard	vROps Advanced	vROps Enterprise
Predictive DRS and DRS management		✓	✓	✓
Guided Remediation		✓	✓	✓
vRealize Log Insight Integration		✓	✓	✓
vSAN Overview and Migration Dashboard		✓	✓	✓
Built-in High Availability (Automated Failover of Platform Nodes)			✓	✓
Customizable Dashboards, Reports and Views			✓	✓
Super Metrics, Metric Correlation, Relationship Mapping			✓	✓
Advanced APIs: Resource/Data Addition, Report Generation, etc.			✓	✓
Fine-Grained Cost Analytics for Reclamation, Planning and Public Cloud Cost Comparison			✓	✓
What-If Scenarios: - Hardware Procurement and Decommission - Adding vSAN Capacity - Migration to VMware Cloud on AWS; AWS, Azure, Google, IBM or VCPP and custom clouds			✓	✓
Custom VM Profiles			✓	✓
Multiple What-If Stacked Scenarios			✓	✓
Business and Operational-Intent Based Automated and Schedulable Workload Balancing			✓	✓
Integration with vRealize Automation for Initial and Ongoing Workload Placement			✓	✓
Host-Based Placement			✓	✓
Automated Actions			✓	✓
vSAN : Workload Balancing, Performance, Capacity/Cost management, ,Planning, Troubleshooting and Compliance			✓	✓
Monitoring of OS Resources (CPU, Disk, Memory, Network)			✓	✓
SDDC and CloudPod Health Management Pack			✓	✓
vRealize Orchestrator™ Management Pack			✓	✓
VMware Site Recovery Manager™ and vSphere Replication™ Management Packs			✓	✓
Custom Compliance Templates			✓	✓
Automated Compliance Drift Remediation			✓	✓
Service Discovery and Application Dependency Mapping			✓	✓

Features/Editions	vROps Chargeback	vROps Standard	vROps Advanced	vROps Enterprise
ServiceNow Integration			✓	✓
VMware Skyline Integration			✓	✓
VMware and Third-Party Infrastructure Management Packs: Storage, Networking, Converged/Hyper Converged as well as Non-vSphere Hypervisors			✓	✓
Kubernetes Management Pack: Monitoring for VMware Tanzu™ Kubernetes Grid™, OpenShift, Kubernetes on Amazon EC2, Azure, Google VMs and Others			✓	✓
Out-of-the-Box Discovery, Monitoring and Troubleshooting for Packaged Applications				✓
VMware Cloud on AWS: Workload Balancing, Performance, Capacity/Cost Management, Planning, Troubleshooting and Compliance			✓	✓
vRealize Automation™ Integration			✓	✓
Continuous Availability				✓
Out-of-the-Box and vRealize Network Insight Based Discovery, Monitoring and Troubleshooting for Packaged Applications				✓
Integration with CloudHealth® by VMware				✓
Multi-Cloud Monitoring via Native (AWS, Azure) and VMware Management Packs (Google Cloud Platform)				✓
VMware Care System Analytics Management Packs				✓
VMware and Third-Party Database, Middleware and Application Management Packs				✓
vRealize Network Insight Integration				✓

Table 4

TenantApp Editions

TenantApp can be backed by different editions of vROps and that decides the capabilities available to a provider.

The most basic edition included in VCPP Flex Core is referred to as the “Chargeback” edition. In this case, vROPs VA does not provide a UI of its own, and the only way to configure functionalities is using TenantApp.

When using regular editions of vROps (Standard, Advanced and Enterprise), they provide functionality as described here : <https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/products/vmware-vrealize-operations-datasheet.pdf>. i.e. In a TenantApp setup with a TenantApp VA, and a vROps VA running “Standard” edition, logging into vROps using the vROps URL, provides the functionalities exposed in the data sheet.

However, some of the TenantApp features themselves are dependent on these editions. Below we describe them by picking the items from Datasheet that affect TenantApp features.

Features/Editions	vROps Chargeback	vROps Standard	vROps Advanced	vROps Enterprise
OOTB Dashboards for Organization, VDC, vAPP, VMs and others in TenantApp			✓ ¹	✓ ¹
Metric Selector to show metrics to Provider and Tenant inside TenantApp		✓ ⁴	✓ ²	✓ ³
Pricing for Infrastructure (vCPU, Memory, Storage) and additional services of vCloud Director	✓	✓	✓	✓
Bill generation for Infrastructure (vCPU, Memory, Storage) and additional services of vCloud Director	✓	✓	✓	✓
Bill access for Tenants using VCD plugin	✓	✓	✓	✓
Provider Access to OOTB Reports		✓ ⁴	✓	✓
Tenant Access to OOTB Report using VCD Plugin			✓	✓
Provider and Tenant Access to Custom reports templates in TenantApp			✓	✓
Super Metric and OS Level metric-based reports for Provider and Tenant			✓	✓
Provider Access to OOTB Alert definitions		✓ ⁴	✓	✓
Provider and Tenant Access to Custom Alert definitions in TenantApp			✓	✓
Provider and Tenant Access to Super metric based and OS Metric based Alert definitions in TenantApp			✓	✓
Provider's Control on what metrics are shown to Tenants			✓	✓

Table 5

¹ Available from both TenantApp and vROps

² Custom Super Metrics & OS Level Resource Metrics

³ Near real time metrics (20 s granularity) & APM (App Dynamics, DataDog etc.) Metrics

⁴ Available from vROps UI for Provider, cannot be exposed to Tenants using TenantApp

VMware vRealize Operations Chargeback

Description	VMware vRealize Operations Chargeback is applicable to Service Providers who want cost visibility and chargeback functions for their tenants.
Point Value / Charged Per	<p>Standalone Not Available</p> <p>Flex Model Core Included at no cost</p>
Components	VMware vRealize Operations Manager Chargeback Edition
Reporting	<p>vCloud Usage meter 3.6.1(or higher versions UM 4.4) and vRealize Operations 7.5 or later versions recognize the Chargeback edition as part of the Flex core and there is no change to metering.</p> <p>If you have vRealize Operations 7.0 for tenant facing chargeback functions only, you need not report its usage as its included in Flex core. In order for vCloud Usage Meter to not include it into metering, on Usage Meter product screen, do not submit vRealize Operations credentials.</p> <p>There is no license key required for the Tenant App appliance. There is a license key required for the vRealize Operations appliance - the required license is "vRealize Operations for Chargeback Per Processor". This license will enable the Tenant App to access metrics from vRealize Operations. The vRealize Operations appliance will not be directly accessible. Please follow these procedures when you have a Chargeback License and do not have access to the user interface of vRealize Operations Manager. All configuration, management, and user access is via the Tenant App appliance. There is no cost associated with this license type when using the Flex Model.</p> <p>If you already use any other vRealize Operations license type (Standard, Advanced or Enterprise), there is no requirement to add the "vRealize Operations for Chargeback Per Processor" license. The Tenant App can be enabled based on the existing license.</p> <p>For detailed configuration instructions, see the "Using vRealize Operations Tenant App as a Service Provider" document.</p>
Support	Production Level Support

VMware vRealize Operations Standard

Description	VMware vRealize Operations Standard is applicable to Service Providers who need monitoring, performance, compliance and capacity optimization for their need enterprise applications and virtual machines.
Point Value / Charged Per	<p>Standalone 2.5 points per managed VM or OSI per month</p> <p>Flex Model Add-On 1 Point per 1 GB Metered RAM (based on average monthly usage)</p>
Components	VMware vRealize Operations Manager Standard Edition
Reporting	<p>As vRealize Operations does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Operations. The standalone version of vRealize Operations Standard Edition is reported based on monthly average of hourly count of VMs being managed in the month. Refer to Appendix A for more details.</p> <p>vCenter servers using vRealize Operations will always be reported as a standalone line item on the monthly usage report, unless they are monitored by Usage Meter. vCloud Usage Meter 3.6 counts the average number of VMs for each vCenter server managed by vRealize Operations. Usage of vRealize Operations is reported using vCloud Usage Meter 3.6.1 HP 5 (or) Usage Meter 4.4. Please follow these procedures when you have a Chargeback License and do not have access to the user interface of vRealize Operations Manager.</p>
Support	Production Level Support
More Information	Get more out of vRealize Operations with third-party integrations and product extensions that enable comprehensive visibility across applications and infrastructure in one place with dashboards, reports, alerts and remediation actions. Refer to the VMware Marketplace for information on vRealize Operations Management Packs. Additional information on vRealize Operations can be found here: https://cloudsolutions.vmware.com

VMware vRealize Operations Advanced

Description	VMware vRealize Operations Advanced is applicable to Service Providers who need virtual and physical infrastructure operations management capabilities including monitoring, performance, compliance and capacity optimization for their enterprise applications and virtual machines.
Point Value / Charged Per	<p>Standalone 6 points per managed VM or OSI per month</p> <p>Flex Model Add-On 1.75 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	VMware vRealize Operations Advanced Edition
Reporting	<p>As vRealize Operations does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Operations. The standalone version of vRealize Operations Advanced Edition is reported based on monthly average of hourly count of VMs being managed in the month. Refer to Appendix A for more details.</p> <p>vRealize Operations will always be reported as a standalone line item on the monthly usage report. vCloud Usage Meter 3.6 counts the average number of VMs for each vCenter server managed by vRealize Operations. Usage of vRealize Operations is reported using vCloud Usage Meter 3.6.1 HP 5 (or) Usage Meter 4.4.</p>
Support	Production Level Support
More Information	Get more out of vRealize Operations with third-party integrations and product extensions that enable comprehensive visibility across applications and infrastructure in one place with dashboards, reports, alerts and remediation actions. Refer to the VMware Marketplace for information on vRealize Operations Management Packs. Additional information on vRealize Operations can be found here: https://cloudsolutions.vmware.com

VMware vRealize Operations Enterprise

Description	VMware vRealize Operations Enterprise is applicable to Service Providers who want hybrid cloud infrastructure operations management capabilities including operating system and application-level monitoring, performance, compliance and capacity optimization.
Point Value / Charged Per	<p>Standalone 12 points per managed VM or OSI per month.</p> <p>Flex Model Add On 3 Points per 1 GB Metered RAM (based on average monthly usage)</p>
Components	VMware vRealize Operations Enterprise Edition
Reporting	<p>As vRealize Operations does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vRealize Operations. The standalone version of vRealize Operations Enterprise Edition is reported based on monthly average of hourly count of VMs being managed in the month. Refer to Appendix A for more details.</p> <p>Non-UM-monitored vCenter servers using vRealize operations will always be reported as a standalone line item on the monthly usage report. vCloud Usage Meter 3.6 counts the average number of VMs for each vCenter server managed by vRealize Operations. Usage of vRealize Operations is reported using vCloud Usage Meter 3.6.1 HP 5 (or) Usage Meter 4.4.</p>
Support	Production Level Support
More Information	Get more out of vRealize Operations with third-party integrations and product extensions that enable comprehensive visibility across applications and infrastructure in one place with dashboards, reports, alerts and remediation actions. Refer to VMware Marketplace for information on vRealize Operations Management Packs. Additional information on vRealize Operations can be found here: https://cloudsolutions.vmware.com

VMware vRealize Suite

Description	<p>VMware vRealize® Suite is an enterprise ready cloud management platform that helps enterprise IT teams and service providers enable developers to build VM quickly and easily and container-based applications in any private, public, or hybrid cloud with secure and consistent operations. It provides a comprehensive management for IT services on VMware vSphere® and other hypervisors, physical infrastructure, containers, OpenStack, and external clouds such as VMware Cloud™ on AWS, Azure, and Google Cloud Platform, all with a unified management experience.</p> <p>VMware vRealize Suite delivers an enterprise proven hybrid cloud management platform which includes the following products includes the following products: vRealize Automation, vRealize Operations, vRealize Log Insight and vRealize Lifecycle Manager. vRealize Suite is available in 3 editions</p> <ul style="list-style-type: none"> • Standard • Advanced • Enterprise <p>Each edition includes different products. Service Provider should refer to Compare section here https://www.vmware.com/products/vrealize-suite.html to choose from the three vRealize Suite editions to meet their specific needs.</p>
Point Value / Charged Per	<p>Flex Model Add-On</p> <ul style="list-style-type: none"> • vRealize Suite Standard: 2 Points per 1 GB of Metered RAM (based on average monthly usage) • vRealize Suite Advanced: 3.5 Points per 1 GB of Metered RAM (based on average monthly usage) • vRealize Suite Enterprise: 4.25 Points per 1 GB of Metered RAM (based on average monthly usage)
Components	VMware vRealize Suite
Reporting	<p>Service Providers must manually report the number of GB of Metered RAM being monitored by vRealize Suite. There is no automated report that keeps track of the number of GB of Metered RAM monitored by vRealize Suite at this time. It is the Service Provider's responsibility to accurately track and report this information each month.</p>
Support	Production Level Support
More Information	<p>For more detailed product information on vRealize Suite, go to the VMware web site: https://www.vmware.com/products/vrealize-suite.html or https://cloudsolutions.vmware.com</p>

VMware vRealize Suite Editions	Standard	Advanced	Enterprise
vRealize Suite Lifecycle Manager	✓	✓	✓
vRealize Log Insight	✓	✓	✓
vRealize Operations Advanced	✓	✓	
vRealize Automation Advanced		✓	
vRealize Operations Enterprise			✓
vRealize Automation Enterprise			✓

PLU for 1 vSphere CPU or 15 non-vSphere OSIs

Note: Application Monitoring is included in the vRealize Operations Enterprise edition and is available as an add-on for the vRealize Suite Standard and Advanced editions.

VMware vRealize True Visibility Suite

VMware vRealize True Visibility Suite provides additional value to vRealize Operations by providing Service Provider partners with advanced analysis, capacity planning, monitoring, reporting, and alerting for the entire infrastructure. True Visibility Suite provides comprehensive storage, compute, network, converged infrastructure, container, database, and application monitoring within vRealize Operations, enabling staff to monitor and troubleshoot their entire infrastructure within one tool. Actual capabilities of vRealize Operations Manager vary by edition.

VMware vRealize True Visibility Suite is available to VMware Cloud Provider Program Service Providers in three editions:

- VMware vRealize True Visibility Suite Standard
- VMware vRealize True Visibility Suite Advanced
- VMware vRealize True Visibility Suite Enterprise

VMware vRealize True Visibility Suite Standard*

Description	VMware vRealize True Visibility Suite Standard Edition includes access to compute layer integrations such as Cisco UCS, as well as access to Dell EMC storage monitoring for VNX, VMAX, and XtremeIO.
Point Value / Charged Per	1.25 points per VM or OSI per month subject to normal provider tier discounts.
Components	VMware vRealize True Visibility Suite Standard
Reporting	<p>Monthly usage for True Visibility Suite should align to the corresponding monthly usage reported for vRealize Operations and should be reported in the VMware Cloud Provider Program Commerce Portal each month.</p> <p>Follow the usage reporting instructions for vRealize Operations included in Appendix B for capturing standalone reporting for vRealize Operations. Reporting for True Visibility Suite is manual and is not captured by the Usage Meter.</p>
Support	VMware Production Level support.
More Information	<p>Limitations:</p> <p>Service Providers must have vRealize Operations in order to use True Visibility Suite. True Visibility Suite edition may not exceed the Service Provider's vRealize Operations edition. Example: A Service Provider with vRealize Operations Standard may not use True Visibility Advanced or Enterprise.</p>

* VMware vRealize True Visibility Suite Standard has reached End of Availability (EOA) as of November 4, 2021. The information in this guide is for reference only and will be removed from the next Product Usage Guide update.

VMware vRealize True Visibility Suite Advanced

Description	VMware vRealize True Visibility Suite Advanced Edition includes everything from the Standard Edition, plus additional storage, network, converged, Hyper-Converged, virtualization, and container integrations such as NetApp FAS, Cisco Nexus, F5 BIG-IP, FlexPod, Pivotal, and more
Point Value / Charged Per	3 points per VM or OSI per month, subject to normal provider tier discounts.
Components	VMware vRealize True Visibility Suite Advanced
Reporting	<p>Monthly usage for True Visibility Suite should align to the corresponding monthly usage reported for vRealize Operations and should be reported in the VMware Cloud Provider Program Commerce Portal each month.</p> <p>Follow the usage reporting instructions for vRealize Operations included in Appendix B for capturing standalone reporting for vRealize Operations. Reporting for True Visibility Suite is manual and is not captured by the Usage Meter.</p>
Support	VMware Production Level support.
More Information	<p>Limitations</p> <p>Service Providers must have vRealize Operations in order to use True Visibility Suite. True Visibility Suite edition may not exceed the Service Provider's vRealize Operations edition. Example: A Service Provider with vRealize Operations Standard may not use True Visibility Advanced or Enterprise.</p>

VMware vRealize True Visibility Suite Enterprise

Description	VMware vRealize True Visibility Suite Enterprise Edition includes everything from Standard and Advanced Edition, plus database, big data, platform, and application integrations including Oracle Database, Microsoft SQL, Amazon, SAP, and more.
Point Value / Charged Per	6 points per VM or OSI per month, subject to normal provider tier discounts.
Components	VMware vRealize True Visibility Suite Enterprise
Reporting	<p>Monthly usage for True Visibility Suite should align to the corresponding monthly usage reported for vRealize Operations and should be reported in the VMware Cloud Provider Program Commerce Portal each month.</p> <p>Follow the usage reporting instructions for vRealize Operations included in Appendix B for capturing standalone reporting for vRealize Operations. Reporting for True Visibility Suite is manual and is not captured by the Usage Meter.</p>
Support	VMware Production Level support.
More Information	<p>Limitations:</p> <p>Service Providers must have vRealize Operations in order to use True Visibility Suite. True Visibility Suite edition may not exceed the Service Provider's vRealize Operations edition. Example: A Service Provider with vRealize Operations Standard may not use True Visibility Advanced or Enterprise.</p>

NETWORKING AND SECURITY MANAGEMENT

VMware NSX

VMware NSX is the network virtualization platform for the Software-Defined Data Center, delivering the operational model of a virtual machine for entire networks.

Flex Model - VMware NSX Data Center is available to Service Providers in four editions:

- NSX Data Center SP Enterprise Plus (Add-on): 4.5 Points per 1 GB Metered RAM (based on average monthly usage)
- NSX Data Center SP Advanced (Add-on): 3 Points per 1 GB Metered RAM (based on average monthly usage)
- NSX Data Center SP Professional (Add-on): 1 Points per 1 GB Metered RAM (based on average monthly usage)
- NSX Data Center SP Base (Part of Core): No additional cost

The new NSX Data Center SP editions are only available in Flex model. The NSX Data Center SP editions are only effective with NSX-v 6.4.1 or later and NSX-T 2.2 or later.

Note: Service Providers can download either NSX-v or NSX-T with any of the NSX editions. Please use the following product licenses for each of the editions:

- NSX DC SP Base per Process for VCPP program only
- NSX DC SP Advanced per Process for VCPP program only
- NSX DC SP Professional per Processor for VCPP program only
- NSX DC SP Enterprise+ per Processor for VCPP program only

The table 6 below shows features of different NSX Editions specific to the VMware Cloud Provider Program in Flex.

Features/Editions	NSX DC SP Base	NSX DC SP Prof. ⁶	NSX DC SP Adv.	NSX DC SP Ent. Plus
Flex Points per GB per Month ¹	Part of Flex Core	Add-on to Flex 1 Points	Add-on to Flex 3 Points	Add on to Flex 4.5 Points
Distributed Switching and Routing	✓	✓	✓	✓
NSX Gateway Firewall (Stateful)	✓	✓	✓	✓
NSX Gateway NAT	✓	✓	✓	✓
Software L2 Bridging to Physical Environment	✓	✓	✓	✓
Dynamic Routing with ECMP (Active-Active)	✓	✓	✓	✓
Integration with Cloud Management Platforms	✓	✓	✓	✓
IPv6 with Static Routing and Static IPv6 Allocation	✓	✓	✓	✓
VPN - L3 (IPsec VPN and SSL VPN ²)	✓	✓	✓	✓
Load Balancing ⁵ (NSX Advanced LB for NSX-T)	✓	✓	✓	✓
VPN - L2 (L2VPN)		✓	✓	✓
Distributed Firewalling for VMs and Workloads Running on Bare Metal		✓	✓	✓
Integration with NSX Cloud for AWS and Azure Support ³		✓	✓	✓
Integration with Distributed Firewall (Active Directory, VMware AirWatch, Endpoint Protection and Third-Party Service Insertion)			✓	✓
Container Networking and Security			✓	✓
Multi-vCenter Networking and Security			✓	✓
IPv6 with Dynamic Routing, Dynamic IPv6 Allocation and Services			✓	✓
Context-aware Micro-Segmentation (L7 Application Identification, RDSH, Protocol Analyzer)			✓	✓
Distributed FQDN Whitelisting			✓	✓
NSX Distributed IDS ⁴			✓	✓
VRF (Tier 0 Gateway VRFs) ⁷		✓	✓	✓

Features/Editions	NSX DC SP Base	NSX DC SP Prof. ⁶	NSX DC SP Adv.	NSX DC SP Ent. Plus
Federation				✓
Ethernet VPN (EVPN)				✓
NSX INTELLIGENCE				
VM-to-VM Traffic Flow Analysis				✓
Firewall Visibility				✓
Automated Security Policy				✓
Rule and Group Recommendation Analytics				✓
vREALIZE NETWORK INSIGHT ADVANCED				✓
VMWARE HCX ADVANCED				✓

Table 6

¹ Per 1 GB Metered RAM (based on average monthly usage)

² SSL VPN support in the NSX Data SP Base edition is limited to SSL VPN on NSX-v only.

³ NSX Cloud is not included in VCPP NSX

⁴ NSX Distributed IDS requires an additional subscription and is not in VCPP yet.

⁵ NSX Advanced Load Balancer is included in NSX-DC SP Base as a replacement for NSX-T load balancer

⁶ NSX Professional is now offered at 1 Pts

⁷ VRF-Lite is included in NSX Professional and is to be reported manually. When deploying VRF-Lite on T0, report the usage of all VMs connected to this T0/T1 as NSX DC SP Professional.

NSX DC SP Base and VMware NSX Advanced Load Balancer – Basic Edition

With EOL for NSX for vSphere (in January 2022), all NSX editions now support NSX-T. With NSX-T, the native NSX load balancer is being replaced by the VMware NSX Advanced Load Balancer - Basic Edition (from Avi Networks) referred to as NSX ALB Basic. NSX ALB Basic is entitled to be used with NSX-T deployments only. The following describes how the NSX ALB Basic is offered in NSX DC SP Base edition for VCPP SPs.

- NSX ALB Basic is offered as a feature parity replacement for NSX-T LB in NSX DC SP Base. NSX ALB Enterprise features such as WAF, DNS, rate-limiting etc. are not supported with NSX ALB Basic.
- NSX ALB Basic would be made available without any capacity restrictions.
- Accessing NSX ALB Basic Binaries: The process of acquiring the binaries for NSX ALB Basic for NSX DC SP Base is as follows:
 - NSX ALB Basic binaries can be accessed through the customerconnect.vmware.com portal by following the process described in this KB article: <https://kb.vmware.com/s/article/82049>
- Deploying NSX ALB Basic: Setup a new Avi Controller Cluster
 - Download the latest version of Avi Controller OVA image from <https://customerconnect.vmware.com> portal (Customer connect) by following this KB: <https://kb.vmware.com/s/article/82049>
 - Setup a 3 node Avi Controller Cluster
- Setting up licenses for NSX ALB Basic: Beginning with Avi v20.1.7-2p6 & v21.1.2, Avi Controller can use NSX-T SP license(s) to provision NSX ALB Basic edition service-core license(s).
 - Partners can use their existing NSX DC SP Base (Ent+) license(s) on the Avi Controller.
 - 1 unit of NSX ALB Basic edition service-core license will be deposited for every 4 units of NSX DC SP Base (Ent+) CPU license.
 - Partners are entitled to use as many NSX DC SP Base (Ent+) license(s) for their NSX ALB Basic needs as required.
 - If Partners need additional NSX ALB Basic license(s) or are running a release prior to Avi v20.1.7 & v21.1.2, follow this process:
 - Send email with the following details
 - To: vcpp-alb-basic-license-request@groups.vmware.com
 - Subject: Requesting additional NSX ALB Basic edition Licenses – Cloud Provider Partner
 - In the body of the email please include the following information:
 1. Partner Name
 2. Primary Partner contact (email)
 3. NSX Entitlement: Please specify your EA account # from customerconnect.vmware.com (Customer connect)
 4. Number of additional NSX ALB Basic edition License(s) requested
 5. Reason for the request
 - VMware will review the request and will generate the appropriate NSX ALB Basic edition license(s)
 - Notify the Partner when the NSX ALB Basic edition license is available
 - Partner will receive an email notification from VMware
 - The additional license(s) will be available on the Avi Networks Portal (<https://portal.avinetworks.com/>)
- Reporting NSX ALB Basic usage: While NSX ALB Basic usage for Cloud Provider Partner is unrestricted, VMware requires Partners to report monthly usage of NSX ALB Basic edition. Follow these steps to report NSX ALB Basic usage:
 - Partners should report NSX ALB Basic usage every month through the `vcpp_license_usage.py` script provided on the Avi Controller.
 - The script output would contain the following:
 1. Avi Controller Cluster UUID
 2. Service Core Usage

3. NSX ALB (Avi) License Edition

- Report these three items in the Commerce Portal

Sample usage of the `vcpp_license_usage.py` script to report monthly NSX ALB Basic edition usage (from Avi Controller shell)

```
ssh admin@<AVI_CONTROLLER_IP>
sudo su (Enter admin password)
python3 /opt/avi/scripts/vcpp_license_usage.py --controller_ip <AVI_CONTROLLER_IP> --user admin --password xxxx --startdate 2021-04-01 --enddate 2021-05-01
```

Please report this usage for the period between 2021-01-01 and 2021-02-01 on the VCPP Commerce Portal

1. Cluster UUID: cluster-c1218463-d44b-4bb0-8bc6-924eb846299d
2. Service Cores: 12
3. License Tier: BASIC

VMware NSX Advanced Load Balancer (Avi Networks Load Balancer)

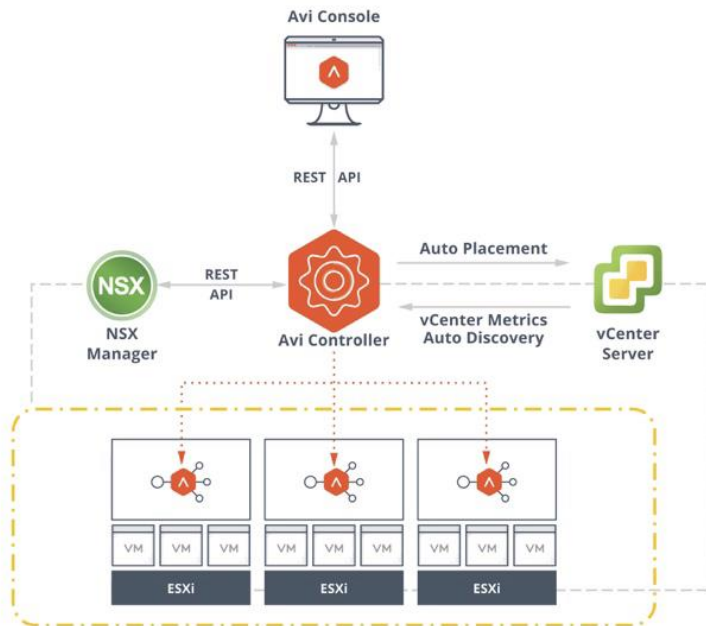
Enterprises wanting to automate L4-L7 services and enable self-service for their developers find that appliance-based load balancers slow down application rollouts, cause overprovisioning, and increase their operational costs. IT teams lack comprehensive visibility into the end-user experience and application performance. Legacy application delivery controllers (ADCs) offer little more than traffic counters; they lack analytics and insights, which makes troubleshooting application problems slow and complex. These legacy solutions also lack native integration with VMware vCenter, making it complex to deploy and manage applications, requiring manual virtual machine setup and networking configuration.

NSX Advanced Load Balancer is built on software-defined architectural principles delivering the flexibility and simplicity expected by IT and lines of business. Unlike legacy ADCs, which carry forward the disadvantages of their hardware appliances into their virtual software balancers, NSX Advanced Load Balancer separates the data and control planes to deliver application services in on-premises or cloud environments. This provides a centrally managed dynamic pool of load balancing resources for individual applications. Native integration with VMware vCenter automates configuration and deployment of application delivery, analytics, and autoscaling services.



KEY LOAD BALANCING CAPABILITIES

- **30-second Load Balancer:** Integrates with VMware vCenter to:
 - Discover networks, pool members, and server configurations from vCenter
 - Spin up/download balancers by querying vCenter images
 - Horizontally autoscale load balancers
- **Pinpoint Analytics:** End-to-end traffic visibility delivers:
 - Real-time insights into network traffic
 - Network-DVR capabilities to record-and-replay network incidents
 - Rapid troubleshooting in under a minute
- **Multi-cloud Load Balancing:** Infrastructure-agnostic load balancing supports:
 - Multiple hypervisors in an environment
 - Multi-cloud deployments across public and private clouds
 - Distributed data plane to deploy load balancers close to applications
- **Predictive Autoscaling:** Autoscales resources to support:
 - Zero-touch scaling via rate thresholds without requiring manual configurations
 - Load balancer autoscaling on VM tier with vCenter APIs
 - Trigger autoscaling of applications based real time traffic patterns
- **Multitenancy:** Provides complete isolation to:
 - Prevent service disruptions across multiple tenants
 - Deploy load balancers per-application
 - Deploy distributed load balancers and manage centrally

NSX Advanced Load Balancer (Avi LB) Architecture & Components



NSX Advanced Load Balancer Components:

- Controller 
- Service Engine (VM, Container, BM) 

Avi Load Balancer Metering and Reporting of Service Engines:

- You only pay for the Service Engines, Controllers are free
- Avi Service Engine runs as a VM in ESXi (Containers and BM are also options)
- Each Avi Service Engine consumes one or more Service Cores (vCPUs)
- Total consumption is the number of active Service Cores (highest number) for that month

Description	<p>VMware NSX Advanced Load Balancer for Cloud Providers offers the ability to consume NSX Advanced Load Balancer through VCPP points. Please see below for more information about the features in NSX Advanced Load Balancer.</p> <p>For more information about VMware NSX Advanced Load Balancer please refer to https://www.vmware.com/products/nsx-advanced-load-balancer.html</p>
Point Value / Charged Per	<p><u>Stand Alone</u></p> <p>917 Points per Service Core per month</p> <p>Partners consume VMware NSX Advanced Load Balancer on a per Service Core / per month basis. Please see table below for pricing information. A Service Core is a vCPU, and each Service Engine can be allocated one or more Service Cores.</p>
Components	<p>VMware NSX Advanced Load Balancer for Cloud Providers editions include the following products</p> <ul style="list-style-type: none"> • VMware NSX Advanced Load Balancer
Accessing & Deploying	<p>Follow these steps to deploy VMware NSX Advanced Load Balancer:</p> <ul style="list-style-type: none"> • For Partners using NSX ALB version 21.1.3 and newer, please use the license keys provided through VCPP BOM on customerconnect.vmware.com • For Partners using NSX ALB versions older than 21.1.3, please use the one-off order process to acquire licenses.
Reporting	<p>Service Providers must manually report points consumption based on the number of Service Cores across all Service Engines and across all Avi Controllers.</p> <p>How to report VMware NSX Advanced Load Balancer in VCPP:</p> <ul style="list-style-type: none"> • Partners should report NSX ALB usage every month through the <code>vcpp_license_usage.py</code> script provided on the Avi Controller. <ul style="list-style-type: none"> • The script output would contain the following: <ul style="list-style-type: none"> • Avi Controller Cluster UUID • Service Core Usage • NSX ALB (Avi) License Edition • Report these three items in the Commerce Portal • Report the usage for all Avi Controllers that are deployed • Partners are billed only for the active Service Cores used across all Avi Controllers for that month <p>Sample usage of the <code>vcpp_license_usage.py</code> script to report monthly NSX ALB usage (from Avi Controller shell)</p> <pre>ssh admin@<AVI_CONTROLLER_IP> sudo su (Enter admin password) python3 /opt/avi/scripts/vcpp_license_usage.py --controller_ip <AVI_CONTROLLER_IP> --user admin --password xxxx --startdate 2021-04-01 --enddate 2021-05-01</pre>

	<p>Please report this usage for the period between 2021-01-01 and 2021-02-01 on the VCPP Commerce Portal</p> <ol style="list-style-type: none"> 1. Cluster UUID: cluster-d1418463-c44b-8zz0-8qw6-114eb846123q 2. Service Cores: 21 3. License Tier: ENTERPRISE
Support	Pricing reflects production level support
Eligibility	VMware NSX Advanced Load Balancer for Cloud Providers is available to all VCPP Cloud Providers.
More Information	https://www.vmware.com/products/nsx-advanced-load-balancer.html

NSX Advanced Load Balancer Features

Features	Feature Description	NSX Advanced Load Balancer
Standalone Points (per Service Core per Month)		917
Enterprise-class load balancing	SSL termination, default gateway, GSLB, DNS, and other L4-L7 services	✓
Multi-cloud load balancing	Intelligent traffic routing across multiple sites and across private or public clouds	✓
Application performance monitoring	Monitor performance and record and replay network events like a Network DVR	✓
Predictive autoscaling	Application and load balancer scaling based on real-time traffic patterns	✓
Self-service	For app developers with REST APIs to build services into applications	✓
Cloud connectors	VMware Cloud on AWS, SDN/NFV controllers, OpenStack, AWS, GCP, Azure, Linux Server Cloud, OpenShift/Kubernetes	✓
Distributed application security fabric	Granular app insights from distributed service proxies to secure web apps in real time	✓
SSO / Client Authentication	SAML 2.0 authentication for back-end HTTP applications	✓
Automation and programmability	REST API based solution for accelerated application delivery; extending automation from networking to developers	✓
Application Analytics	Real-time telemetry from a distributed load balancing fabric that delivers millions of data points in real time	✓

Table 8

VMware HCX

The table below shows features of different HCX Editions specific to the VMware Cloud Provider Program.

Features/Editions	HCX Advanced	HCX for Cloud Providers
Best-in class Encrypted Tunnel	✓	✓
High Throughput Network Extension	✓	✓
WAN Optimization	✓	✓
Legacy vSphere to modern mobility	✓	✓
Bulk Migration	✓	✓
Live Migration	✓	✓
Traffic Engineering		✓
Mobility Groups		✓
RAV (Bulk No-downtime Migration)		✓
Non-VMware to VMware migrations		✓
DR / Protection		✓
Mobility Optimized Networking		✓

Table 9

Description	<p>For Service Providers that are looking for</p> <ol style="list-style-type: none"> 1. Zero downtime Bulk Mobility of Enterprise Workloads 2. No-IP change Encrypted high-performance tunnel for migration traffic. 3. Migrate non-VMware workloads to VMware 4. Extend Network from Source to Target 5. Multi-Cloud with Hybridity 6. Hybrid DR with no IP Change. <p>Read More here (https://cloud.vmware.com/vmware-hcx)</p>						
Point Value / Charged Per	<p>Flex Model Add-On 2.0 Points per GB of VRAM</p> <p>Others No additional cost for HCX when included in other products like NSX DC SP Ent+, unless explicitly stated otherwise.</p>						
Components and Packages of HCX	<p>Currently VMware HCX comes in two Editions –</p> <ol style="list-style-type: none"> 1. HCX Advanced 2. HCX for Cloud Providers (which includes HCX Advanced) <p>Edition Availability</p> <table border="1" data-bbox="509 938 1276 1104"> <thead> <tr> <th data-bbox="509 938 807 978">VCCP Bundles</th> <th data-bbox="808 938 1276 978">HCX Edition Available</th> </tr> </thead> <tbody> <tr> <td data-bbox="509 980 807 1031">Flex Model Add-on</td> <td data-bbox="808 980 1276 1031">HCX for Cloud Provider</td> </tr> <tr> <td data-bbox="509 1033 807 1104">NSX Enterprise Plus via Flex Model</td> <td data-bbox="808 1033 1276 1104">HCX Advanced is included in NSX usage</td> </tr> </tbody> </table>	VCCP Bundles	HCX Edition Available	Flex Model Add-on	HCX for Cloud Provider	NSX Enterprise Plus via Flex Model	HCX Advanced is included in NSX usage
VCCP Bundles	HCX Edition Available						
Flex Model Add-on	HCX for Cloud Provider						
NSX Enterprise Plus via Flex Model	HCX Advanced is included in NSX usage						
Ordering HCX for FLEX Model	<ul style="list-style-type: none"> • Use One-off Order Form to get access. • Automated retrieval of HCX activation keys via API. • Applying activation keys enables HCX. • Activation key can be disabled via API as well. 						
Ordering Through Others	<ul style="list-style-type: none"> • When HCX is bundled-in Flex Core, HCX does not require additional ordering process. 						
Metering	<ul style="list-style-type: none"> • HCX is installed on the Destination and Source Landing Pads. • Billable vRAM of VMs only on the Destination Landing Pad. • All Powered-on VMs and Powered-off VMs are accounted. • All VMs under HCX-Enabled VCs and HCX-Enabled Tenants under VCD. 						
Reporting	<p>See page 10 for Billable vRAM definition</p> <p>HCX Manager have a 1:1 relationship with VC and VCD.</p> <p>For VC – All VMs under VC are counted for metered RAM or allocated RAM calculation.</p> <p>For VCD – ALL VMs under the different vCD Orgs that are HCX Enabled are counted for metered RAM or allocated RAM calculation.</p> <p>Example Usage</p> <ul style="list-style-type: none"> ○ VM A - Powered on, 8GB RAM, Reservation Level 20%. 						

	<ul style="list-style-type: none"> ▪ Monthly Charge for VM A - Max (20% of 8GB RAM or 50% of 8 GB RAM) = 4GB RAM * 2 Points = 8 Points. ○ VM B - Powered on, 8GB RAM, Reservation Level 100% ▪ Monthly Charge for VM B - Max (100% of 8GB RAM or 50% of 8 GB RAM) = 8GB RAM * 2 Points = 16 Points. ○ VM C - Powered off, 8GB RAM, Reservation Level 100% ▪ Monthly Charge for VM C - Max (100% of 8GB RAM or 50% of 8 GB RAM) = 8GB RAM * 2 Points = 16 Points.
Billing	Currently, it is manual. Usage will need to be manually uploaded to Billing Portal.
Support	Production Level Support
Additional Support Information	<ul style="list-style-type: none"> • Support for vCenter and VCD Destination Landing Pads. • Currently, VCD Support is only via Design Partnership. • Design Partnership program is currently unavailable. <p><u>Current Limitations:</u></p> <p>1) Number of Tenants</p> <ul style="list-style-type: none"> • HCX can support 1:1 Site Pairings between End-Customer On-premise environment and End-Customer Tenant on SP VCD instance. • HCX can support Max Site-Pairings up to 25 Tenants per VCD instance • Max of 100 Simultaneous Migrations per HCX Manager. • Infrastructure, Level 1 and Level 2 issues need to be handled by SP. • HCX can support up to a Max of 25 Service Mesh Instance. <ul style="list-style-type: none"> - A Service Mesh is required for every PVDC. <p>2) Support for newer VCD features</p> <ul style="list-style-type: none"> • HCX does not support the following <ul style="list-style-type: none"> - CPoM - NSX-V VDR Org VDC Edge Gateway - NSX-T • Flex VDCs and Compute Profiles

STORAGE AND AVAILABILITY

VMware Site Recovery Manager

Description	<p>VMware Site Recovery Manager (“SRM”) is a disaster recovery solution that provides automated orchestration and non-disruptive testing of centralized recovery plans for all virtualized applications. It allows Service Providers to offer reliable, automated protection for workloads hosted on their own cloud infrastructure and being replicated to another cloud destination (DR of the cloud) or workloads running on customer premises and being replicated to the cloud infrastructure (DR to the Cloud). It integrates natively with VMware vSphere® Replication™ or with a broad range of array-based replication solutions available from all major VMware storage partners. A deployment founded on vSphere and complemented with SRM can dramatically lower the cost of DR through management and testing automation that eliminates the complexity of legacy processes, while ensuring fast and highly predictable recovery time objectives (RTO) to maintain business continuity.</p> <p>To learn more about Site Recovery Manager visit: http://www.vmware.com/products/site-recovery-manager/features.html</p>
Point Value / Charged Per	<p>24 points per protected virtual machine per month</p> <p>A protected VM is any virtual machine that is part of an SRM protection group, regardless of whether the VM is powered on or off. A license is only required for the VM on the active site, no license is required at the failover site.</p>
Components	<p>VMware Site Recovery Manager Enterprise</p>
Reporting	<p>As SRM does not include vCenter Server or vSphere licensing, all use of those products must be reported separately, in addition to the usage of the SRM product. The vCloud Usage Meter must monitor Service Provider licensing on either the protected or failover site. Typically, Service Providers will monitor SRM licenses on the failover site when protecting a customer’s private cloud resources. Site Recovery Manager or a Disaster Recovery system reporting consists of three parts:</p> <ul style="list-style-type: none"> • Monthly reporting on Flex Core that is installed and being utilized as the basis for SRM or Disaster Recovery on the <u>protected</u> side via Usage Meter. • Monthly reporting of SRM usage – number of VMs on the protected side via Usage Meter 4.4 with supported versions. • Monthly reporting on Flex Core that is installed and being utilized as the basis for SRM or Disaster Recovery on the <u>recovery</u> side via Usage Meter Reporting for SRM usage is done via vCenter 5 or later (required for SRM 5 and later.) <p>The Service Provider needs to access the vCenter License Reporting Manager. That screen provides information on “License Capacity” as well as “Average Usage”. The Average Usage can be used as the number of virtual machines on the protected side for SRM versions not supported by the vCloud Usage Meter.</p>
Support	<p>VMware Production Level support</p>
More Information	<p>For more information, go to https://cloudsolutions.vmware.com or http://www.vmware.com/products/site-recovery-manager/features.html</p>

Interoperability	SRM / vCenter Compatibility: SRM / Storage Array interop: http://www.vmware.com/pdf/srm_storage_partners.pdf SRM is not compatible with VMware Cloud Director. See vCloud Availability.
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VMware vSAN

VMware vSAN is a Hyper-Converged storage software that Hyper-Converged delivers immense value to datacenter storage with simple management, high performance and low cost.

vSAN is available in three editions to VMware Cloud Provider Program Service Providers:

- vSAN Standard
- vSAN Advanced
- vSAN Enterprise

The table below shows features of each edition.

Features/Editions	vSAN Standard	vSAN Advanced	vSAN Enterprise
Point for Server Version (per GB per Month for Used Capacity)	0.02	0.03	0.04
Point Value for Desktop Version (per Concurrent Connection per Month)	2	4	5
Storage Policy-Based Management	✓	✓	✓
Virtual Distributed Switch	✓	✓	✓
Rack Awareness	✓	✓	✓
Software Checksum	✓	✓	✓
All-Flash Hardware	✓	✓	✓
iSCSI Target Service	✓	✓	✓
QoS - IOPS Limits	✓	✓	✓
Cloud Native Storage (CNS) Control Plane	✓	✓	✓
vSphere Container Storage Interface (CSI) Driver	✓	✓	✓
Shared Witness	✓	✓	✓
Deduplication & Compression		✓	✓
RAID 5/6 Erasure Coding		✓	✓
vRealize Operations within vCenter		✓	✓
Stretched Cluster with Local Failure Protection			✓
Data-at-rest Encryption			✓
Data-in-transit Encryption			✓
File Services			✓
HCI Mesh			✓
Data Persistence Platform for Modern Stateful Services			✓

Table 10

This table applies to Usage Meter 4.4 and above. In order to take advantage of latest features identified in this Product Usage Guide, you need to be on Usage Meter 4.4.

Usage Meter 4.4 and 3.6.1 do not meter the same way. Please see Appendix A for [vSAN feature-based metering for Usage Meter 3.6.1](#).

[Partner Connect – Production Detection Whitepaper](#)

VMware vSAN Standard

Description	VMware vSAN Standard supports all-flash (SSD) and hybrid SSD/HDD configurations. To learn more about vSAN, visit: http://www.vmware.com/products/vsan.html#compare
Point Value / Charged Per	0.02 points per GB per month for Used Capacity
Components	VMware vSAN Standard
Reporting	<p>As vSAN Standard does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Standard product.</p> <p>VMware vSAN Standard reporting consists of two parts:</p> <ul style="list-style-type: none"> • Monthly reporting on Flex Core that is installed and being utilized as the basis for vSAN Standard via Usage Meter. • Monthly reporting of vSAN Standard per Used Capacity via Usage Meter 3.6.1 or later versions <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>NOTE: “Used Capacity” means the storage capacity consumed by vSAN Overhead (deduplication and compression metadata reservation) and all VM Objects (like VMDK, SWAP files, VMX, Snapshots, etc.) and not available for new allocations. The point values set forth above shall be reported for each GB of Used Capacity at any time during the applicable reporting period. Service Provider shall report the average amount of consumed capacity for each reporting month.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Standard can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN Standard – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer.</p> <p>For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at: http://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsan https://www.vmware.com/products/vsan.html</p>

VMware vSAN Advanced

Description	<p>VMware vSAN Advanced supports all-flash configuration and data efficiency features such as deduplication, compression and erasure coding, in addition to all functionalities of VMware vSAN Standard. VMware vSAN Advanced enables a two-tier all-flash architecture in which flash devices are intelligently used for both caching and data persistence to deliver high, predictable performance and sub-millisecond response times, making it ideal for tier-1 or business-critical workloads. To learn more about VMware vSAN Advanced, visit: http://www.vmware.com/products/vsan.html#compare</p>
Point Value / Charged Per	0.03 points per GB per month for Used Capacity
Components	VMware vSAN Advanced
Reporting	<p>As vSAN Advanced does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Advanced product.</p> <p>VMware vSAN Advanced system reporting consists of two parts:</p> <ul style="list-style-type: none"> • Monthly reporting on Flex Core that is installed and being utilized as the basis for vSAN Advanced via Usage Meter. • Monthly reporting of vSAN Advanced per Used Capacity via Usage Meter 3.6.1 or later versions. <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>NOTE: “Used Capacity” means the storage capacity consumed by vSAN Overhead (deduplication and compression metadata reservation) and all VM Objects (like VMDK, SWAP files, VMX, Snapshots, etc.) and not available for new allocations. The point values set forth above shall be reported for each GB of Used Capacity at any time during the applicable reporting period. Service Provider shall report the average amount of consumed capacity for each reporting month.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Advanced can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN Advanced – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer.</p> <p>For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at: http://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsan https://www.vmware.com/products/vsan.html</p>

VMware vSAN Enterprise

Description	VMware vSAN Enterprise provides support for stretched clusters with local failure protection, data-at-rest and data-in-transit encryption, file services to simplify backup of file shares through API, HCI Mesh that allows vSAN clusters to share storage capacity with compute clusters, and Data Persistence platform for modern stateful services, (e.g., object storage, noSQL databases).
Point Value / Charge per	0.04 points per GB per month for Used Capacity
Components	VMware vSAN Enterprise
Reporting	<p>As vSAN Enterprise does not include vCenter Server or vSphere licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Enterprise product.</p> <p>VMware vSAN Enterprise reporting consists of two parts:</p> <ul style="list-style-type: none"> • Monthly reporting on Flex Core that is installed and being utilized as the basis for vSAN Enterprise via Usage. • Monthly reporting of vSAN Enterprise per Used Capacity via Usage Meter 3.6.1 HP 5 or later versions. <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>NOTE: “Used Capacity” means the storage capacity consumed by vSAN Overhead (deduplication and compression metadata reservation) and all VM Objects (like VMDK, SWAP files, VMX, Snapshots, etc.) and not available for new allocations. The point values set forth above shall be reported for each GB of Used Capacity at any time during the applicable reporting period. Service Provider shall report the average amount of consumed capacity for each reporting month.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Enterprise can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN Enterprise – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer. For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at:</p> <p>http://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsan https://www.vmware.com/products/vsan.html</p>

Hyper-Converged Infrastructure for VxRail Appliance

Review Table 11 (below) for Hyper-Converged Infrastructure product comparison:

Features/Editions	vCloud SP Hyper-Converged Infrastructure Bundle*	vSAN Enterprise for Hyper-Converged Infrastructure**
Points per Month	6 GB Metered RAM per month	0.04 per 1 GB of Used Capacity
vSphere Enterprise Plus	✓	
vCenter Server Standard	✓	
vRealize Log Insight	✓	
Storage Policy-Based Management		✓
Distributed RAID		✓
vSphere Distributed Switch		✓
vSAN Snapshots & Clones		✓
Rack Awareness		✓
Replication (5min RPO)		✓
All-Flash Support		✓
Block Access (iSCSI)		✓
Read/Write SSD Caching		✓
Hybrid SSD/HDD2 configurations		✓
Stretched Cluster & Nested Fault Domains		✓
QoS – IOPS Limits		✓
Flash Class Encryption		✓
Deduplication & Compression (All Flash Only)		✓
Erasur Coding (All Flash Only)		✓

Table 11

*Required

**Choose either/or

VMware vCloud SP Bundle for Hyper-Converged Infrastructure (RESTRICTED)

Description	VMware vCloud SP Bundle for Hyper-Converged Infrastructure provides the compute virtualization and logging components required to deliver a vSphere-based Hyper-Converged Infrastructure solution, on authorized Dell EMC VxRail appliances only.
Point Value / Charged Per	6 points per 1 GB Metered RAM per month (based on average monthly usage) (GB = 1024 MB) Total points capped at 24 GB of Metered RAM per virtual machine (see Reporting and Operational Details)
Components	<ul style="list-style-type: none"> • VMware vSphere Enterprise Plus • VMware vCenter Server Standard • VMware vRealize Log Insight
Reporting	<p>Service Providers must manually report to their Aggregator all vCloud SP Bundle for Hyper-Converged Infrastructure usage each month. Run the License Summary Report and capture the total usage for vSphere Enterprise Plus. Apply the formula (6 points per GB Metered vRAM). See Reporting and Operational Details</p> <p>When the vCloud SP Bundle for Hyper-Converged Infrastructure is deployed on a Dell EMC VxRail Appliance, the Dell EMC VxRail Appliance also comes with vSAN Enterprise pre-installed, and pre-licensed. vSAN Enterprise usage is reported separately, in addition to the vCloud SP Bundle for Hyper-Converged Infrastructure (see <i>vSAN Standard + Enterprise Add-on for Hyper-Converged Infrastructure</i> or <i>vSAN Advanced + Enterprise Add-on for Hyper-Converged Infrastructure</i>).</p>
Support	Production Level Support
More Information	https://cloudsolutions.vmware.com
Limitations	<p>The VMware vCloud SP Bundle Hyper-Converged Infrastructure is a “restricted” product and only qualifying Service Providers can rent the product from VMware. Only Service Providers with a valid 360 point or higher contract, and who will be deploying the software on authorized Dell EMC VxRail appliances only, are eligible to start the qualification process. Contact your local Business Development Manager or partnernetwork@vmware.com for requirements on qualification and additional details to use the product through the VMware Cloud Provider Program.</p> <p>When deployed on a Dell EMC VxRail Appliance, the following terms apply:</p> <ul style="list-style-type: none"> • VxRail Appliances are sold and provided directly by a Third-Party VxRail Appliance Provider. The terms and conditions applicable to the VxRail Appliance (but not the vCloud SP Bundle for Hyper-Converged Infrastructure) are available from the VxRail Appliance Provider. The VMware end user license agreement applies to Service Provider’s use of the vCloud SP Bundle for Hyper-Converged Infrastructure but does not apply to Service Provider’s usage of the VxRail Appliance. <p>Service Provider’s use of the vCloud SP Bundle for Hyper-Converged Infrastructure is governed by VMware’s EULA located at: http://www.vmware.com/download/eula.html.</p> <p>Service Provider agrees that VMware may share Service Provider’s information (including reported usage of VxRail Appliances and vCloud SP Bundle for Hyper-Converged Infrastructure) to the VxRail Appliance Provider for purposes of providing the VxRail Appliances and vCloud SP Bundle for Hyper-Converged Infrastructure through the VMware Cloud Provider Program.</p>

VxRail Appliances are supported directly by the VxRail Appliance Provider. The support contact information is provided by the VxRail Appliance Provider. VMware does not provide support for VxRail Appliances.

The Service Provider agrees that VxRail Support will be provided for the VxRail Appliance by the VxRail Appliance Provider only to those Service Providers with a valid, active VMware Cloud Provider Program Agreement. If the VMware Cloud Provider Program Agreement is terminated, all rights to both the vCloud SP Bundle for Hyper-Converged Infrastructure and Support for the VxRail Appliance are terminated without refund.

VxRail Appliances are not provided by VMware and such appliances are therefore "AS IS" without warranty, support or indemnification from VMware. Any product warranty, support or indemnification is provided solely by the VxRail Appliance Provider.

VMware vSAN Enterprise for Hyper-Converged Infrastructure (RESTRICTED)

Description	VMware vSAN Enterprise for Hyper-Converged Infrastructure is designed to facilitate usage reporting for vSAN when deployed only on authorized Dell EMC VxRail appliances that ship with vSAN Enterprise licenses. VMware vSAN Enterprise provides support for stretched clusters with local failure protection, data-at-rest and data-in-transit encryption, file services to simplify backup of file shares through API, HCI Mesh that allows vSAN clusters to share storage capacity with compute clusters, and Data Persistence platform for modern stateful services, (e.g., object storage, noSQL databases) in vSAN 7U2.
Point Value / Charged Per	0.04 points per GB per month for Used Capacity
Components	VMware vSAN Enterprise for Hyper-Converged Infrastructure
Reporting	<p>As vSAN Enterprise for Hyper-Converged Infrastructure does not include vCenter Server or vSphere licensing, all use of those products must be reported separately using the vCloud SP Bundle for Hyper-Converged Infrastructure, in addition to the usage of vSAN Enterprise for Hyper-Converged Infrastructure.</p> <p>For manual reporting, please rely on Monthly Usage Report of any generally available vCloud Usage Meter version. Non-supported versions of Usage Meter will result in incorrect metering and compliancy issues.</p> <p>If the Service Provider is using the space efficiency features of vSAN (e.g. deduplication, compression, erasure coding), the usage detected by Usage Meter for vSAN Enterprise must be reported in the Commerce Portal as: vSAN Enterprise for Hyper-Converged Infrastructure.</p> <p>Reporting consists of two parts:</p> <ul style="list-style-type: none"> • Monthly reporting on the VMware vCloud SP Bundle for Hyper-Converged Infrastructure that is installed and being utilized as the basis for vSAN Enterprise for Hyper-Converged Infrastructure. • Monthly reporting of vSAN Enterprise for Hyper-Converged Infrastructure per Used Capacity.
Support	Production Level Support
More Information	https://cloudsolutions.vmware.com/

Limitations	<p>The VMware vSAN Enterprise for Hyper-Converged Infrastructure is a “restricted” product and only qualifying Service Providers can rent the product from VMware. Only Service Providers with a valid 360 point or higher contract, and who will be deploying the software on an authorized Dell EMC VxRail appliances only, are eligible to start the qualification process. Contact your local Business Development Manager or partnernetwork@vmware.com for requirements and additional details to use the product through the VMware Cloud Provider Program.</p> <p>When deployed on a Dell EMC VxRail Appliance, the following terms apply:</p> <ul style="list-style-type: none"> • VxRail Appliances are sold and provided directly by a Third-Party VxRail Appliance Provider. The terms and conditions applicable to the VxRail Appliance (but not the vSAN Enterprise for Hyper-Converged Infrastructure) are available from the VxRail Appliance Provider. The VMware end user license agreement (“EULA”) applies to Service Provider’s use of the vSAN Enterprise for Hyper-Converged Infrastructure, but does not apply to Service Provider’s usage of the VxRail Appliance. <p>Service Providers of the vSAN Enterprise for Hyper-Converged Infrastructure is governed by VMware’s EULA located at: http://www.vmware.com/download/eula.html.</p> <ul style="list-style-type: none"> • Service Provider agrees that VMware may share Service Provider’s information (including reported usage of VxRail Appliances and vSAN Enterprise for Hyper- Converged Infrastructure) to the VxRail Appliance Provider for purposes of providing the VxRail Appliances and vSAN Enterprise for Hyper-Converged Infrastructure through the VMware Cloud Provider. • VxRail Appliances are supported directly by the VxRail Appliance Provider. The support contact information is provided by the VxRail Appliance Provider. VMware does not provide support for VxRail Appliances. <p>The Service Provider agrees that VxRail Support will be provided for the VxRail Appliance by the VxRail Appliance Provider only to those Service Providers with a valid, active VMware Cloud Provider Program Agreement. If the VMware Cloud Provider Program Agreement is terminated, all rights to both the vSAN Enterprise for Hyper-Converged Infrastructure and Support for the VxRail Appliance are terminated without refund.</p> <ul style="list-style-type: none"> • VxRail Appliances are not provided by VMware and such appliances are therefore “AS IS” without warranty, support or indemnification from VMware. Any product warranty, support or indemnification is provided solely by the VxRail Appliance Provider.
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VMware Horizon Advanced for Hyper-Converged Infrastructure (RESTRICTED)

Description	VMware Horizon Advanced for Hyper-Converged Infrastructure is ideal for Cloud Providers looking to deliver virtual or remote desktops and applications through a single platform to end users – deployed on an authorized Dell EMC VxRail appliance. These desktop and application services – including RDS hosted applications, packaged applications with VMware ThinApp, SaaS applications, and even virtualized applications from Citrix – can all be accessed from one unified workspace to provide end users with all of the resources they want, at the speed they expect, with the efficiency the business demands. VMware Horizon Advanced for Hyper-Converged Infrastructure offers Service Providers all of the benefits of Horizon View Standard, and additionally extends the power of virtualization with virtual compute and virtual storage to drive down costs, enhance the user experience, and deliver greater business agility.
Point Value / Charged Per	21 points per concurrent connection per month
Components	<p>VMware Horizon Advanced (includes View, RDS Hosted Applications, and Identity Manager Standard Edition)</p> <ul style="list-style-type: none"> • VMware vSAN Advanced for Desktop • VMware vSAN Enterprise Add-on for Desktop • VMware ThinApp Client • VMware ThinApp Packager • VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop • VMware vRealize Log Insight
Reporting	<p>Service Providers must manually report Horizon Advanced for Hyper-Converged Infrastructure usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown below. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API¹ and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: • Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): • Connect-HVServer -server <connection-server-fqdn> -User <username> -Password <password> -Domain <domain> • Query Horizon for the connection statistics

¹ The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information on Horizon View API and PowerCLI, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

	<ul style="list-style-type: none"> • \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://cloudsolutions.vmware.com/
Limitations	<p>The VMware Horizon Advanced for Hyper-Converged Infrastructure is a restricted product and only qualifying Service Providers can rent the product from VMware. Only Service Providers with a valid 360 point or higher contract, and whom will be deploying the software on authorized Dell EMC VxRail appliances only, are eligible to start the qualification process. Contact your local Business Development Manager or partnernetwork@vmware.com for requirements on qualification and additional details to use the product through the VMware Cloud Provider Program.</p> <p>When deployed on a Dell EMC VxRail Appliance, the following terms apply:</p> <ul style="list-style-type: none"> • VxRail Appliances are sold and provided directly by a Third-Party VxRail Appliance Provider. The terms and conditions applicable to the VxRail Appliance (but not the Horizon Advanced for Hyper-Converged Infrastructure) are available from the VxRail Appliance Provider. The VMware end user license agreement applies to Service Provider's use of the Horizon Advanced for Hyper-Converged Infrastructure, but does not apply to Service Provider's usage of the VxRail Appliance. <p>Service Provider's use of the Horizon Advanced for Hyper-Converged Infrastructure is governed by VMware's EULA located at: http://www.vmware.com/download/eula.html.</p> <ul style="list-style-type: none"> • Service Provider agrees that VMware may share Service Provider's information (including reported usage of VxRail Appliances and Horizon Advanced for Hyper-Converged Infrastructure) to the VxRail Appliance Provider for purposes of providing the VxRail Appliances and Horizon Advanced for Hyper-Converged Infrastructure through the VMware Cloud Provider Program. • VxRail Appliances are supported directly by the VxRail Appliance Provider. The support contact information is provided by the VxRail Appliance Provider. VMware does not provide support for VxRail Appliances. <p>The Service Provider agrees that VxRail Support will be provided for the VxRail Appliance by the VxRail Appliance Provider only to those Service Providers with a valid, active VMware Cloud Provider Program Agreement. If the VMware Cloud Provider Program Agreement is terminated, all rights to both the Horizon Advanced for Hyper-Converged Infrastructure and Support for the VxRail Appliance are terminated without refund.</p> <ul style="list-style-type: none"> • VxRail Appliances are not provided by VMware and such appliances are therefore "AS IS" without warranty, support or indemnification from VMware. Any product warranty, support or indemnification is provided solely by the VxRail Appliance Provider.

VMware Horizon Enterprise for Hyper-Converged Infrastructure (RESTRICTED)

Description	<p>VMware Horizon Enterprise for Hyper-Converged Infrastructure is ideal for Service Providers looking to automate the management and delivery of virtual or remote desktops and applications, through a single platform to end users – deployed on authorized Dell EMC VxRail appliances only. VMware Horizon Enterprise for Hyper-Converged Infrastructure offers Service Providers all of the benefits of Horizon Advanced for Hyper-Converged Infrastructure and additionally streamlines management and provisioning with advanced self-service and monitoring capabilities to reduce operating costs and provide IT organizations with the tools to be more responsive to changing business requirements. Horizon Enterprise supports RHEL, Ubuntu, CentOS and NeoKylin Linux in addition to Microsoft Windows operating system.</p>
Point Value / Charged Per	<p>30 points per concurrent connection per month</p>
Components	<p>VMware Horizon Enterprise (includes View for Windows and Linux, RDS Hosted Applications, Identity Manager Standard Edition, vRealize Operations for Horizon Adapter and Instant Clones)</p> <ul style="list-style-type: none"> • VMware App Volumes Enterprise and Dynamic Environment Manager • VMware vSAN Advanced for Desktop • VMware vSAN Enterprise Add-on for Desktop • VMware Fusion Professional • VMware ThinApp Client • VMware ThinApp Packager • VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop • VMware vRealize Log Insight
Reporting	<p>Service Providers must manually report Horizon Enterprise for Hyper-Converged Infrastructure usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown below. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API¹ and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: • Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): • Connect-HVServer -server <connection-server-fqdn> -User <username> -Password <password> -Domain <domain> • Query Horizon for the connection statistics • \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider’s responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only. Service Providers must manually report to their Aggregator all Horizon Enterprise for Hyper-Converged Infrastructure usage each month. Information on</p>

	the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown below. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.
Support	Production Level Support
More Information	https://cloudsolutions.vmware.com/

¹ The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information on Horizon View API and PowerCLI, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMWARE INTEGRATED STACK

VMware Cloud Foundation

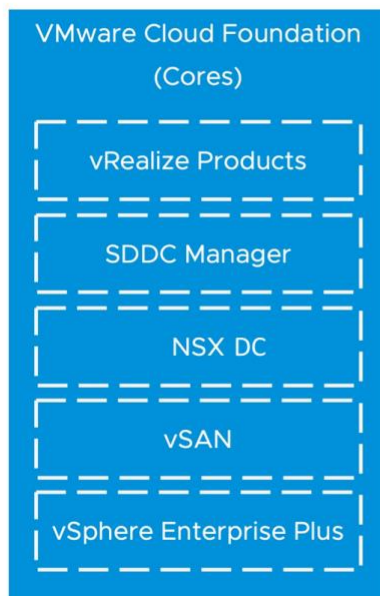
VMware Cloud Foundation is a product that bundles vSphere, NSX, vSAN, SDDC Manager, and vRealize Suite into a single, integrated product with Day 0 automation and Day 2 Lifecycle Management.

VMware Cloud Foundation is available in two pricing strategies:

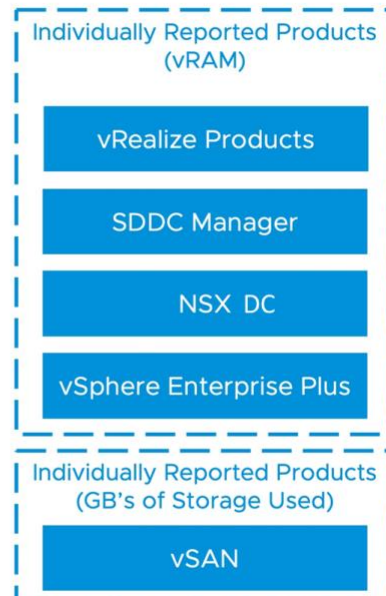
- **Physical Cores**
 - Based on the count of Physical Cores from hosts that are actively running workloads, including all Management and Workload Domain hosts.
 - Core model bundles all of the products into a single line item
 - vRealize Suite Enterprise included in VCF Advanced and Enterprise editions
 - vRealize products available in Per VM pricing for VCF Standard

- **vRAM Reserved**
 - Based on reporting each of the products individually.
 - vSphere, NSX, and SDDC Manager are each available through vRAM based licensing
 - vSAN available based on GBs of Storage Used
 - Available as a Build-Your-Own VCF Edition
 - NSX and vSAN utilize feature based metering from Usage Meter

Cores Based Pricing



vRAM Pricing Model



* VCF requires deploying vSAN in the Management domain, as well as NSX Managers for the Management and workload domains.

VMware Cloud Foundation (Core Based Model)

Description	<p>VMware Cloud Foundation for Cloud Providers offers the ability to consume VMware Cloud Foundation through VCPP points. VMware Cloud Foundation for Cloud Providers is offered at three levels: Basic, Standard, and Enterprise. Please see below for more information about the editions.</p> <p>VMware recommends, but does not require Professional Services for deploying VCF: VCF Deploy Service (Standard SOW for 3.7 or later), plus additional services applicable for the specific Cloud Provider.</p> <p>For more information about VMware Cloud Foundation please refer to https://www.vmware.com/products/cloud-foundation.html</p>
Point Value / Charged Per	<p>Partners consume VMware Cloud Foundation bundles on a per core / per month basis. Please contact your VMware Business Development Manager or Aggregator for pricing information for each bundle.</p>
Components	<p>VMware Cloud Foundation for Cloud Providers editions include the following products</p> <ul style="list-style-type: none"> • VMware vSphere Enterprise Plus • vCenter Server Standard • VMware SDDC Manager • VMware NSX Professional, Advanced, or Enterprise+ (based on VCF Edition) • vSAN Advanced or Enterprise (based on VCF Edition) • vRealize Network Insight Advanced or Enterprise (Based on VCF Edition) • vRealize Suite Enterprise (available with VCF Advanced and Enterprise) • Workspace ONE Access (Available with vRealize Suite)
Reporting	<p>Service Providers must use UM 4.4 to report points consumed by VMware Cloud Foundation for Cloud Providers environment.</p>
Support	<p>Pricing reflects production level support</p>
How to Acquire	<p>Licensing for VCF is available by combining SDDC Manager, vSphere, NSX, and vSAN licenses, all available today for partners customerconnect.vmware.com entitlement accounts. Partners looking to utilize a single VCF license key that enables all of the products can ask for it to be added through the one-off order form on the VMware Commerce Portal.</p>
More Information	<p>https://www.vmware.com/products/cloud-foundation.html</p>

VMware Cloud Foundation Editions	VCF Standard	VCF Advanced	VCF Enterprise	VCF Standard without vSAN*	VCF Advanced without vSAN*	VCF Enterprise without vSAN*
vSphere Enterprise Plus	✓	✓	✓	✓	✓	✓
SDDC Manager	✓	✓	✓	✓	✓	✓
vSAN Advanced	✓	✓				
vSAN Enterprise			✓			
NSX DC SP Advanced	✓	✓		✓	✓	
NSX DC SP Enterprise Plus			✓			✓
vRNI Advanced		✓			✓	
vRNI Enterprise			✓			✓
vRealize Suite Enterprise		✓	✓		✓	✓

Table 12

* VCF Editions without vSAN are only available for Workload domains. When deploying VCF, the Management Domain requires the use of vSAN.

VMware Cloud Director - Stand-Alone (Core Based Model)

Description	<p>VMware Cloud Director, the strategic cloud management platform for the VMware Cloud Provider Program, enables Service Providers to rapidly build and monetize cloud-scale, agile, differentiated cloud environments. Cloud Director enables services providers to deliver multi-tenant, self-service, NSX-based networking services, thus deriving additional revenue from their VMware Cloud Director environment.</p> <p><i>VMware Cloud Director - Stand-Alone (Core Based Model)</i> is intended for use on VMware Cloud Foundation environments or vSphere environments that are already licensed outside of VCPP. An example of this is if a Provider's customer already has vSphere licensed and the Provider will be adding Cloud Director as a managed service on that existing environment. <u>This license is not to be used for Cloud Director on public cloud environments.</u></p>
Point Value / Charged Per	12 points per core per month
Components	VMware Cloud Director
Reporting	<p>Service Providers must manually report points consumption based on the number of physical cores across all hosts running VMs under management by Cloud Director for Cloud Providers environment.</p> <p>HOW TO REPORT:</p> <ul style="list-style-type: none"> • Calculate the number of physical cores across all hosts that are running VMs under management by Cloud Director. • Report the number of cores in the Commerce Portal <p>Report against the SKU associated with the VMware Cloud Director Stand-Alone.</p>
Support	Production Level Support
How to Acquire	VMware Cloud Director Stand-Alone is provided to partners upon request as part of the one-off-order for VMware Cloud Foundation.
More Information	More information is available at VMware Cloud Provider Program Cloud Director or https://cloudsolutions.vmware.com

VMware SDDC Manager for VCF vRAM Based Model

Description	VMware SDDC Manager is used for deploying the entire VMware Cloud Foundation product. This product is available only with Flex Pricing Model. This specific offering for Cloud Providers is used to provide VCF through the Flex Pricing Model. SDDC Manager on Flex Pricing Model allows Partners to meter and report each component of the VMware Cloud Foundation product on a per product and edition basis. This includes using feature based metering for vSAN and NSX as is done with Flex Pricing Model and Usage Meter.
Point Value / Charged Per	1.00 Points per 1 GB Metered RAM (based on average monthly usage) Total points capped at 24 GB of Metered RAM per virtual machine (see Reporting and Operational Details)
Components	<ul style="list-style-type: none"> • Cloud Builder • SDDC Manager
Reporting	<p>HOW TO REPORT:</p> <ul style="list-style-type: none"> • Usage Meter 4.4 supports the ability to tag vCenter Server as "managed by VMware SDDC Manager" • After tagging, SDDC Manager will appear as a line item on the Monthly usage Report, equal to the aggregate vSphere Units from that vCenter Server • Usage Meter will automatically be reported for SDDC Manager consumption to the Monthly Billing Order (MBO)
Support	Production Level Support
How to Acquire	VMware SDDC Manager licenses are available for all partners in their customerconnect.vmware.com entitlement accounts. The SDDC Manager SKU is available for all partners on their monthly report. No restrictions are applied for partners looking to adopt SDDC Manager or VCF.
More Information	More information is available at or https://cloudsolutions.vmware.com

DESKTOP AND APPLICATION VIRTUALIZATION

VMware App Volumes

VMware App Volumes is a portfolio of integrated application and user management solutions for VMware Horizon, Citrix XenApp and XenDesktop, and RDSH virtual environments. These solutions take desktop and application environments to the next level by providing faster application delivery, unified application and user management, while reducing IT costs by up to 70%. To learn more about VMware App Volumes visit: <http://www.vmware.com/products/appvolumes/>

VMware App Volumes is available to service providers in two editions (refer to Table 13):

- App Volumes Standard
- App Volumes Advanced

Features	Standard	Advanced
Point Value (per Concurrent Connection per Month)	4	7
VMware App Volumes Standard & Dynamic Environment Manager	✓	✓
VMware ThinApp Client		✓
VMware ThinApp Packager		✓
VMware Workstation		✓
VMware vRealize Operations Adaptor for Published Applications		
VMware vRealize Operations Manager for Published Applications		

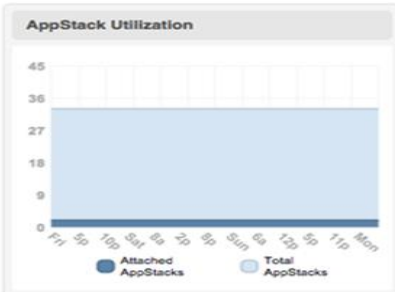
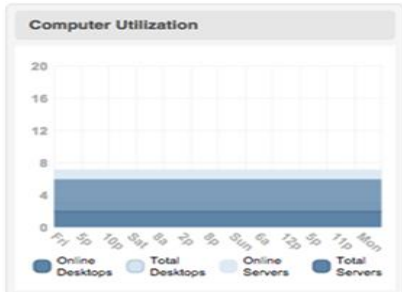
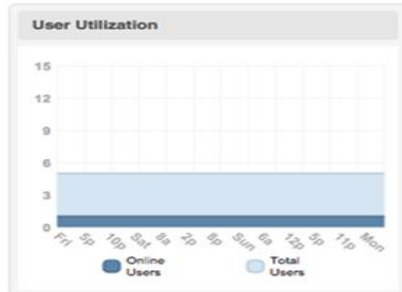
Table 13

App Volumes by vmware

CVDEMO\Administrator
Logout

- DASHBOARD
- VOLUMES
- DIRECTORY
- INFRASTRUCTURE
- ACTIVITY
- CONFIGURATION

Licensed to: Everything License (new version)	Perpetual
User Licenses: 5 of 1000	(1% utilization)
Terminal User Licenses: 4 of 1000	(0% utilization)
Desktop Licenses: 1 of 1000	(0% utilization)
Server Licenses: 0 of 1000	(0% utilization)



VMware App Volumes Standard

Description	VMware App Volumes Standard is an application and user management solution for small and medium tenants with virtual environments powered by Horizon, Citrix XenApp and XenDesktop, and RDSH.
Point Value / Charged Per	4 points per concurrent connection per month
Components	VMware App Volumes Standard and Dynamic Environment Manager
Reporting	Service Providers must manually report App Volumes Standard usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the App Volumes Manager interface via the Dashboard Primary tab shown above. To report number of concurrent connections for a given month, Service Providers shall use maximum “Online Users” in the “User Utilization” chart and/or maximum “Online Desktops” and “Online Servers” in the “Computer Utilization” chart depending on what they attach AppStack to – i.e. user, machine, or both. An AppStack is a virtual disk containing applications, disks, and folders. There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider’s responsibility to track and report this information accurately each month.
Support	Production Level Support
More Information	https://www.vmware.com/products/appvolumes.html or https://cloudsolutions.vmware.com/

VMware App Volumes Advanced

Description	VMware App Volumes Advanced is an integrated application and user management solution for enterprise customers with virtual environments powered by Horizon, Citrix XenApp and XenDesktop, and RDSH.
Point Value / Charged Per	7 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware App Volumes Advanced and Dynamic Environment Manager • VMware ThinApp Client • VMware ThinApp Packager • VMware Workstation
Reporting	Service Providers must manually report VMware App Volumes Advanced in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the App Volumes Manager interface via the Dashboard Primary tab shown above. To report number of concurrent connections for a given month, Service Providers shall use maximum “Online Users” in the “User Utilization” chart and/or maximum “Online Desktops” and “Online Servers” in the “Computer Utilization” chart depending on what they attach AppStack to – i.e. user, machine, or both. An AppStack is a virtual disk containing applications, disks, and folders. There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider’s responsibility to track and report this information accurately each month. ThinApp Packager and Workstation are for administrator use only.
Support	Production Level Support
More Information	https://www.vmware.com/products/appvolumes.html or https://cloudsolutions.vmware.com/

VMware Desktop and Application Virtualization

VMware desktop and application virtualization solutions provide service providers with a new approach to deliver, protect, and manage Windows or Linux virtualized desktops and applications, while containing costs and ensuring end users can work anytime, anywhere across any device. For more details on Horizon Universal Licensing, refer to [Appendix B](#). Review Table 14 for features details.

Features/ Editions	Horizon DaaS		Horizon 8 Editions			Horizon 8 Apps		Horizon for Linux
	RDSH Edition	VDI Edition	Standard	Advanced	Enterprise	Standard	Advanced	
Points per Month	13 per Created RDS Session	16 per Created Desktop	12 per Concurrent Connection	19 per Concurrent Connection	28 per Concurrent Connection	11 per Concurrent Connection	18 per Concurrent Connection	7 per Concurrent Connection
VDI (Windows Desktops)		✓	✓	✓	✓			
VDI (RDS Sessions)	✓	✓		✓	✓			
VDI (Linux Desktops)					✓			✓
Published Apps	✓	✓		✓	✓	✓	✓	
View Manager			✓	✓	✓	✓	✓	✓
View Composer			- (*)	- (*)	- (*)			- (*)
Persona			- (*)	- (*)	- (*)			- (*)
ThinApp			✓	✓	✓	✓	✓	
VMware Workstation / Fusion			✓	✓	✓	✓	✓	
vCenter for Desktop	✓	✓	✓	✓	✓	✓	✓	✓
vSphere Ent plus for Desktop	✓	✓	✓	✓	✓	✓	✓	✓
Workspace ONE Access – On Premise Edition	✓	✓		✓	✓	✓	✓	
vSAN Adv. For Desktop				- (*)	- (*)			
vRealize Operations for Horizon					- (*)			
App Volumes					✓		✓	
DEM Standard			✓	✓				
DEM Enterprise	✓	✓			✓	✓	✓	
Instant Clones	✓	✓	✓	✓	✓		✓	

Table 14 (*) : Changed with the Horizon 8 product bundles.

VMware Horizon DaaS

VMware Horizon DaaS is the market leading solution providing Service Provider with a low cost, subscription-based, multi-tenant, and secure Desktop-as-a-Service (DaaS) platform solution. Designed to address enterprise-class scale, the solution also provides simplicity and ease-of-use from large to small customers. Horizon DaaS Bundle allows enterprises to create or extend their Virtual Desktop Infrastructure (VDI) footprint without increasing the financial burden of infrastructure management and ownership. Horizon DaaS certified Service Providers can provide enterprises with a fully customizable desktop service accessible via the Internet or via dedicated networks from any location, on any compatible device and with the same user experience as traditional on premises PCs.

There are two Horizon DaaS Bundles available to VMware Cloud Provider Program Service Providers:

- VMware Horizon Bundle for 8.0/9.0 – VDI Edition
- VMware Horizon Bundle for 8.0/9.0 – RDSH Edition

VMware Horizon DaaS Bundles for 8.0 / 9.0

Description	VDI Edition: VDI Edition applies to VDI Desktop workloads and includes the RDSH Edition rights. RDSH Edition: RDSH Edition applies to Remote Desktop Session Host (RDSH) Desktop and Application (i.e. Terminal Services Session-based) workloads.
Point Value / Charged Per	VDI Edition: 16 points per created desktop per month RDSH Edition: 13 points per created desktop or application session per month
Components (BOM)	<ul style="list-style-type: none"> • VMware Horizon DaaS Platform which includes right to host VDI desktop and applications (Windows Client OS, Windows Server OS) • Workspace ONE Access – On Premise Edition • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop • VMware Dynamic Environment Manager
Reporting	<p>Horizon DaaS 8.0:</p> <p>Manual reporting: Log into Service Center as Super Admin for each Horizon DaaS datacenter in place.</p> <ul style="list-style-type: none"> • In the main menu, select the ‘configuration tab, then select “standard capacity’. • Ensure you are in the ‘Desktop Capacity & Model Definition’ option, then select ‘Download Usage Report’ • From the downloaded .CSV file for each datacenter, the follow metrics should be extracted: • VDI Edition consumption: Sum of all <u>desktop</u> VMs created (column: No. of VMs) • RDSH Edition: Sum of all sessions created (Column: Total Sessions) • Manually enter the sums for VDI and RDSH edition above in the correct fields in Commerce Portal. <p>Horizon DaaS 9.0:</p> <p>Monthly reporting of Horizon DaaS 9.0 per Created Desktop (VDI Edition) and per Created Desktop or Application Session (RDSH Edition) via Usage Meter 4.4. Latest version of Usage Meter registered in Usage Insight will automatically pre-populate usage data in the Commerce Portal for Horizon DaaS 9.0.</p> <p>For manual reporting, please follow collection and reporting as shown for Horizon DaaS 8.0. If reporting both Horizon DaaS 8.0 and 9.0, manually collect the usage for Horizon DaaS 8.0, log into Commerce Portal and add that usage to the Horizon DaaS 9.0 usage that is pre-populated in both VDI and RDSH edition fields.</p> <p>Non-supported versions of Usage Meter will result in incorrect or incomplete metering and compliancy issues.</p> <p>Automatic Reporting using vCloud Usage Meter is supported with Horizon DaaS version 9.0. For more details refer to https://cloud.vmware.com/cloud-provider-metering</p>
Support	Production Level Support. GSS will answer SP support request. (Pricing reflects prod level support)
More Information	<p>https://www.vmware.com/products/daas-vspp.html or https://cloudsolutions.vmware.com/</p> <p>The Horizon DaaS Bundle are restricted products and only Qualifying Service Providers can rent the product from VMware. Only Service Providers with a valid 10,800 point or higher contract are eligible to start the qualification process, and there is also a required PSO engagement with a</p>

standard SOW to obtain a production grade deployment. Contact your local Business Development Manager or partnernetwork@vmware.com for additional details on how to use the product through the VMware Cloud Provider Program. For VMware and 3rd party component compatibility, refer to the Horizon DaaS Service Provider administration documentation: <https://docs.vmware.com/en/VMware-Horizon-DaaS/index.html>

VMware Desktop Disaster Recovery for Horizon DaaS Bundle(s)

Description	<p>VMware Desktop Disaster Recovery (DR) for Horizon DaaS Bundle(s) enables Service Providers to easily protect their tenants' business and ensure workforce continuity with cloud-hosted desktops and apps at a fraction of the cost. It opens new opportunities for Service Providers to offer cloud-based virtual desktop and apps as insurance to enterprises that use:</p> <ul style="list-style-type: none"> • on premises physical desktop infrastructure • on premises virtual desktop infrastructure or, • cloud-hosted desktop and apps for their normal business operation <p>In the event of a disaster, Service Providers can get tenant users up and running quickly with the speed of the cloud and predictable cloud economics. Tenants can be productive instantly, from any device, anywhere, with a secure workspace connected to corporate resources.</p>
Point Value / Charged Per	<p>4 points per Total Allocated Insurance Quota for VDI and RDSH Connections per month ("insurance rate")</p> <p>The Desktop DR option allows partners to deploy Horizon DaaS bundle(s) in either reservation mode or active (i.e. normal) mode as follows:</p> <ul style="list-style-type: none"> • Partner offers desktop "reservation" capacity and pays "insurance rate" to VMware. Desktop reservation capacity gives the tenant the right to take the reserved desktop capacity out of standby for a disaster event. • When tenants declare a disaster, partner "activates" desktops and reports "regular rate" of Horizon DaaS Bundle(s) to VMware during the disaster period with a minimum monthly commitment. For information on "regular rate" for VDI and RDSH Editions of VMware Horizon DaaS Bundle(s), refer to the "VMware Horizon DaaS Bundle – VDI Edition" and "VMware Horizon DaaS Bundle – RDSH Edition" sections, respectively. • Partner can select any mix of reserved and active desktops.
Components	<p>VMware Desktop DR for "Horizon DaaS Bundle – VDI Edition" and "Horizon DaaS Bundle – RDSH Edition"</p>
Reporting	<p>For reserved cloud-hosted desktops and apps, Service Providers must manually report the total allocated insurance quota for VDI and RDSH connections associated with the use of the "Horizon DaaS Bundle – VDI Edition" and "Horizon DaaS Bundle – RDSH Edition" respectively to their Aggregator each month.</p> <p>This data shall include the aggregate total insurance quota allocation of the "Horizon DaaS Bundle – VDI Edition" and "Horizon DaaS Bundle – RDSH Edition" as well as the name, total insurance quota allocation, and zip code or country code for each Hosting Customer. For "Horizon DaaS Bundle – VDI Edition", it is the total number of VMs that can be powered on for all tenants based on Desktop Model insurance quotas.</p> <p>For "Horizon DaaS Bundle – RDSH Edition", it is the total number of RDSH sessions allocated to all tenants based on Session Model insurance quotas. There is no automated report that keeps track of the total insurance allocated quota for VDI or RDSH connections at this time, so it is the Service Provider's responsibility to track and report this information accurately each month.</p>
Support	<p>Production Level Support</p>
More Information	<p>The Desktop DR for Horizon DaaS Bundle(s) is a restricted product and only qualifying Service Providers can use the product from VMware. Only Service Providers with a valid 10,800 point or higher contract are eligible to start with qualification process. Contact your local Business Development Manager or partnernetwork@vmware.com on requirements and additional details to use the product through the VMware Cloud Provider Program. Also see: https://cloudsolutions.vmware.com/</p>

VMware Horizon

VMware Horizon is a solution that simplifies the management and delivery of virtual desktops and apps on-premises, in the cloud, or in a hybrid or multi-cloud configuration through a single platform to end-users. By leveraging complete workspace environment management and optimized for the software-defined data center, Horizon helps IT control, manage, and protect all of the Windows resources end users want, at the speed they expect, with the efficiency business demands. To learn more about VMware Horizon visit: <https://www.vmware.com/products/horizon.html>.

VMware Horizon is available to VMware Cloud Provider Service Providers in four editions:

- VMware Horizon Standard
- VMware Horizon Advanced
- VMware Horizon Enterprise
- VMware Horizon for Linux

Manual Reporting for Horizon Screenshot:

The screenshot shows the VMware Horizon 7 Administrator interface. The left sidebar contains navigation options like Sessions, Inventory, Monitoring, and Policies. The main area is titled 'Licensing and Usage' and is divided into two sections: 'Licensing' and 'Usage'.

Licensing Section:

- License Key: H100A-XXXXX-XXXXX-XXXXX-C554C
- License expiration: Never
- Desktop license: Enabled
- Application Remoting license: Enabled
- View Composer license: Enabled
- Instant Clone license: Enabled
- Usage Model: Concurrent User

Usage Section:

Buttons: **Reset Highest Count** (highlighted with a red box), **Reset Named Users Count**

Session Mode	Current	Highest
Total Concurrent Connections	0	3
Total Named Users	0	1000
Detailed Connection Breakdown		
Total Remote	0	3
Active - full virtual machines	0	3
Active - linked clone	0	1
Active - other machine sources	0	0
Active - applications	0	0

VMware Horizon Standard

Description	VMware Horizon Standard is an ideal solution to deliver simple powerful Virtual Desktop Infrastructure (VDI) with great user experience. VMware Horizon Standard hosted desktops eliminate the burden for customers of running and managing their desktops in-house. Service Providers can use VMware Horizon Standard to provide their customers with access (through a secure Internet connection) to a fully customizable desktop from any location, or on any compatible device, with the same user experience as on traditional PCs.
Point Value / Charged Per	12 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware Horizon (includes View for Windows and Instant Clones) • VMware Dynamic Environment Manager Standard • VMware ThinApp Client • VMware ThinApp Packager • VMware Fusion Professional / VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon Standard usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API² and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ○ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ○ Connect-HVServer -server <connection-server-fqdn> -User <username> -Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ○ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon.html or https://cloudsolutions.vmware.com/

² The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information on Horizon View API and PowerCLI, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMware Horizon Advanced

Description	VMware Horizon Advanced is ideal for customers looking to deliver virtual or remote desktops and applications through a single platform to end users. These desktop and application services – including RDS hosted applications, packaged applications with VMware ThinApp, SaaS applications, and even virtualized applications from Citrix – can all be accessed from one unified workspace to provide end users with all of the resources they want, at the speed they expect, with the efficiency business demands. VMware Horizon Advanced offers customers all the benefits of the Horizon View Standard and additionally extends the power of virtualization with virtual compute and virtual storage to drive down costs, enhance the user experience, and deliver greater business agility.
Point Value / Charged Per	19 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware Horizon Advanced (includes View for Windows, RDS Hosted Applications, and Instant Clones) • VMware Dynamic Environment Manager Standard Edition • VMware Workspace ONE Access on-prem edition • VMware ThinApp Client • VMware ThinApp Packager • VMware Fusion Professional / VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon Advanced usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API² and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ○ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ○ Connect-HVServer -server <connection-server-fqdn> -User <username> -Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ○ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon.html or https://cloudsolutions.vmware.com/

² The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMware Horizon Enterprise

Description	VMware Horizon Enterprise is ideal for customers looking to automate the management and delivery of virtual or remote desktops and applications, through a single platform to end users. VMware Horizon Enterprise offers customers all of the benefits of the Horizon Advanced and additionally streamlines management and provisioning with advanced self-service capabilities to reduce operating costs and provide IT organizations with the tools to be more responsive to changing business requirements. Horizon Enterprise supports RHEL, Ubuntu, CentOS and NeoKylin Linux in addition to Microsoft Windows operating system.
Point Value / Charged Per	28 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware Horizon Enterprise (includes View for Windows and Linux, RDS Hosted Applications, and Instant Clones) • VMware App Volumes Advanced • VMware Dynamic Environment Manager Enterprise Edition • VMware Workspace ONE Access on-prem edition • VMware ThinApp Client • VMware ThinApp Packager • VMware Fusion Professional / VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon Enterprise usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API² and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ◦ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ◦ Connect-HVServer -server <connection-server-fqdn> -User <username> - Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ◦ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon.html or https://cloudsolutions.vmware.com/

² The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMware Horizon for Linux

Description	VMware Horizon for Linux extends the benefits of VDI to Linux users. Providing centralized, secure and simplified management for Linux desktops, Horizon for Linux allows organizations to help reduce their capital expenditures, eliminate Microsoft desktop licensing costs and save on day-to-day operational expenses. In addition, VMware Horizon for Linux support send users with easy access to Linux applications and the same great user experience across devices and locations. Horizon for Linux supports RHEL, Ubuntu, CentOS and NeoKylin operating systems.
Point Value / Charged Per	7 points per concurrent connection per month
Components	VMware Horizon for Linux (includes View Manager) VMware vCenter Server Desktop VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon for Linux usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API² and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ◦ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ◦ Connect-HVServer -server <connection-server-fqdn> -User <username> - Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ◦ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon.html or https://cloudsolutions.vmware.com/

² The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information on Horizon View API and PowerCLI, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMware Horizon Apps

VMware Horizon Apps enables Service Providers to deliver virtual apps securely to any device, anywhere with centralized management and rich, adaptive user experience. It improves end users' productivity with quick and easy access to their Windows applications alongside SaaS applications, and mobile applications through a single unified digital workspace. Based on VMware Horizon, it is a great choice for customers who need published applications (i.e. Remote Desktop Services – RDS) but do not need VDI desktops. Refer to Table 14 for feature details. To learn more about VMware Horizon visit: <http://www.vmware.com/products/horizon-apps.html>.

VMware Horizon Apps is available to VMware Cloud Provider Program Service Providers in two editions:

- VMware Horizon Apps Standard
- VMware Horizon Apps Advanced

VMware Horizon Apps Standard

Description	VMware Horizon Apps Standard offers reliable and secure published applications delivery with tools and features that simplify management and provide a great user experience.
Point Value / Charged Per	11 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware Horizon Apps Standard (includes RDS Hosted Applications but not Instant Clones) • VMware Dynamic Environment Manager Enterprise Edition • VMware Workspace ONE Access on-prem edition • VMware ThinApp Client • VMware ThinApp Packager • VMware Fusion Professional / VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon Apps Standard usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ◦ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ◦ Connect-HVServer -server <connection-server-fqdn> -User <username> - Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ◦ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon-apps.html or https://cloudsolutions.vmware.com/

VMware Horizon Apps Advanced

Description	VMware Horizon Apps Advanced includes everything in Horizon Apps Standard and further raises the bar with just-in-time app delivery powered by VMware's Instant Clone technology and complete application lifecycle management powered by VMware App Volumes. It brings speed, scale, savings, and simplicity to app delivery, while enabling access to apps on any device, anywhere.
Point Value / Charged Per	18 points per concurrent connection per month
Components	<ul style="list-style-type: none"> • VMware Horizon Apps Advanced (includes RDS Hosted Applications and Instant Clones) • VMware App Volumes Advanced • VMware Dynamic Environment Manager Enterprise Edition • VMware Workspace ONE Access on-prem edition • VMware ThinApp Client • VMware ThinApp Packager • VMware Fusion Professional / VMware Workstation • VMware vCenter Server for Desktop • VMware vSphere Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report Horizon Apps Standard usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the total number of concurrent connections is available through the Horizon Administrator Management Web UI (under View Configuration > Product Licensing and Usage) as shown above. To report the Total Concurrent Connections for a given month, Service Providers shall use the Highest Count and reset the count at the end of each month.</p> <p>Alternatively, Service Providers can query the Horizon View API¹ and obtain the same data using the ConnectionServerHealth service. The sample PowerCLI commands to query the View Connection Server are as follows:</p> <ul style="list-style-type: none"> • Open PowerCLI and run the following: <ul style="list-style-type: none"> ○ Import-Module VMware.VimAutomation.HorizonView • Establish Connection to Horizon (Connect-HVServer): <ul style="list-style-type: none"> ○ Connect-HVServer -server <connection-server-fqdn> -User <username> - Password <password> -Domain <domain> • Query Horizon for the connection statistics <ul style="list-style-type: none"> ○ \$global:DefaultHVServers.ExtensionData.ConnectionServerHealth.ConnectionServerHealth_List().ConnectionData <p>It is the Service Provider's responsibility to track and report the maximum concurrent connections accurately each month. VMware ThinApp Packager and VMware Workstation are for administrator use only.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon-apps.html or https://cloudsolutions.vmware.com/

¹The API module for Horizon requires PowerCLI 6.5 R1 and it is compatible with vSphere 5.5 and higher, and Horizon 7.0.2 and higher. For more information on Horizon View API and PowerCLI, refer to VMware EUC blog at <https://blogs.vmware.com/euc/2017/01/VMware-horizon-7-powercli-6-5.html>

VMware ThinApp Client

Description	With ThinApp Client, an entire application and its settings can be packaged into a single executable that Service Providers can deploy to a range of Windows operating environments on either a physical desktop or a virtual machine. The applications are isolated from each other and the Operating System to ensure there are no application-to-application conflicts or application-to-operating system conflicts. This solution fits into any environment and allows Service Providers to help customers run legacy and new applications side by side. For example, older applications on Windows XP can be packaged and deployed by the Service Provider on Windows 7.
Point Value / Charged Per	2 points per ThinApp Client per month
Components	VMware ThinApp Client
Reporting	The Service Provider must manually report ThinApp Client usage each month in the VMware Cloud Provider Program Commerce Portal. The maximum number of clients used in the month must be included in the report.
Support	Production Level Support
More Information	https://www.vmware.com/products/thinapp.html or https://cloudsolutions.vmware.com/ ThinApp Client does not include the ThinApp Packager or Workstation. Service Providers will need to install and report usage for at least one seat of VMware Horizon View Standard Edition or VMware Horizon DaaS Bundle(s) in order to use ThinApp Client licenses. All the limitations of Horizon View Standard Edition or VMware Horizon DaaS Bundle(s) listed in the VMware Cloud Provider Program Product Usage Guide shall apply to that installation.

VMware ThinApp Packager

Description	VMware ThinApp Packager is a tool for the administrator to help package applications into ThinApp executables.
Point Value / Charged Per	1 point per ThinApp Packager per month
Components	VMware ThinApp Packager
Reporting	The Service Provider must manually report ThinApp Packager usage each month in the VMware Cloud Provider Program Commerce Portal. The maximum number of Packagers used in the month must be included in the report.
Support	Production Level Support
More Information	<p>https://www.vmware.com/products/thinapp.htm or https://cloudsolutions.vmware.com/</p> <p>ThinApp Packager is for administrator use only and does not include the ThinApp Client or Workstation. Service Providers will need to install and report usage for at least one seat of VMware Horizon View Standard Edition or VMware Horizon DaaS Bundle(s) in order to use ThinApp Packager licenses. All the limitations of Horizon View Standard Edition or VMware Horizon DaaS Bundle(s) listed in the VMware Cloud Provider Program Product Usage Guide shall apply to that installation.</p>

VMware Dynamic Environment Manager

Description	<p>VMware Dynamic Environment Manager offers personalization and dynamic policy configuration across any virtual, physical and cloud-based environment. It simplifies end-user profile management by providing organizations with a single and scalable solution that leverages existing infrastructure. Service Providers can simply map infrastructure (including networks and printer mappings) and dynamically set policies for end users to securely support more use cases.</p> <p>With this solution, end users can also enjoy quick access to their Windows workspace and applications, with a personalized and consistent experience across devices and locations. The net effect – organizations leveraging Dynamic Environment Manager can increase workplace productivity while driving down the cost of acquisition and day-to-day desktop support and operations.</p>
Point Value / Charged Per	2 points per named user per month
Components	VMware Dynamic Environment Manager
Reporting	<p>Service Providers must manually report Dynamic Environment Manager usage each month in the VMware Cloud Provider Program Commerce Portal. There is no automated report that keeps track of the maximum named users at this time, so it is the Service Provider's responsibility to track and report this information accurately each month.</p>
Support	Production Level Support
More Information	<p>https://www.vmware.com/products/user-environment-manager.html or https://cloudsolutions.vmware.com/</p>

VMware vSAN for Desktop

VMware vSAN for Desktop is the software-defined storage platform that powers VMware Hyper-Converged Software solutions and delivers one of the industry's best storage value with simple management, high performance, low cost and a robust roadmap intended to support any app, at any scale.

VMware vSAN for Desktop is available to VMware Cloud Provider Program Service Providers in three editions, and an add-on:

- VMware vSAN Standard for Desktop
- VMware vSAN Advanced for Desktop
- VMware vSAN Enterprise for Desktop

VMware vSAN Standard for Desktop

Description	VMware vSAN Standard for Desktop supports both All-Flash and a hybrid SSD/HDD configuration. vSAN Standard for Desktop is an a-la-carte option that can be used with other End User Computing products in the VMware Cloud Provider Program.
Point Value / Charged Per	2 points per concurrent connection per month
Components	VMware vSAN Standard for Desktop
Reporting	<p>Service Providers must manually report vSAN Standard for Desktop usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the vCenter Server virtual machine count.</p> <p>There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider's responsibility to track and report this information accurately each month. As vSAN Standard for Desktop does not include vCenter Server for Desktop or vSphere for Desktop licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Standard for Desktop product.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Standard for Desktop can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN Standard for Desktop – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer.</p> <p>For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at: https://bit.ly/2C4763D</p> <p>Also see: https://cloudsolutions.vmware.com/</p>

VMware vSAN Advanced for Desktop

Description	<p>VMware vSAN Advanced for Desktop supports all-flash configuration and data efficiency features such as deduplication, compression and erasure coding, in addition to all functionalities of vSAN Standard for Desktop. vSAN Advanced for Desktop enables a two-tier all-flash architecture in which flash devices are intelligently used for both caching and data persistence to deliver high, predictable performance and sub-millisecond response times, making it ideal for tier-1 or business-critical workloads.</p> <p>vSAN Advanced for Desktop is an a-la-carte option that can be used with other End User Computing products in the VMware Cloud Provider Program.</p>
Point Value / Charged Per	4 points per concurrent connection per month
Components	VMware vSAN Advanced for Desktop
Reporting	<p>Service Providers must manually report vSAN Advanced for Desktop usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the vCenter Server virtual machine count. There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider's responsibility to track and report this information accurately each month.</p> <p>As vSAN Advanced for Desktop does not include vCenter Server for Desktop or vSphere for Desktop licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Advanced for Desktop product.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Advanced for Desktop can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN for Desktop – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer. For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at: https://bit.ly/2C4763D</p> <p>Also see: https://cloudsolutions.vmware.com/</p>

VMware vSAN Enterprise for Desktop

Description	<p>VMware vSAN Enterprise for Desktop offers Quality of Service and Stretched Cluster features on top of vSAN Standard for Desktop and vSAN Advanced for Desktop at incremental point value. It requires VMware Cloud Provider Program partners to install and utilize vSAN Standard for Desktop or vSAN Advanced for Desktop as the basis for vSAN Enterprise for Desktop. The Quality of Service control allows Service Providers to set up IOPS limit per VM to ensure mission-critical applications receive the necessary service level agreements.</p> <p>The Stretched Cluster allows Service Providers to create vSAN cluster between two geographically separate sites, synchronously replicating data between sites. It enables Service Providers to offer enterprise-level availability where an entire site failure can be tolerated, with zero Recovery Point Objective (RPO) and 99.999% uptime. vSAN Enterprise for Desktop is an a-la-carte option that can be used with other End User Computing products in the VMware Cloud Provider Program.</p>
Point Value / Charged Per	5 point per concurrent connection per month
Components	VMware vSAN Enterprise Add-on for Desktop
Reporting	<p>Service Providers must manually report vSAN Enterprise for Desktop usage each month in the VMware Cloud Provider Program Commerce Portal.</p> <p>Information on the number of concurrent connections is available through the vCenter Server virtual machine count. There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider's responsibility to track and report this information accurately each month.</p> <p>As vSAN Enterprise for Desktop does not include vCenter Server, vSphere, vSAN Standard for Desktop or vSAN Advanced for Desktop licensing; all use of those products must be reported separately, in addition to the usage of the vSAN Enterprise for Desktop product.</p>
Support	Production Level Support
More Information	<p>A hardware independent solution, vSAN Enterprise can be deployed on a wide range of servers. Service Providers have two options for deploying vSAN Enterprise – a) vSAN Ready Nodes (pre-validated configurations of servers) and b) a component-based hardware compatibility list that enables Service Providers to pick and choose the components they prefer.</p> <p>For the latest information on vSAN Ready Nodes and supported hardware components (I/O controllers, HDDs and SSDs), refer to the VMware Compatibility Guide for vSAN at: https://bit.ly/2C4763D</p> <p>Also see: https://cloudsolutions.vmware.com/</p>

VMware NSX for Desktop

VMware NSX is the network virtualization platform for the Software-Defined Data Center, delivering the operational model of a virtual machine for entire networks.

VMware NSX for Desktop is available to VMware Cloud Provider Program Service Providers in two editions:

- VMware NSX Data Center Advanced for Desktop
- VMware NSX Data Center Enterprise Plus for Desktop

VMware NSX Data Center Advanced for Desktop

Description	VMware NSX Data Center Advanced for Desktops is the network virtualization platform for Horizon, XenApp, and XenDesktop environments
Point Value / Charged Per	5 points per concurrent connection per month
Components	VMware NSX Data Center Advanced for Desktop
Reporting	<p>Service Providers must manually report NSX Data Center Advanced for Desktop usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the vCenter Server virtual machine count.</p> <p>There is no automated report that keeps track of the maximum concurrent connections at this time, so it is the Service Provider's responsibility to track and report this information accurately each month. As NSX Data Center Advanced for Desktop does not include vCenter Server for Desktop or vSphere for Desktop licensing; all use of those products must be reported separately, in addition to the usage of the NSX Data Center Advanced for Desktop product.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon/horizon-nsx.html or https://cloudsolutions.vmware.com/

VMware NSX Data Center Enterprise Plus for Desktop

Description	<p>VMware NSX Data Center Enterprise Plus for Desktops is the network virtualization platform for Horizon, XenApp, and XenDesktop environments across multiple data centers. Additionally, it includes:</p> <ul style="list-style-type: none"> • Multi-site NSX optimizations • VPN (IPsec and SSL) Remote Gateway • Integration with hardware VTEPs
Point Value / Charged Per	8 points per concurrent connection per month
Components	VMware NSX Data Center Enterprise Plus for Desktop
Reporting	<p>Service Providers must manually report NSX Data Center Enterprise Plus for Desktop usage each month in the VMware Cloud Provider Program Commerce Portal. Information on the number of concurrent connections is available through the vCenter Server virtual machine count.</p> <p>There is no automated report that keeps track of the maximum concurrent connections currently, so it is the Service Provider's responsibility to track and report this information accurately each month.</p> <p>As NSX Data Center Enterprise Plus for Desktop does not include vCenter Server for Desktop or vSphere for Desktop licensing; all use of those products must be reported separately, in addition to the usage of the NSX Data Center Enterprise Plus Desktop product.</p>
Support	Production Level Support
More Information	https://www.vmware.com/products/horizon/horizon-nsx.html or https://cloudsolutions.vmware.com/

APPLICATION MODERNIZATION

VMware Tanzu Basic

Description	To limit your investment costs in a heavyweight, proprietary container platform, Tanzu Basic offers the most affordable, accessible, and streamlined Kubernetes-based container management on vSphere. Tanzu Basic transforms vSphere by allowing you to run VMs and containers side by side while providing developers self-service access to resources via Kubernetes APIs. Tanzu Basic can be deployed with vSphere 7 Ent+ or as an add-on to be deployed on vSphere 6.7u3.
Point Value / Charged Per	<p>Standalone Not Available</p> <p>Flex Model Core Available as an Add-on at no cost ((0 points per GB of vRAM per month – or – 0 points per core per month)</p>
Components	<ul style="list-style-type: none"> • TKG integrated w/ vSphere 7; also referred to as vSphere w/ Tanzu or <i>vSphere Add-on for Kubernetes</i> • TKG multi-cloud; was referred to as <i>TKG</i>
Reporting	<p>Usage Meter 4.3 and newer meters vSphere w/ Tanzu. If using an earlier version, please follow the instructions below to manually report consumption:</p> <p>Metering vSphere w/ Tanzu vRAM metric Use vSphere Client or Managed Object Browser to navigate to the <i>Namespace</i> resource pool in a supervisor host cluster and compute the average billable vRAM of all the VMs in it. Do this for all <i>Namespace</i> resource pools across all vSphere deployments. Core metric: Compute the number of physical cores across all hosts that are running at least one <i>vSphere w/ Tanzu</i> managed VM. Report the aggregate value to Commerce Portal on a monthly basis.</p> <p>Metering TKG multi-cloud</p> <ul style="list-style-type: none"> • Identify all powered-on control plane and worker node VMs that make up all TKG K8s clusters • Determine the vRAM/vCPUs configured for each node VM • For VCF core-based <ul style="list-style-type: none"> ○ If hyperthreading is not enabled, core count is vCPU count. Otherwise, core count is half vCPU count. ○ This value is <i>number of cores consumed (A)</i> ○ Compute (A) above for a ESXi host cluster ○ Find total <i>number of physical cores in this ESXi host cluster (B)</i> including hosts used for HA ○ The core count for this ESXi host cluster = MIN (A, B) ○ Repeat for all ESXi host clusters • Report aggregate billable vRAM/core count to Commerce Portal monthly <p>Tanzu Basic does not include vSphere and other products, which must be reported separately. Management components are metered based on vRAM just like vCenter Server is when deployed in a VM.</p>
Support	VMware Production Level support
Eligibility	Partners using Flex Core are entitled to use Tanzu Basic at no additional cost.
Datasheet	https://d1fto35gcffzn.cloudfront.net/tanzu/VMware-Tanzu-Basic-Solution-Brief.pdf

VMware Tanzu Standard

<p>Description</p>	<p>VMware Tanzu Standard is for organizations that want to operate a Kubernetes-based container solution. Tanzu Standard provides you the flexibility to extend a consistent, open source-aligned Kubernetes distribution throughout your datacenters. The alternative is to operate multiple Kubernetes distributions from legacy vendors and/or hyperscalers, each with different access controls, policy configurations and more — making it nearly impossible to operate with consistency. Tanzu Standard allows you to operate a single distribution and gain consistent management over all your Kubernetes clusters with global observability, common configuration control and centralized data protection. Tanzu Standard works with vSphere 6.7u3 and vSphere 7. Tanzu Standard's global control plane is available as SaaS.</p> <p>You can license and deploy Tanzu Standard as an add-on to Flex Core.</p>
<p>Point Value / Charged Per</p>	<p><u>Available as a Flex model add-on</u></p> <ul style="list-style-type: none"> vRAM metric: 2 points per 1 GB Metered RAM per month (based on average monthly usage). (GB = 1024 MB; Total points capped at 24 GB of Metered vRAM per VM).
<p>Contract</p>	<p>Tanzu Standard is available only as a 12-month non-cancellable Term License and is covered by a Term License Software Subscription contract created through the VMware Commerce Portal. The process of a partner signing up for a Term contract with an aggregator is described here. Note: In this process, the following contract creation steps require attention: In <i>step 2 (Track)</i> – Pick <i>Term Federal</i> or <i>Term Commercial</i> as applicable from the dropdown list. In <i>step 3 (Plan)</i> – Choose <i>Custom</i> contract SKU for a <i>12-month</i> term. Custom contracts also require DRF/SPF. No contract level minimum commits are required (enter zero).</p> <p>Service Providers need to submit a license request through the one-off order process – see How do I request one-off orders.</p> <p>Once a Term Contract is signed, Tanzu Mission Control Advanced Edition is provisioned through Cloud Partner Navigator. The partner is restricted to use only the TMC Standard Edition features as defined here.</p>
<p>Components</p>	<ul style="list-style-type: none"> Tanzu Kubernetes Grid Service <ul style="list-style-type: none"> Available with vSphere 7 https://docs.vmware.com/en/VMware-Tanzu-Kubernetes-Grid/index.html Tanzu Kubernetes Grid Service, informally known as TKGS, lets you create and operate Tanzu Kubernetes clusters natively in vSphere with Tanzu. You use the Kubernetes CLI to invoke the Tanzu Kubernetes Grid Service and provision and manage Tanzu Kubernetes clusters. The Kubernetes clusters provisioned by the service are fully conformant, so you can deploy all types of Kubernetes workloads you would expect. vSphere with Tanzu leverages many reliable vSphere features to improve the Kubernetes experience, including vCenter SSO, the Content Library for Kubernetes software distributions, vSphere networking, vSphere storage, vSphere HA and DRS, and vSphere security. For more information, see the VMware Tanzu Kubernetes Grid Service for vSphere Documentation. Also referred to as vSphere with Tanzu or vSphere Add-on for Kubernetes

	<ul style="list-style-type: none"> • Tanzu Kubernetes Grid <ul style="list-style-type: none"> ○ Available with vSphere 6.7 and 7 ○ https://tanzu.vmware.com/kubernetes-grid ○ Tanzu Kubernetes Grid, informally known as TKG, is a Kubernetes footprint that you can run in vSphere. In addition to Kubernetes binaries that are tested, signed, and supported by VMware, Tanzu Kubernetes Grid includes signed and supported versions of open source applications to provide the registry, networking, monitoring, authentication, ingress control, and logging services that a production Kubernetes environment requires. If you are using Tanzu Kubernetes Grid, see the VMware Tanzu Kubernetes Grid Documentation. • Tanzu Mission Control Standard Edition <ul style="list-style-type: none"> ○ https://tanzu.vmware.com/mission-control ○ VMware Tanzu Mission Control is a centralized management platform for consistently operating and securing your Kubernetes infrastructure and modern applications across multiple teams; It provides operators with a single control point to give developers the independence they need to drive business forward, while enabling consistent management and operations across environments for increased security and governance ○ Editions comparison chart
Reporting	<p>Report on-prem consumption of Tanzu Kubernetes Grid against Tanzu Standard consumption. Based on products used, report consumption of <i>vSphere with Tanzu</i> or <i>Tanzu Kubernetes Grid</i>, or <i>both</i> if both products are used. Note: Tanzu Standard does not include vSphere and other products, which must be reported separately. Management components are metered based on vRAM just like vCenter Server is when deployed in a VM. The following describes how to report Tanzu Kubernetes Grid consumption.</p> <p>Metering Tanzu Kubernetes Grid Service Usage Meter 4.4 meters vSphere with Tanzu. If using an earlier version, here are the instructions to manually meter consumption:</p> <p>Note: vSphere w/Tanzu managed VMs are all VMs in vSphere Supervisor Namespaces and include VMs created by vSphere Tanzu service, control plane nodes i.e. master nodes, and worker nodes of Kubernetes clusters created by vSphere Tanzu Kubernetes Grid service, and vSphere Pods.</p> <p>vRAM metric: Use vSphere Client or Managed Object Browser to navigate to the Namespace resource pool in a supervisor host cluster and compute the average billable vRAM of the VMs in it. Do this for all Namespace resource pools across all vSphere deployments.</p> <p>Metering Tanzu Kubernetes Grid</p> <ul style="list-style-type: none"> • vRAM-based <ul style="list-style-type: none"> ○ Identify all powered-on control plane and worker node VMs that make up all TKG K8s clusters ○ Determine the vRAM/vCPUs configured for each node VM. • Report aggregate billable vRAM count to Commerce Portal monthly <p>Excluding Charge for TMC component of Tanzu Standard obtained through MSP commit contract</p>

	The price of Tanzu Standard includes the TMC component. A charge for the TMC component of Tanzu Standard will show up as a \$0 line item on your MBO.
Support	VMware Production Level support
Restrictions	<ol style="list-style-type: none"> 1. Tanzu Standard can be used in vSphere environments only. Tanzu Mission Control entitled through Tanzu Standard may only be used to manage TKG clusters in vSphere environments. 2. Only Tanzu Mission Control Standard edition features, as defined here, are to be used as part of Tanzu Standard
Eligibility	Tanzu Standard is available as an add-on to Flex Core only.
Datasheet	https://drift-lp-34698915.drift.click/tanzu-standard-solutions-brief

VMware Tanzu Kubernetes Grid Plus (TKG+)

Description	<p>VMware Tanzu Kubernetes Grid Plus, informally known as TKG+, is an add-on to Tanzu Kubernetes Grid. Tanzu Kubernetes Grid Plus provides an extended support matrix of open-source applications that is larger than the list of applications that Tanzu Kubernetes Grid provides. If you have Tanzu Kubernetes Grid Plus, the VMware Tanzu Support team can assist you with setting up this wider range of supported applications. For information about the additional support that VMware Tanzu Kubernetes Grid Plus provides, see Tanzu Kubernetes Grid and Tanzu Kubernetes Grid Plus Supported Technology Matrix (https://kb.vmware.com/s/article/78173).</p> <p>To learn more about TKG+, visit https://tanzu.vmware.com/kubernetes-grid</p>
Point Value / Charged Per	<p>24 points per CPU Core per month Minimum number of CPU Cores: 32 per month</p> <p>In virtualized or hypervisor (VM) environments, a CPU Core is a single physical computational unit of the Processor which may be presented as one or more vCPUs.</p>
Contract	<p>A new, 12-month, non-cancellable rental contract is required which TKG+ usage contributes to, and requires an independent minimum monthly consumption; Billing starts in the month of subscription</p>
Components	<p>VMware TKG+</p>
Reporting	<p>Consumption must be manually metered as follows until Usage Metering is supported</p> <ul style="list-style-type: none"> • Find cores consumed <ul style="list-style-type: none"> ○ Identify each control plane and worker node VMs that make up all TKG+ K8s clusters ○ Determine the vCPUs configured for each node VM. Sum the vCPUs configured. ○ If hyperthreading is not enabled, number of cores is number of vCPUs. Otherwise, the number of cores is half the number of vCPUs. ○ This value is <i>number of cores consumed (A)</i> • If deployed on non-vSphere e.g., native AWS, (A) above, is your core count • If deployed on vSphere, <ul style="list-style-type: none"> ○ Compute (A) above for each ESXi host cluster ○ Find <i>total number of cores in this ESXi host cluster (B)</i> including hosts used for HA ○ The core count for this ESXi host cluster = MIN (A, B) ○ Repeat for all ESXi host clusters • Report aggregate core count to Commerce Portal monthly <p>TKG does not include vSphere and other products, which must be reported separately. TKG management components are metered based on vRAM just like vCenter Server is when deployed in a VM</p>
Support	<p>VMware Production Level support</p>
Eligibility	<p>VMware TKG+ is a restricted product at this time and only qualifying Service Providers can rent the product from VMware. Contact your local Business Development Manager or aggregator on requirements and additional details to use the product through the VMware Cloud Provider Program</p>

Datasheet	https://pivotalcontent.s3.amazonaws.com/tanzu/VMware-Tanzu-Datasheet.pdf https://docs.vmware.com/en/VMware-Tanzu-Kubernetes-Grid/index.html https://docs.vmware.com/en/VMware-Tanzu-Kubernetes-Grid/1.1/vmware-tanzu-kubernetes-grid-11/GUID-index.html
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THIRD-PARTY SOFTWARE

Third-Party Product Terms

VMware may make products licensed by third parties (“Third-Party Products”) available through the VMware Cloud Provider Program. The VMware end user license agreement does not apply to Third-Party Products. VMware does not provide support for Third-Party Products.

Third-Party Products are provided by VMware “AS IS” but may include warranty, support, or indemnification from the Third-Party Product Provider. VMware hereby disclaims any warranty, support, or indemnification obligations for Third-Party Products. Use of a Third-Party Product should be reported as if it were a VMware product under the VMware Cloud Provider Program.

By ordering Third-Party Products from VMware, Service Providers agree that VMware may share their information (including reported usage) with the Third-Party Product Provider for purposes of providing the Third-Party Product through VMware Cloud Provider Program.

Caveonix RiskForesight Solution for VMware Cloud Provider Program

Product Level	Min Monthly Volume (VMs)	Point Value / VM*	Components
Standard	100	15	RiskForesight™ for VMware Cloud Provider Program
Extended	1,000	13.5	RiskForesight™ for VMware Cloud Provider Program
Classic	3,000	12.8	RiskForesight™ for VMware Cloud Provider Program
Premium	10,000	12.2	RiskForesight™ for VMware Cloud Provider Program
Global	15,000	11.6	RiskForesight™ for VMware Cloud Provider Program

Description	<p>Caveonix RiskForesight™ is the first multi-tenant Cyber Risk & Compliance Management platform for the hybrid cloud, enabling Service Providers to offer workload protection services to their customers. The RiskForesight hybrid cloud workload protection platform (Hybrid CWPP), has been designed from ground-up to be a multi-tenant solution. It provides proactive workload protection from risks due to Cyberthreats as well as regulatory Compliance issues.</p> <p>RiskForesight provides real-time visibility into what is running in the customer's hybrid cloud. RiskForesight integrates into the Service Providers cloud orchestration platform based on VMware Cloud technology stack such as VCD, NSX, vCenter, vRA, vSphere, VMC on AWS, as well as the hyperscale public clouds. RiskForesight is a ready to deploy solution for Cloud Service Providers, Managed Service Providers, Managed Security Service Providers, and IT System Integrators.</p>
Reporting	<p>VMware Cloud Provider Program partners need to manually report monthly usage in the VMware Cloud Provider Program Commerce Portal. Individual Tenant monthly usage data is made available through the Caveonix RiskForesight product.</p>
Support	<p>Sales Support can be reached by Phone- 833.462.2836 or mailto:VCP_Sales@caveonix.com</p> <p>Customer Support can be reached by mailto:Support@Caveonix.com</p>

More Information	<p>Caveonix is licensed by VM managed/monitored. Volume discounts are included in the pricing. Billing is in VCPP points as per the commitment tier SKU in the table above. For example, the lowest value of 100 VM is 15Pts per VM = a minimum commit of \$1500 per month. Any volume over 100 VM is charged at 15 pts per VM per month, until the next tier is hit or becomes a cheaper option. Discounts are not available for the points employed to purchase this product and listed rates do not include international currency rate modification.</p> <p>Price to partner = Greater of Monthly Min or Actual * Pt/tier * Currency List Price.</p> <p>1 pt = \$1.00 (or VCPP local currency equivalent).</p> <p>The current order process includes the following stages:</p> <ol style="list-style-type: none"> 1. Cloud Provider decides on minimum capacity commit level 2. Cloud Provider signs TPP (Third Party Products) online addendum 3. Aggregator issues their own quote to Cloud Provider 4. Aggregator creates Caveonix contract in VCPP Commerce Portal 5. VCAN-Operations validates TPP and approves contract for booking 6. Caveonix contacts and “enables” Cloud Provider – Software, License fulfilment <p>Professional Services will be contracted directly with and billed by Caveonix.</p> <ul style="list-style-type: none"> • https://marketplace.vmware.com/vsx/search/RiskForesight • https://www.caveonix.com
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*Note: Price per point for third-party products VM is different than your contracted VCPP price per point

VMware Cloud Director Data Protection Solution

Product Level	Minimum Volume (VMs)	Point Value / VM*	Components
Standard	100	3.19	Data Protection Suite (DPS)
Extended	500	3.02	Data Protection Suite (DPS)
Classic	2,000	2.84	Data Protection Suite (DPS)
Premium	5,000	2.75	Data Protection Suite (DPS)
Global	10,000	2.66	Data Protection Suite (DPS)

Description	<p>VMware Cloud Director Data Protection enables VMware Cloud Provider Partners to offer backup-as-a-service with self-service recovery to their end-user customers (tenants). Powered by Dell EMC Data Protection Suite (DPS), it provides high performance backup while minimizing the cost-to-serve.</p> <p>The DPS SKU in VCPP includes only the following:</p> <ul style="list-style-type: none"> • Avamar Virtual Edition • Data Protection Search • Data Protection Advisor • Data Protection Central
Reporting	<p>VMware Cloud Director Data Protection reporting is manual. For additional information on reporting, please see Appendix B</p>
Support	<p>How to get support: Create a service ticket by calling into support (+1-800-624-9897) or logging one online: https://www.dell.com/support/home/en-us</p> <p>How to Create a Support Request Online for Dell EMC: https://www.dell.com/support/kbdoc/en-us/000132371/how-to-create-a-support-request-online-for-dell-emc</p>
More Information	<p>VMware Cloud Director v10.1 or above is required. Older versions are no longer supported as Dell supports only the versions of VMware Cloud Director supported by VMware.</p> <p>Backup-as-a-service, when purchased without protection storage can be used in combination with Data Domain hardware appliances or Data Domain Virtual Edition purchased separately.</p> <p>Dell Data Protection for VMware Cloud Director is licensed by VM. Volume discounts are included in the pricing. Billing is in VCPP points as per the commitment tier SKU in the table above.</p> <p>For example, the lowest value of 100 VM is 3.19 Pts per VM, which equals a minimum commit of \$319 per month. Any volume over 100 VM is charged the same rate unless a new tier is committed to. If the VM amount is 100-499, then each VM will be charged with 3.19 points per VM per month. If customer has 500-1999 VM to be protected, the price is 3.02 points for each VM per month.</p> <p>Discounts are not available for the points employed to purchase this product and listed rates do not include international currency rate modification. Each new tier SKU will require a new Sales Term Sheet contract (STS) addendum to be agreed.</p> <p>To learn more about VMware Cloud Director Data Protection visit: https://www.delltechnologies.com/en-gb/data-protection/vmware-cloud-protection.htm</p>

*Note: Price per point for third party products VM is different to your contracted VCPP price per point

VMware Cloud Director Data Domain Virtual Solution

Product Level	Minimum Volume (VMs)	Point Value / VM*	Components
Standard	100	8.45	Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE)
Extended	500	7.98	Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE)
Classic	2,000	7.51	Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE)
Premium	5,000	7.28	Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE)
Global	10,000	7.04	Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE)

Description	VMware Cloud Director Data Protection enables VMware Cloud Provider Partners to offer backup-as-a-service with self-service recovery to their end-user customers (tenants). Powered by Dell EMC Data Protection Suite (DPS) and Data Domain Virtual Edition (DDVE), it provides high performance backup while minimizing the cost-to-serve.
Support	How to get support: Create a service ticket by calling into support (+1-800-624-9897) or logging one online: https://www.dell.com/support/home/en-us How to Create a Support Request Online for Dell EMC: https://www.dell.com/support/kbdoc/en-us/000132371/how-to-create-a-support-request-online-for-dell-emc
More Information	<p>VMware Cloud Director v10.1 or above is required. Older versions are no longer supported as Dell supports only the versions of VMware Cloud Director supported by VMware.</p> <p>Backup-as-a-service, when purchased without protection storage can be used in combination with Data Domain hardware appliances or Data Domain Virtual Edition purchased separately.</p> <p>Dell Data Protection for VMware Cloud Director is licensed by capacity in use. Volume discounts are included in the pricing. Billing is in VCPP points as per the commitment tier SKU in the table above.</p> <p>For example, the lowest value of 100 VM is 8.45Pts per VM, which equals a minimum commit of \$845 per month. Any volume over 100 VM is charged the same rate unless a new tier is committed to. If customer is in the standard level, which means they have 100-499 VMs to be protected, each VM will be charged at 8.45 points per month. If customer has 500-1999 to be protected, they are in the Extended level and each VM will be charged at 7.98 points per month.</p> <p>Discounts are not available for the points employed to purchase this product and listed rates do not include international currency rate modification. Each new tier SKU will require a new Sales Term Sheet contract (STS) addendum to be agreed.</p> <p>To learn more about VMware Cloud Director Data Protection visit: https://www.delltechnologies.com/en-gb/data-protection/vmware-cloud-protection.htm</p>

*Note: Price per point for third-party products VM is different to your contracted VCPP price per point

VMware Cloud Director Object Storage Extension (with Cloudian Hyperstore)

Product Level	Min Monthly Volume (in TB)	VCPP Points (per TB/month)
VCAN-CLD-OBJ-STR-TIER1	200	11.3*
VCAN-CLD-OBJ-STR-TIER2	1,000	8.8*
VCAN-CLD-OBJ-STR-TIER3	5,000	7.4*
VCAN-CLD-OBJ-STR-TIER4	10,000	5.6*
VCAN-CLD-OBJ-STR-TIER5	15,000	5.1*

Description	<p>VMware Object Storage for Cloud Director is an integrated storage platform that lets service providers deploy and manage S3-compatible storage within their services environment. Powered by Cloudian, the solution leverages in-house, heterogeneous storage media, and includes native management integration with VMware Cloud Director via the VMware Object Storage Extension (vOSE). For service providers, this solution supports services such as Storage-as-a-Service, Backup-as-a-Service, WORM Object Lock security, and software development. Employing the S3 API, the de facto language of the cloud, this solution enables high-value storage services across virtually all industry groups.</p>
Reporting	<p>VMware Cloud Director Data Protection reporting is manual. To generate the report, Service Providers will leverage Cloudian’s Smart Support Feature that provides system usage and status information. Smart Support employs proactive analysis and alerts to help the Cloudian Support team maximize system uptime and performance.</p> <p>Service Provider will have to enable Smart Support on Cloudian’s system to be able to report usage. If enabled, system logs are generated once per day and sent to Cloudian Support. Communication is one-way only. No additional information may be requested. Data is sent only via https protocol through port 443. No user object data is either transmitted or accessible via Smart Support.</p> <p>Smart Support is configured to communicate only with a specific end point hosted by Cloudian Support. Users can further limit this by configuring a firewall to permit port 443 communication only between the Cloudian system and the Cloudian Support.</p> <p>Cloudian will generate a month-end report based on the data from Smart Support system. This monthly usage report will then be used for reporting in VCPP Commerce Portal.</p> <p>During the first billing period the minimum point commitment will be deferred, and Service Provider will be charged actual usage. The minimum point commitment will be enforced from the next billing period. The first billing period is defined as the first month the contract becomes active regardless which day of the month. The grace period allows Service Provider to be billed for actual usage in the first month, even if the minimum point commitment is not met.</p>
Pricing	<p>Price to partner = Greater of Monthly Min or Actual TB * Pt/tier * Currency List Price. 1 pt = \$1.00 (or VCPP local currency equivalent).</p>
Support	<p>Support services provided by Cloudian are included. Support is not available via VCPP Global Support Services. Cloudian will supply partners with production level support details</p>
More Information	<p>For Cloudian Cloud Director management integration, VMware Cloud Director v9.5 and above is required. For deployments that do not include VMware Cloud Director, the Cloudian solution may also be managed via the Cloudian Management Console.</p>

	<p>Object Storage for VMware Cloud Director is licensed by capacity in use. Volume discounts are included in the pricing. Billing is in VCPP points as per the commitment tier SKU in the table above. For example, the lowest value of 200TB is 11.3 pts per TB/mo = a minimum commit of \$2,260.00 per month. Any volume over 200TB is charged the same rate unless a new tier is committed to. Discounts are not available for the points employed to purchase this product and listed rates do not include international currency rate modification.</p> <p>(This flow is temporary, subject to change.)</p> <p>The current order process includes the following stages;</p> <ol style="list-style-type: none"> 1. Cloud Provider decides on minimum capacity commit level (lowest commit level is 200TBs p/month). 2. Cloud Provider signs TPP (Third Party Products) online addendum 3. Aggregator issues their own quote to Cloud Provider 4. Aggregator creates Cloudian contract in VCPP Commerce Portal 5. VCAN-Services validates TPP and approves contract for booking 6. Cloudian contacts and “enables” Cloud Provider – Software, License fulfilment <p>To learn more about VMware Cloud Director Object Storage with Cloudian visit:</p> <p>https://docs.vmware.com/en/VMware-Cloud-Director-Object-Storage-Extension/index.html</p> <p>https://cloudian.com/vmware/</p> <p>Take advantage of a 45 day 100TB free trial</p> <p>https://cloudian.com/free-trial/?utm_source=adwords&utm_campaign=brand-emea</p>
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* Product levels listed below are reflective of corresponding volume discounts. No additional discounts are applicable beyond what is already reflected in SKUs/product levels. For Cloudian contract 1 pt = \$1.00 (or VCPP local currency equivalent).

Appendix A

ADJUSTING REPORTS WITH MANUALLY COLLECTED PRODUCT USAGE DATA

Depending on the products used by Service Providers, monthly reports may need to be manually adjusted to accurately report all required data.

This appendix explains how to adjust reports to place product usage into the correct bundle or standalone line items.

Two different approaches are used to adjust a monthly report with manually collected data.

- If the product usage will be reported standalone, then a simple count of VMs running the products is required. The billed GB usage is removed from the bundle reported by vCloud Usage Meter and added to the report as a new standalone line item.
- However, if the product usage will be reported as part of a bundle, then a more complex process is followed. The total Memory Allocation for all VMs running the product must be subtracted from the 'Reported Bundle' and added to a bundle that includes the product.

To reduce reporting complexity, rather than retrieving the actual vRAM reserved by each VM running a product, an Average Billed vRAM value is used as the memory billed for each VM.

A manual adjustment could lead to a future engagement through Partner's Aggregator/Cloud Provider Manager or VMware Compliance team to validate the reason for this manual adjustment of existing numbers. General guidance is that at least all metered products and consumption needs to get reported. Additionally, all VCPP consumed products, which are not yet supported by Usage Meter need to get reported, as well. If the Usage Meter readings seem incorrect, Partners should review the configuration of Usage Meter or open a ticket with VMware Support.

REPORTING FLEX PRICING MODEL

Bundle Translation:

The Flex Pricing Model is reported in the Commerce Portal through Bundle-to-Flex translation. Partners that have transitioned to the Flex Pricing Model will input their usage on the first page of the monthly report in the bundle format and the Commerce Portal will translate the bundles to Flex Core and Add-On usage.

Current Bundles		In Flex Model		Comments
Name	Points	Equivalent	Points	
Advanced	7	Core	7	No change
Standard w/ Networking	8	Core + NSX-DC Prof.	7 + 1 = 8	No change
Standard w/ Management	8	Core + vROps Ent	7 + 3 = 10	Discount 2 Pt*
Advanced w/ Networking	9	Core + NSX-DC Prof.	7 + 1 = 8	Reduced Price
Advanced w/ Management	10	Core + vROps Ent	7 + 3 = 10	No Change
Advanced w/ Networking & Management	12	Core + vROps Ent + NSX-DC Adv.	7 + 3 + 3 = 13	Discount 1 Pt*

Manually Reporting Flex Add-Ons:

Use of additional Flex Add-Ons can be reported under the standalone section of the monthly report.

- If a partner wishes to report a different add-on, (ex. – NSX DC Enterprise+ instead of NSX DC Advanced through bundle translation), the partner should report the units from the original bundle as Advanced Bundle and add the same unit count to the accompanying Add-On.
- If a partner wishes to report usage for an add-on not tied to a previous bundle, the partner needs to calculate the Unit count associated with the usage and add it to the accompanying SKU in the Flex Add-On Standalone section of the monthly report.

STANDALONE REPORTING

Reporting product usage as standalone entries for vRealize Operations

Add new line entries to the monthly report for each standalone product reported (vRealize Operations). For each product:

1. Determine the count of VMs running the product (See [Appendix](#) for details)
2. Add a line item to the monthly usage report as follows: Product Name <IP address of instance> <Version> <VM count >

Reporting product usage as standalone entries for Virtual SAN

Add a new line entry to the monthly report for Virtual SAN storage usage.

For each product:

1. Determine the Virtual SAN Used storage capacity in GB (See [Appendix](#) for details)
2. Add a line item to the monthly usage report as follows: Product Name <Version> <GB >

Reporting product usage as standalone entries for vCloud Availability

Add a new line entry to the monthly report for vCloud Availability usage.

For each product:

1. Determine the vCPU and vStorage used by vCloud Availability (See [Appendix](#) for details)
2. Add an additional line item to the monthly usage report for each Organization with VMs protected by vCloud Availability in the following format:
Organization Name, CountOfProtectedVMs, TotalStorageUsedByVMsInBytes

REPORTING PRODUCT USAGE USING VMWARE CLOUD PROVIDER PROGRAM BUNDLES

Manual reporting on VMware Cloud Provider Program bundles is determined by the answer to three questions:

- Is NSX deployed? If so, which edition?
- Is vRealize Operations deployed?
- Is VMware Cloud Director deployed?

Based on the answer to these questions a single line will be added to the monthly report. See the following table for more information:

NSX DC SP Features Comparison

Features/Editions	SP Base	SP Prof. ¹	SP Adv.	SP Ent. Plus
Flex Points per GB per Month ²	Part of Core	Add-on to Flex 1 Point	Add-on to Flex 3 Points	Add on to Flex 4.5 Points
Distributed Switching and Routing	✓	✓	✓	✓
NSX Gateway Firewall (Stateful)	✓	✓	✓	✓
NSX Gateway NAT	✓	✓	✓	✓
Software L2 Bridging to Physical Environment	✓	✓	✓	✓
Dynamic Routing with ECMP (Active-Active)	✓	✓	✓	✓
Integration with Cloud Management Platforms	✓	✓	✓	✓
IPv6 with Static Routing and Static IPv6 Allocation	✓	✓	✓	✓
VPN - L3 (IPsec VPN)	✓	✓	✓	✓
Load Balancing ³ (NSX Advanced LB Basic Edition for NSX-T)	✓	✓	✓	✓
VPN - L2 (L2VPN)		✓	✓	✓
Distributed Firewalling for VMs and Workloads Running on Bare Metal		✓	✓	✓
Integration with DFW (Active Directory, VMware AirWatch, Endpoint Protection and Third-Party Service Insertion)			✓	✓
Container Networking and Security			✓	✓
Multi-vCenter Networking and Security			✓	✓
IPv6 with Dynamic Routing, Dynamic IPv6 Allocation and Services			✓	✓
Context-aware Micro-Segmentation (L7 Application Identification, RDSH, Protocol Analyzer)			✓	✓
Distributed FQDN Whitelisting			✓	✓
VRF ⁴ (Tier 0 Gateway VRFs)		✓	✓	✓
Federation				✓
Ethernet VPN (EVPN)				✓
NSX Intelligence: VM-to-VM Traffic Flow Analysis				✓
NSX Intelligence: Firewall Visibility				✓
NSX Intelligence: Automated Security Policy				✓
NSX Intelligence: Rule and Group Recommendation Analytics				✓
vRealize Network Insight Advanced				✓
VMware HCX Advanced				✓

¹ NSX Professional is now offered at 1 Pts

² Per 1 GB Metered RAM (based on average monthly usage)

³ NSX Advanced Load Balancer is included in NSX-DC SP Base as a replacement for NSX-T load balancer

⁴ VRF is included in NSX Professional and is to be reported manually. When deploying VRF-Lite on T0, report the usage of all VMs connected to this T0/T1 as NSX DC SP Professional.

✓ Different from NSBU Editions

* **NOTE:** NSX Cloud is not included in VCPP NSX

ADJUSTING V CLOUD USAGE METER REPORTS

Completing the steps in this section requires two or three values depending on whether both NSX and vRealize Operations are deployed.

- A count of VMs running vRealize Operations
- A count of VMs running NSX
- A value that represents the Avg. Billed vRAM.

Refer to [Appendix A](#) for instructions on obtaining these values before proceeding.

STEPS TO ADJUST V CLOUD USAGE METER REPORTS

1. Select the products in use and determine the type of bundle to be added to the report.
2. Run the Monthly Usage Report.
3. Read from the report the vCloud Service Provider Bundle - Premier Edition GB value. This is **Value A**.
4. Determine **Value B** –
 - If only NSX is deployed, multiply the total count of NSX VMs by average billed vRAM to compute Value B.
 - If only vRealize Operations is deployed, multiply the total count of vRealize Operations VMs by average billed vRAM to compute Value B.
 - If both NSX and vRealize Operations are deployed, multiply the larger of the two values by average billed vRAM to compute Value B.
5. Update the report as follows:
 - a. Update: vCloud Service Provider Bundle - Premier Edition = A-B
 - b. Add: vCloud Service Provider Bundle - **Bundle Name From Flowchart** = B

STEPS TO ADJUST V CLOUD USAGE METER REPORTS FOR MIXED EDITIONS OF NSX

To report mixed editions of NSX you will need to first run your Usage Meter report. The report will indicate the bundle with the highest level of NSX used. To report multiple editions of NSX you will need to subtract usage for the lower point bundle from the bundle that is indicated on your Usage Meter report and manually report for the lower bundle. The sum of the two bundles should equal the amount of usage indicated on the UM report.

For Example: If your Usage Meter report indicates that you used 100 vRAM of the new VMware Cloud Provider Program Advanced with Networking and Management Bundle and you would like to report usage of both NSX Enterprise and NSX advanced you would need to do the following:

1. Determine the VMs that are using NSX Advanced Features and the VMs that are using the NSX Enterprise Features.
2. Deduct the Average vRAM for the VMs using NSX Advanced from the amount of vRAM indicated on the UM Report for the New Advanced with Networking and Management Bundle. For example, if you are using 50GB of vRAM of NSX advanced features deduct 50GB of vRAM from the New Advanced with Networking and Management Bundle.
3. Report the deducted vRAM amount under the new VMware Cloud Provider Program Advanced with Networking Bundle and report the remainder of the vRAM under the new VMware Cloud Provider Program Advanced with Networking and Management Bundle. Note the sum of vRAM for the two bundles should equal the vRAM indicated on your UM report for the New Advanced with Networking and Management Bundle. In this example you would report 50GB of vRAM to the New Advanced with Networking Bundle and 50GB of vRAM to the New Advanced with Networking and Management Bundle.

VSAN FEATURE-BASED METERING FOR USAGE METER 3.6.1

Features/Editions	vSAN Standard	vSAN Advanced	vSAN Standard + Enterprise Add-On	vSAN Advanced + Enterprise Add-On
Point for Server Version (per GB per Month for Used Capacity)	0.02	0.03	0.03	0.04
Point Value for Desktop Version (per Concurrent Connection per Month)	2	4	3	5
Storage Policy-Based Management	✓	✓	✓	✓
Read/Write SSD Caching	✓	✓	✓	✓
Distributed RAID	✓	✓	✓	✓
vSphere Distributed Switch*	✓	✓	✓	✓
vSAN Snapshots & Clones	✓	✓	✓	✓
Rack Awareness	✓	✓	✓	✓
Replication (5 min RPO)	✓	✓	✓	✓
All-Flash Support	✓	✓	✓	✓
Block Access (iSCSI)	✓	✓	✓	✓
Flash Class Encryption	✓	✓	✓	✓
Deduplication & Compression (All Flash Only)		✓		✓
Erasure Coding (All Flash Only)		or ✓		or ✓
Stretched Cluster & Nested Fault Domains			✓	✓
QoS - IOPS Limits			or ✓	or ✓

Appendix B

CONTRACT & MANUAL METERING DELL DATA PROTECTION FOR VMWARE CLOUD DIRECTOR

Process for contract:

1. Cloud Provider needs to decide on the commit level and point rate as defined in the Product User Guide
2. Cloud Provider or Aggregator makes request for Third Party Product (TPP) Addendum (if not already signed by partner in past) by emailing partnerconnect@vmware.com (Subject: Request for VCPP TPP:<CP Name>) in the email please add; Cloud Provider Name, Point of Contact and their email.
3. Aggregator will issue a quote to the Cloud Provider
4. Aggregator creates a new contract for the Dell/EMC Data Protection solution in the VMware Commerce Portal
5. Once contract order is booked EMC will email the Cloud Provider the license and support details.

Process for reporting:

1. Cloud Provider runs the Dell Data Protection metering script in Addendum in Product User Guide, this will identify the volume of protected VMs
2. Cloud Provider enters usage for contract SKU VCAN-EMC-CUST-C in VMware Commerce Portal per normal monthly reporting (if the SKU is not available, please contact your aggregator as VMware has not booked the contract for usage)
3. Cloud Provider contacts Aggregator if you are going to exceed the contracted volume level as a new discount level could be available if a new tier volume is reach and will require a new contract.
4. Aggregator reviews and submits usage report in VMware Commerce Portal per normal monthly reporting

VMware Cloud Director Data Protection reporting is manual. The number of protected VMs can be queried via REST API in the following way:

1. Get the list of tenant organizations

GET: /api/org

```
<OrgList href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/org" >
  <Org href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/org/a93c9db9-7471-3192-8d09-a8f7eeda85f9"
  name="System" />
  <Org href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/org/c0bd6ecb-c51f-4e81-ab21-f113d4443b31"
  name="rita2" />
  <Org href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/org/c349cae2-ce44-43ab-8306-4279cb134dff"
  name="rita1" />
</OrgList>
```

2. For each tenant organization, get the list of vDCs

GET: /api/admin/org/{org-id}

```
<AdminOrg name="rita1" id="urn:vcloud:org:c349cae2-ce44-43ab-8306-4279cb134dff" href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/admin/org/c349cae2-ce44-43ab-8306-4279cb134dff" >
  <Vdcs>
    <Vdc href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/vdc/6dc11ff9-33fe-4625-93c9-2af625b19ff6" name="coke-vdc-1" />
    <Vdc href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/vdc/553daf05-c8b3-4058-a27a-b18c164dd761" name="pepsi-vdc-2" />
  </Vdcs>
</AdminOrg>
```

```

    <Vdc href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/vdc/d6837471-b688-4ac9-8cc2-122ee38451bc" name="vdc33" />
  </Vdcs>
</AdminOrg>
3. For each vDC, get the "Protection Overview"
GET: /api/admin/extension/vdc/{vdc-id}/protectionOverview
<VdcOverview name="coke-vdc-1" totalVms="5" totalStorage="82678120448" unprotectedVms="3"unprotectedStorage="65498251264">
  <PolicyRef href="https://cncd-av-vm-235-85.ccoe.lab.emc.com/api/admin/extension/vdc/6dc11ff9-33fe-4625-93c9-2af625b19ff6/BackupPolicy/1647d2d6-eaf5-4a40-a43d-bff6e203d461" name="ondemand-vdc1" quotaValue="549755813888" quotaUsage="17179869184" protectedVms="2" protectedStorage="17179869184"/>
</VdcOverview>

```

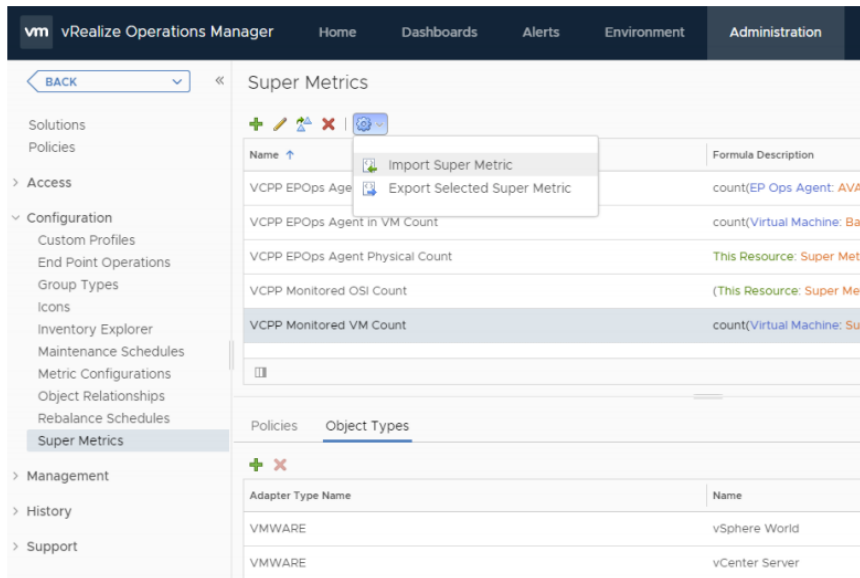
The number of protected VMs can be derived at the vDC level by subtracting unprotected VMs from total VMs.

Report the usage into the VMware Cloud Provider Commerce Portal.

MANUAL METERING WITH VREALIZE OPERATIONS REPORTS

Metering Configuration

Metering requires the use of super metrics and a report to perform the necessary calculations. The steps in this section show how to import preconfigured super metrics and reports to automate metering and reporting.

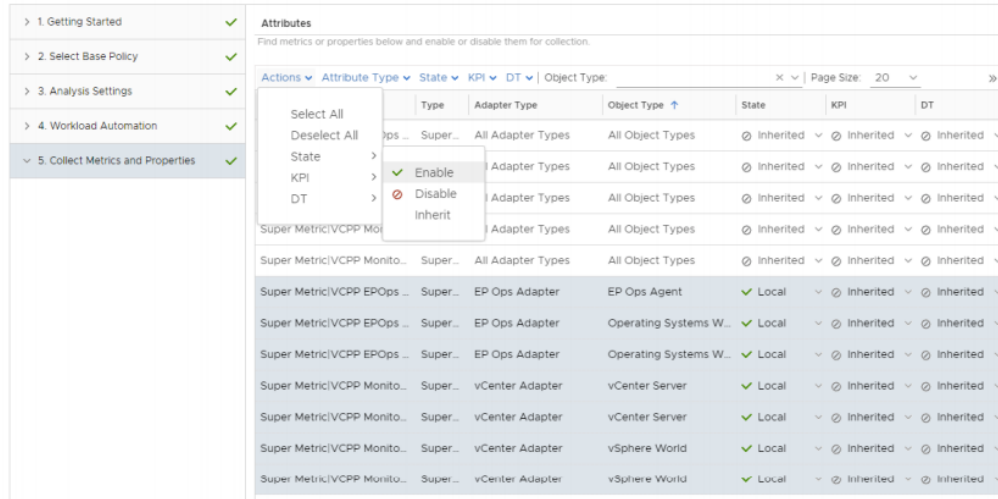


1. Import all super metric configuration files defined in [Appendix C: Super Metric Definitions](#).
2. Set the Object Type for each super metric as shown in the following table.

Super Metric	Adapter Type	Object Type
VCPPEPOps Agent in VM Count	EP Ops Adapter	EP Ops Agent
VCPPEPOps Agent Count	EP Ops Adapter	Operating Systems World
VCPPEPOps Agent Physical Count	EP Ops Adapter	Operating Systems World
VCPPEPOps Monitored OSI Count	VMWARE	vCenter Server
VCPPEPOps Monitored OSI Count	VMWARE	vSphere World
VCPPEPOps Monitored VM Count	VMWARE	vCenter Server
VCPPEPOps Monitored VM Count	VMWARE	vSphere World

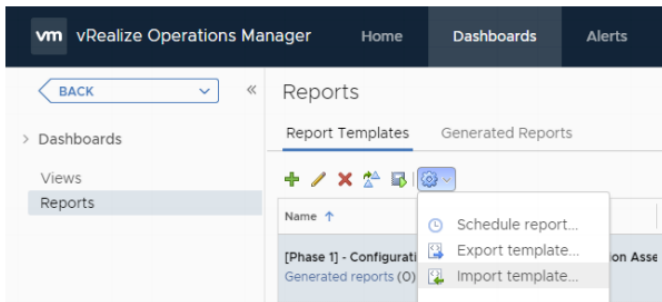
3. Enable super metrics in the policy editor for highlighted object types as shown in the following figure.

Edit Monitoring Policy



4. Navigate to Dashboards / Reports.

5. Import the report template defined in [Appendix C: Report Template](#).



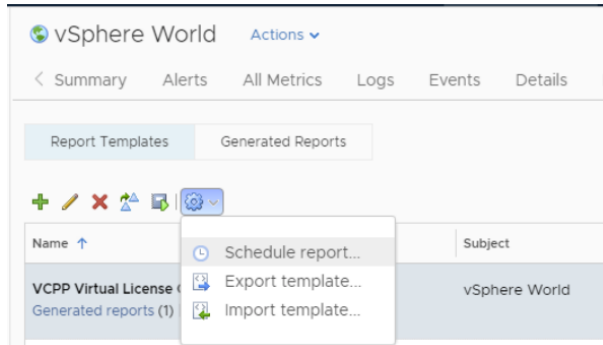
Reporting Configuration

Reports can be scheduled within vRealize Operations to automate the reporting process. The following steps show how to send the reports through email on a scheduled basis:

1. Navigate to vSphere World Object.
2. Select the Reports tab.
3. Select the VCPP Virtual License Count report.
4. Click Schedule report.
5. Configure the schedule to send email monthly.

***Note**

While this illustrates sending a global report, the same process applies to reporting for Tenant usage. Instead of selecting vSphere World Object, select the object that represents a Tenant when scheduling the report.



1. VCPP Virtual License Counts

Name	Month	Average OSI
vSphere World	June 2017	116.27
vSphere World	July 2017	116.51
vSphere World	August 2017	113

References:

Document Title	Link or URL
<i>VMware vCloud Architecture Toolkit for Service Providers</i>	https://www.vmware.com/solutions/cloud-computing/vcat-sp.html
<i>vCloud Architecture Toolkit (vCAT) Blog</i>	https://blogs.vmware.com/vcat/
<i>Multitenant Use of VMware vRealize Operations as a Service</i>	https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vcat/vmware-multitenant-vrealize-operations-as-a-service.pdf
<i>vRealize Operations Manager Sizing Guidelines (2093783)</i>	https://kb.vmware.com/kb/2093783

MANUALLY COLLECTING USAGE DATA FOR VSAN

The following process shows what vSAN usage API and property values should be used as well as how to cross-check this usage property against the vCenter UI for manual reporting or for reconciliation purposes.

CASE 1: vSAN cluster with deduplication

API and Collection Sample

API and Property	Collection Sample from the UM Appliance
queryClusterData EfficiencyCapacity State API; getPhysicalCapacityUsed Property	<pre>Collection_col_208_meter.json:{"\$schema":"vsan-usage-v1","productId":2,"moref":"domain-c1007","vsanFeatures":["BASE","DEDUPLICATION"],"usedCapacityBytes":23034494976,"edition":"vsan.enterprisePlus.cpuPackageCoreLimited","clusterId":"domain-c1007","licenseName":"vSAN Enterprise Plus","type":"ClusterComputeResource","productName":"VMware VSAN","licenseKey":"N42J2-8J055-089N1-0V3U6-1MGL2","productVersion":"7.0","clusterName":"KFVa4nnwdzL1","isEvaluationLicense":true,"time":1602782696836,"category":"VcAddon_VSAN_Collector","collectionId":208,"productType":"vCenter","vclid":2}</pre>

How to check usage against vCenter UI and verify with Cluster History Report

In the above collection sample, the usedCapacityBytes [23034494976 Bytes](#) = usedCapacityinGB [21.45254 GB](#)

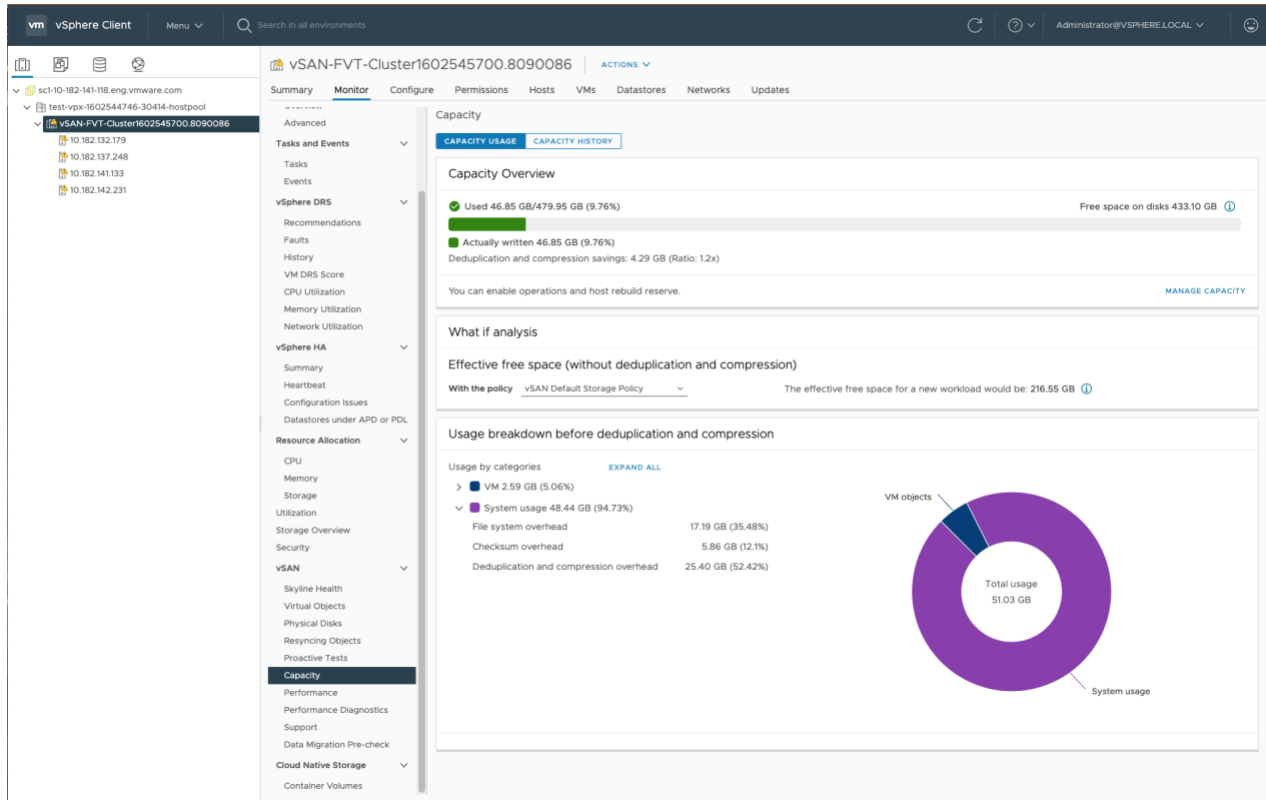
Using the vCenter UI, click on the cluster name on the left hand side menu, then click vSAN Monitor Tab → click on Capacity Section as shown in the vCenter screenshot below.

To calculate the metered usage capacity from the vCenter UI for this case (cluster with deduplication feature) do the following:

Metered Usage Capacity (in GB) = Capacity Overview:Used GB - Usage Breakdown before Deduplication and Compression:Deduplication and Compression Overhead

[21.45 GB](#) = [46.85 GB](#) - [25.40 GB](#)

In the cluster history report, you will see this usage value in MB (instead of GB) i.e. [21.45 GB](#) will show up as [21967.406 MB](#) (i.e. [23034494976/\(1024 * 1024\)](#))



Note: vCenter UI usage value in GB is rounded off values. Whereas in the UM Appliance collection, you will see the value in Bytes and precise (not rounded).

CASE 2: vSAN cluster without deduplication

API and Collection Sample

API and Property	Collection Sample from the UM Appliance
vsanQuerySpaceUsage API; getSpaceOverview.getUsedB Property	Collection_col_211_meter.json:{"\$schema":"vsan-usage-v1","productId":3,"moref":"domain-c1010","vsanFeatures":["BASE","STRETCHED_CLUSTER"],"usedCapacityBytes": 2776629248 ,"edition":"vsan.enterprisePlus.cpuPackageCoreLimited","clusterId":"domain-c1010","licenseName":"vSAN Enterprise Plus","type":"ClusterComputeResource","productName":"VMware VSAN","licenseKey":"N42J2-8J055-089N1-0V3U6-1MGL2","productVersion":"7.0","clusterName":"lh75S9ULliYV","isEvaluationLicense":true,"time":1602782698388,"category":"VcAddon_VSAN_Collector","collectionId":211,"productType":"vCenter","vclid":3}

How to check usage against vCenter UI and Cluster History Report

In the above collection sample with NO DEDUPLICATION, the usedCapacityBytes 2776629248 Bytes = usedCapacityinGB 2.5859375 GB

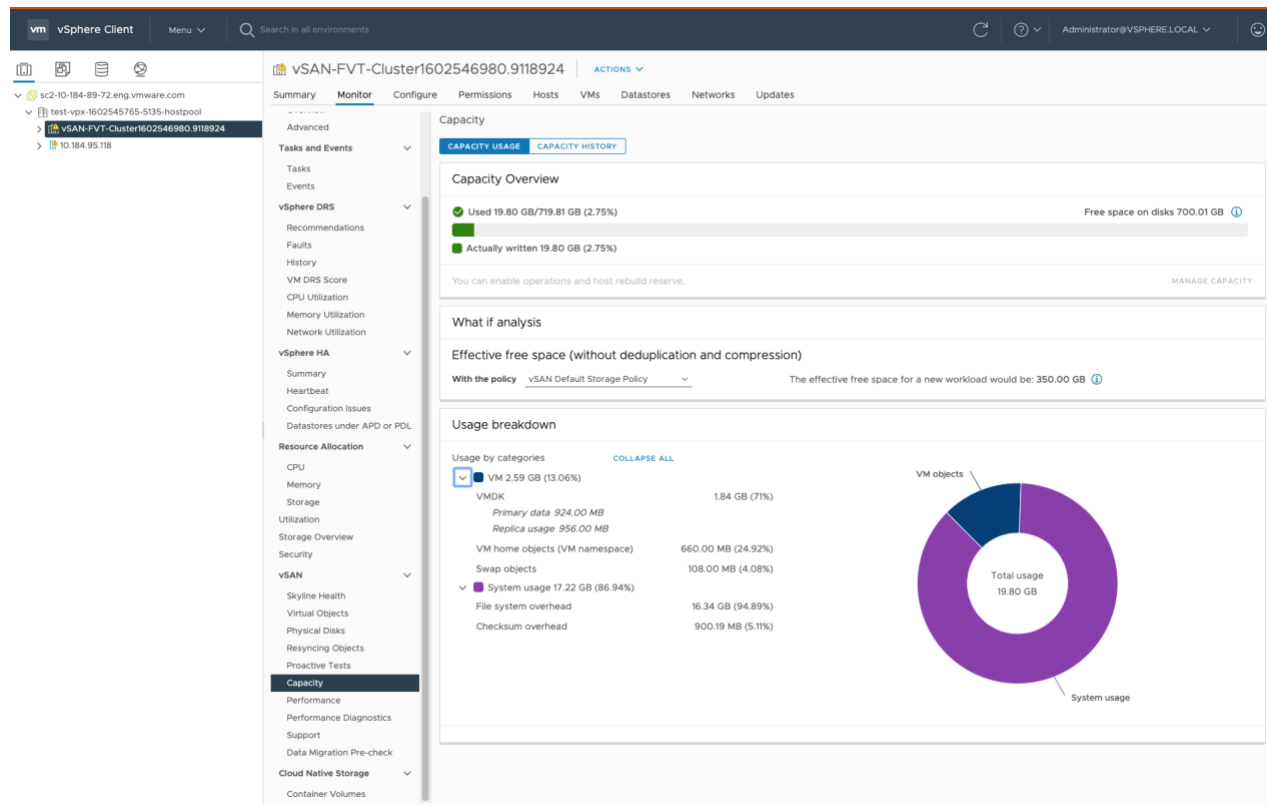
Using the vCenter UI, click on the cluster name on the left hand side menu, then click vSAN Monitor Tab → click on Capacity Section as shown in the vCenter screenshot below,

To calculate the metered usage capacity from the vCenter UI for this case (cluster without deduplication feature) do the following:

Metered Usage Capacity (in GB) = Capacity Overview:Used GB - (SUM of all System Overheads from Usage Breakdown:System Usage breakdown)

2.5859 (rounded to 2.59) GB = 19.80 GB - (16.34 GB + 900.19 MB)

In the cluster history report, you will see this usage value in MB (instead of GB) i.e. 2.5859 GB will show up as 2648 MB (i.e. 2776629248/(1024 * 1024))



Refer to [Appendix A](#), for information on adjusting monthly reports.

MANUALLY COLLECTING USAGE DATA FOR NSX

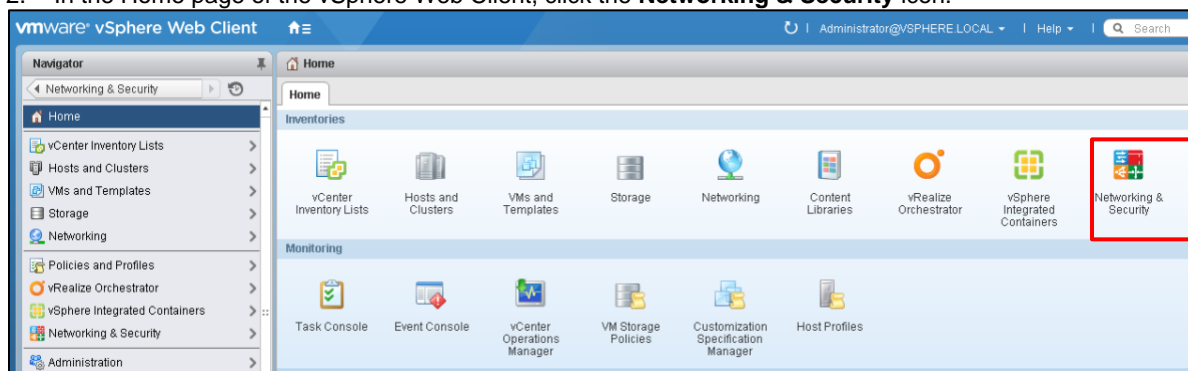
To collect NSX usage data, determine the number of VMs in your vCenter Server instance that use NSX.

Collecting this information involves the following tasks:

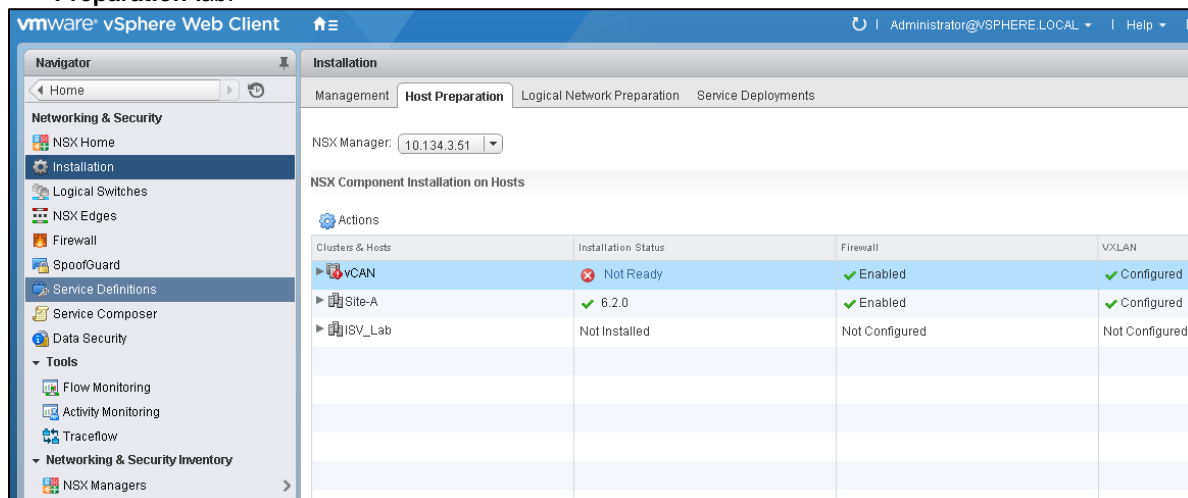
- Determine the hosts that have NSX installed.
- Export a list of all the VMs in the vCenter Server.
- From the list, count the number of VMs on each host that has NSX installed.

Collect NSX Usage Data

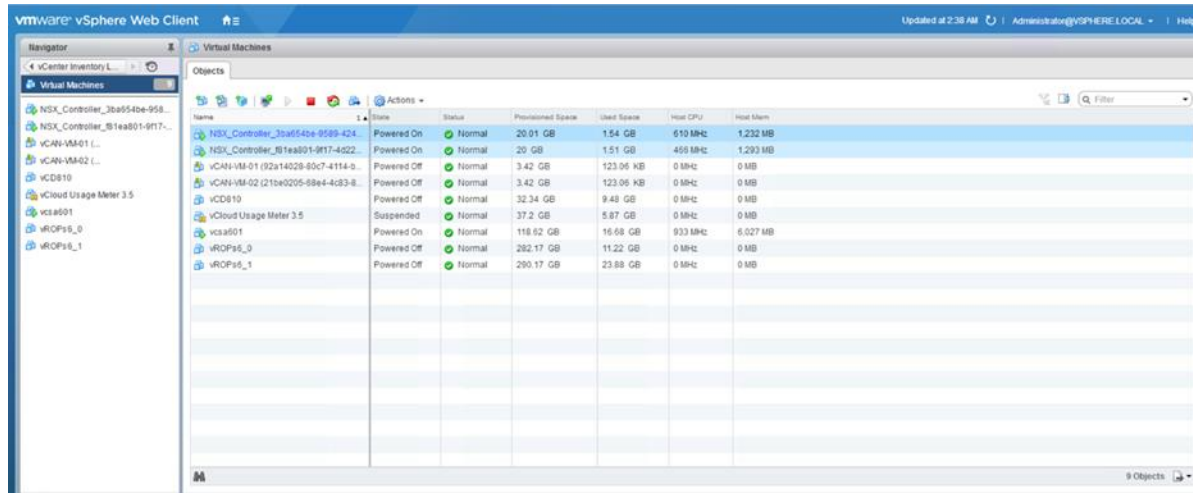
1. Use a browser to log into the vSphere Web Client.
2. In the Home page of the vSphere Web Client, click the **Networking & Security** icon.




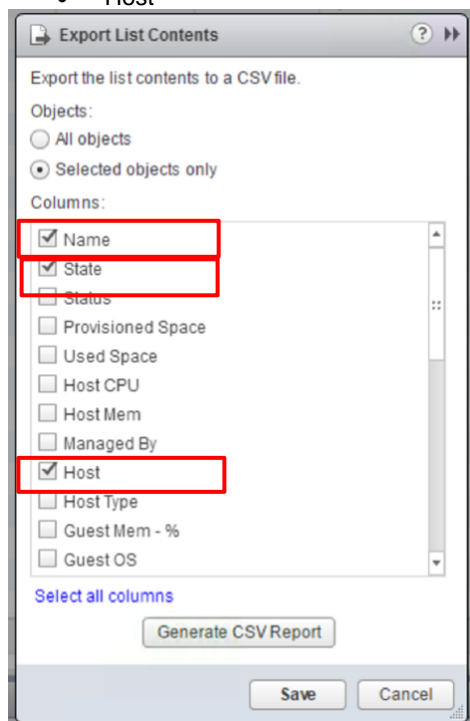
3. In the Navigator pane on the left, under **Networking & Security**, click **Installation**, then select the **Host Preparation** tab.



4. Make a note of the hosts that have NSX installed.
5. In the Navigator pane, click **Home** to return to the vSphere Web Client Home page.
6. In the Navigator pane, click **vCenter Inventory Lists**, then click **Virtual Machines**. All the virtual machines in your vCenter Server instance are listed.



7. Click the Export List icon  at the bottom-right of the page to export the list of VMs.
8. In the Export List Contents pop-up window, select the following items:
 - Name
 - State
 - Host



9. Click Generate CSV Report.
10. Sort the report by host name and count the number of VMs on each host that has NSX installed.

The total number of VMs running NSX is used while manually adjusting monthly reports for bundles or standalone product usage. Refer to [Appendix A](#), for information on adjusting monthly reports.

HORIZON UNIVERSAL LICENSES

As per the recent changes to the Product Guide (see below), customers are allowed to use Horizon Universal (or Horizon Subscription) Licenses to license Horizon in a Public Cloud. They cannot bring the vSphere/vCenter/vSAN/NSX licenses to a VCPP provider (or any public cloud provider) datacenter, thus they can use HUL/HSL to license Horizon, but the Cloud Provider must bring the SDDC licensing.

- While the customer is allowed to do so, it does not compel the Cloud Provider/VCPP partner to allow it. To avoid loss of revenue, the partner may still require the customer to acquire the licenses from them (either via Desktop MSP or using their VCPP Horizon bundles).
- If a partner does not want to have any responsibility for the Horizon environment, they may choose to allow the customer to bring their own Horizon license via HUL/HSL, but SDDC licenses would still be required from the CSP for the underlying infrastructure. In this case, the customer would own everything about the Horizon environment above the SDDC, including the support relationship with VMware.

Here are the specific recent changes in the Product Guide, which is located at <https://www.vmware.com/download/eula/product-guides.html> that apply to General Licensing

1. VMware has updated the Product Guide to preclude end users from bringing vSphere, vSAN, NSX and SDDC Manager to Public Cloud.
“Public Cloud Provider” means a service provider or public cloud compute provider that provides Public Cloud Services to its end customers.
2. **Restrictions on Use with Public Cloud Services.** Customer must not allow Third Party Agents to access, deploy, use, or operate the Software on Public Cloud Services.
“Public Cloud Services” means computing infrastructure and platform services (such as compute resources, storage capabilities, databases or virtual machines and other computing infrastructure and platforms services) that a third party makes available for rent to customers and makes accessible via the public internet.
3. All EUC products with the exception of HUL are restricted from a BYOL perspective.
4. Public Cloud Infrastructure Customer must not use or install the Software on Public Cloud Infrastructure.
“Public Cloud Infrastructure” means infrastructure computing services whereby the provider makes necessary resources, such as hardware, software, and other supporting infrastructure available for rent to customers (whether accessible by customers or not), and on which customers may install applications

VREALIZE OPERATIONS SUPER METRIC DEFINITIONS

VCPP EPOps Agent in VM Count

Save this code as sm_VCPP EPOps Agent in VM Count.json.

```
{
  "390c24b2-154e-455e-be78-799bfb8607fa": {
    "resourceKinds": [
      {
        "resourceKindKey": "EP Ops Agent",
        "adapterKindKey": "EP Ops Adapter"
      }
    ],
    "name": "VCPP EPOps Agent in VM Count",
    "formula": "count({adaptype=VMWARE, objecttype=VirtualMachine, metric=badge|
health, depth=-2})",
    "description": ""
  }
}
```

VCPP EPOps Agent Physical Count

Save this code as sm_VCPP EPOps Agent Physical Count.json.

```
{
  "d68f866b-804e-41de-8d61-b97fbc22c9ae": {
    "resourceKinds": [
      {
        "resourceKindKey": "Operating Systems World",
        "adapterKindKey": "EP Ops Adapter"
      }
    ],
    "name": "VCPP EPOps Agent Physical Count",
    "formula": "${this, metric=Super Metric|sm_70c1ae5d-1fdf-49d6-9e50-94878931ab57} -
sum({adaptype=EP Ops Adapter, objecttype=EP Ops Agent, metric=Super Metric|
```

```
sm_390c24b2-154e-455e-be78-799bfb8607fa, depth=100}"),
  "description": ""
}
}
```

VCPP EPOps Agent Count

Save this code as sm_VCPP EPOps Agent Count.json.

```
{
  "70c1ae5d-1fdf-49d6-9e50-94878931ab57": {
    "resourceKinds": [
      {
        "resourceKindKey": "Operating Systems World",
        "adapterKindKey": "EP Ops Adapter"
      }
    ],
    "name": "VCPP EPOps Agent Count",
    "formula": "count({adaptype=EP Ops Adapter, objecttype=EP Ops Agent,
metric=AVAILABILITY|ResourceAvailability, depth=100})",
    "description": ""
  }
}
```

VCPP Monitored OSI Count

Save this code as sm_VCPP Monitored OSI Count.json.

```
{
  "ea33ba48-3a9d-4be3-9c98-e227e102c4b2": {
    "resourceKinds": [
      {
        "resourceKindKey": "VMware Adapter Instance",
        "adapterKindKey": "VMWARE"
      },
      {
        "resourceKindKey": "vSphere World",
        "adapterKindKey": "VMWARE"
      }
    ],
  }
}
```

```

    "name": "VCPD Monitored OSI Count",
    "formula": "(${this, metric=Super Metric|sm_8a7bd06e-ae7a-4b8a-83d8-691be8976eb5}
> 0) ? (${this, metric=Super Metric|sm_8a7bd06e-ae7a-4b8a-83d8-691be8976eb5}) : ($
{this, metric=summary|total_number_hosts})",
    "description": ""
  }
}

```

VCPD Monitored VM Count

Save this code as VCPD Virtual License Counts.xml.

```

{
  "8a7bd06e-ae7a-4b8a-83d8-691be8976eb5": {
    "resourceKinds": [
      {
        "resourceKindKey": "VMware Adapter Instance",
        "adapterKindKey": "VMWARE"
      },
      {
        "resourceKindKey": "vSphere World",
        "adapterKindKey": "VMWARE"
      }
    ],
    "name": "VCPD Monitored VM Count",
    "formula": "count(${adapertype=VMWARE, objecttype=VirtualMachine, metric=sys|
poweredOn, depth=100, where=\"==1\"})",
    "description": ""
  }
}

```

VREALIZE OPERATIONS REPORT TEMPLATE

VCPP Virtual License Counts

Save this code as VCPP Virtual License Counts.xml.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Content>
  <Views>
    <ViewDef id="0ae95462-fc46-4d04-b13a-a10b1fff21ef">
      <Title>VCPP Virtual License Counts</Title>
      <Description/>
      <SubjectType adapterKind="VMWARE" resourceKind="vSphere World"
type="descendant"/>
      <SubjectType adapterKind="VMWARE" resourceKind="vSphere World"
type="self"/>
      <Usage>dashboard</Usage>
      <Usage>report</Usage>
      <Usage>details</Usage>
      <Usage>content</Usage>
      <Controls>
        <Control id="time-interval-selector_id_26" type="time-interval-
selector" visible="false">
          <Property name="advancedTimeMode" value="false"/>
          <Property name="unit" value="YEARS"/>
          <Property name="count" value="1"/>
        </Control>
        <Control id="attributes-selector_id_27" type="attributes-selector"
visible="false">
          <Property name="attributeInfos">
            <List>
              <Item>
                <Value>
                  <Property name="objectType" value="RESOURCE"/>
                  <Property name="attributeKey" value="Interval Breakdown"/>
                  <Property name="id" value="extModel1219-1"/>
                  <Property name="rollUpCount" value="0"/>
                  <Property name="isTimeSegment" value="true"/>
                  <Property name="breakdownBy" value="MONTHS"/>
                  <Property name="startingOnUnit" value="WEEKS"/>
                  <Property name="startingOnCount" value="1"/>
                  <Property name="displayName" value="Month"/>
                </Value>
              </Item>
            </List>
          </Property>
        </Control>
      </Controls>
    </ViewDef>
  </Views>
</Content>
```



```

        <Item>
<Value>
  <Property name="objectType" value="RESOURCE"/>
  <Property name="attributeKey" value="Super Metric|sm_ea33ba48-3a9d-4be3-9c98-
e227e102c4b2"/>
  <Property name="id" value="extModel1219-2"/>
  <Property name="isStringAttribute" value="false"/>
  <Property name="adapterKind" value="VMWARE"/>
  <Property name="resourceKind" value="vSphere World"/>
  <Property name="rollUpType" value="NONE"/>
  <Property name="rollUpCount" value="0"/>
  <Property name="transformations">
    <List>
      <Item value="AVG"/>
    </List>
  </Property>
  <Property name="isProperty" value="false"/>
  <Property name="displayName" value="Average OSI"/>
</Value>
      </Item>
    </List>
  </Property>
</Control>
  <Control id="pagination-control_id_28" type="pagination-control"
visible="true">
    <Property name="start" value="0"/>
    <Property name="size" value="50"/>
  </Control>
</Controls>
<DataProviders>
  <DataProvider dataType="list-view" id="list-view_id_25"/>
</DataProviders>
  <Presentation type="list"/>
</ViewDef>
</Views>
<Reports>
  <ReportDef id="49d16c84-d1bf-4057-b209-e2d4145b3a33">
    <Title>VCP Virtual License Counts</Title>
    <Description/>
    <SubjectType adapterKind="VMWARE" resourceKind="vSphere World"
type="descendant"/>
    <SubjectType adapterKind="VMWARE" resourceKind="vSphere World"
type="self"/>
    <Sections>

```

```
<Section>
  <ContentType>CoverPage</ContentType>
  <ContentKey>COVER_PAGE</ContentKey>
</Section>
<Section>
  <ContentType>View</ContentType>
  <ContentKey>0ae95462-fc46-4d04-b13a-a10b1fff21ef</ContentKey>
  <ContentOrientation>Portrait</ContentOrientation>
</Section>
</Sections>
<Settings>
  <ShowPageFooter>>false</ShowPageFooter>
  <OutputFormat>pdf</OutputFormat>
  <OutputFormat>csv</OutputFormat>
</Settings>
</ReportDef>
</Reports>
</Content>
```



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