



FAQ

VMware vCloud Usage Meter 3.0

November, 2012

This document describes the VMware vCloud Usage Meter that monitors and measures resource consumption within services built on the vCloud Service Provider product bundles, which are available for use within the VMware Service Provider Program (VSPP).

This document answers some of the most common questions service providers and aggregators have about VMware vCloud Usage Meter 3.0.

What is the VMware vCloud Usage Meter?

The VMware vCloud Usage Meter is a tool that service providers use to monitor, measure, and report on VMware product consumption. Its purpose is to provide an easy way for service providers and aggregators to gather and report on accurate usage to support the VSPP billing process. The vCloud Usage Meter is provided as a free virtual appliance.

Any service provider deploying a vCloud Service Provider Bundle must use the vCloud Usage Meter for virtual RAM-based usage reporting.

Where can I download the vCloud Usage Meter?

The virtual appliance is available for download from VMware at <http://www.vmware.com/download/download.do?downloadGroup=UMSV3>. Service providers and aggregators must be registered users of the site in order to download the vCloud Usage Meter.

What is new in version 3.0?

The VMware vCloud Usage Meter 3.0 increases the stability of the virtual appliance to ensure monthly collections are collected reliably and accurately. The vCloud Usage Meter 3.0 includes new enhancements for integration, monitoring, billing processing, reporting, memory utilization, and performance.



The following table provides an overview of the new features in version 3.0:

| New Feature | Description |
|-----------------------------------|---|
| Product Integration | <ul style="list-style-type: none"> Meters VMware vCloud Integration Manager, VMware vCenter Operations Manager in vCloud bundles, and VMware Site Recovery Manager. |
| Monitoring | <ul style="list-style-type: none"> Exposes JMX, which is disabled externally by default (For more details, see the vCloud Usage Meter 3.0 user guide.). |
| Memory Utilization | <ul style="list-style-type: none"> Improved reliability in large environments with an increased default virtual appliance vRAM size of up to 3,600 MB. Ability of service providers with smaller environments (less than 300 virtual machines) to lower the virtual appliance vRAM to as low as 1,536 MB if sufficient JVM memory is available during collections. |
| Billing Memory Calculation | <ul style="list-style-type: none"> Simplified billing memory calculation that no longer limits billable vRAM based on the reservation pool in virtual data centers (What is calculated is the larger of either the reserved memory or half the configured memory for the virtual machine). New billing calculation applies to new collections only. |
| Performance | <ul style="list-style-type: none"> Improved performance for a large number of virtual machines and for the process of adding and deleting rules. Number of concurrent collections to vCenter Servers changed from five to one, but can be changed back to five to enhance collection speed if there is enough memory to support multiple collections. |
| vCenter Servers | <ul style="list-style-type: none"> Ability to add vCenter Servers simultaneously if they have the same login credentials by supplying multiple comma-separated names. Reusable IP addresses. (Experimental*) Ability to add ESXi hosts directly for metering without management of a vCenter Server. <p>Rules</p> <ul style="list-style-type: none"> More user friendly interfaces with Manage and Rules pages split into tabbed sections. Updated content for Rules inventory so that mapping and un-mapping of virtual machines occurs without requiring refresh buttons or page reloading. (Experimental*) Ability of rules specific to ESX hosts (such as Host, Folder, and Resource Pools) to track customer usage through the user interface and API. <p>Reports</p> <ul style="list-style-type: none"> Simplified Report page form with a top-down flow for reports and filters. Automated reports via a default memory cap per virtual machine. License sets filter built into header in exported reports. <p>API</p> <ul style="list-style-type: none"> REST API for managing customers, rules, and reports. <p>Miscellaneous</p> <ul style="list-style-type: none"> Heartbeat service to verify functioning of collection and database services with ability to restart them as necessary. Service failures and restarts logged and sent to the email address assigned to the service provider on the Manage page. Enhanced stability of the vCloud Usage Meter and database services with an increased OS swap volume of 2 GB. Easier analysis of log entries as they occur in real time with the "less" package for new (not upgraded) appliances. Ability to set up an email server with an email server port added to UI. Improved logging of vCenter resource usage. |

*VMware includes certain "experimental features" in some of our product releases. These features are there for you to test and experiment with. VMware does not expect these features to be used in a production environment. However, if you do encounter any issues with an experimental feature, VMware is interested in any feedback you are willing to share. Please submit a support request through the normal access methods. VMware cannot, however, commit to troubleshoot, provide workarounds, or provide fixes for these experimental features.



For more detailed information on new features in version 3.0, refer to the release notes at <http://www.vmware.com/download/download.do?downloadGroup=UMSV3>.

How is the vCloud Usage Meter used?

The vCloud Usage Meter serves two functions: metering and reporting. The metering part of the tool is used by service providers to collect raw usage data on the VSPP bundles. The reporting part of the tool is used by service providers or aggregators to generate reports for planning, billing, general account management, dispute resolution, and other purposes.

Do I need to purchase VMware software to run the vCloud Usage Meter?

The vCloud Usage Meter is not purchased separately. It is available as a free virtual appliance to all service providers and aggregators who are reporting on the vCloud Service Provider Bundles.

Where can I learn more about the installation process for the vCloud Usage Meter?

The vCloud Usage Meter is provided as a virtual appliance (OVF format) to service providers and aggregators. The virtual appliance can be deployed on the VMware vSphere Client.

The vCloud Usage Meter user's guide provides instructions for installation and configuration. The guide is available for download at <http://www.vmware.com/download/download.do?downloadGroup=UMSV3>.

What information does the vCloud Usage Meter collect and how often?

The vCloud Usage Meter collects the following information on an hourly basis:

- Time at which data is collected
- Host DNS name
- Host RAM (physical memory)
- vSphere license type
- Virtual machine vCenter name (optional field for service providers that is not included in the detailed billing report sent to the aggregator)
- Virtual machine host name (optional field for service providers that is not included in the detailed billing report sent to the aggregator)
- vRAM (allocated virtual memory)



- Billing vRAM (calculation based on reserved virtual memory and memory cap per virtual machine)
- Virtual machine CPU (count of virtual CPUs)
- Virtual machine instance UUID (universal unique identifier)
- Virtual machine location in vSphere inventory

Where is this information stored?

Collected data is stored in the PostgreSQL database of the virtual appliance itself.

How is information sent to aggregators for billing purposes?

Service providers can choose to send usage reports to their aggregators manually through their existing reporting process or automatically by email through the vCloud Usage Meter.

Service providers can set up the vCloud Usage Meter to automatically generate sets of reports and send them to aggregators or others. Service providers who report to multiple aggregators can set up an automatic report for each one, using a different license set for each. For more information, refer to the vCloud Usage Meter user's guide at

<http://www.vmware.com/download/download.do?downloadGroup=UMSV3>.

Note: All data is due to the aggregator by the date specified in the aggregator contract. Regardless of the reporting method that is chosen, service providers must adhere to reporting requirements that are designated in their aggregator contract. Additionally, service providers must, regardless of the reporting method they choose, use the vCloud Usage Meter to generate their usage report for billing purposes.

What information is available in the customer report?

The customer report includes the 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.

In addition to the ability to display details in individual customer records, service providers also have the ability to filter existing reports (for example, a Detailed Billing Report, Detailed Usage Report, Customer Summary Report, and License Summary Report) with the following filters:

- By customer:
 - Names: Filter based on a single customer, multiple customers, or all customers
 - Country: Filter based on a single country, multiple countries, or all countries
 - Postal Code: Filter based on a postal code, multiple postal codes, or all postal codes



- By license set: Filter based on one or more user-defined license sets
- 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



Figure 1. Sample License Summary Report filtered by month/year

What customer information is sent to my aggregator?

In order to limit access to customer information, only the virtual machine UUID is provided to the aggregator for report processing. The virtual machine name (including the name of the vCenter and DNS) and IP address are not included in reports automatically sent to the aggregator as part of monthly reporting. The Detailed Usage Report will still contain the virtual machine vCenter and DNS names in the report, but this report is for service provider benefit only and it is at the service provider's discretion to maintain confidentiality.

How can I manage my 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.

How are points calculated based on usage data?

The VMware Service Provider Program Bundles are charged as per aggregated reserved RAM usage, and charging is done through a monthly point system where months can have the following number of days:

- 28-day months = 672 hours
- 29-day months = 696 hours
- 30-day months = 720 hours
- 31-day months = 744 hours



The formula for calculating net points is:

$$\text{Net points} = (\text{vGB hours} \times \text{points per 1 GB reserved RAM}) / \text{hours per month}$$

How the formula works:

- Points per 1 GB reserved RAM
 - 5 points per 1 GB Reserved RAM for VMware vCloud Service Provider Bundle – Standard Edition
 - 7 points per 1 GB Reserved RAM for VMware vCloud Service Provider Bundle – Premier Edition
 - 10 points per 1 GB Reserved RAM for VMware vCloud Service Provider Bundle – Premier Plus Edition (available Q4, 2012)
- vGB hours are calculated with consideration of floor (minimum value) and ceiling (maximum value) values
 - The floor value is equal to a minimum of 50 percent vRAM reservation. For example, if you need only 35 percent vGB hours, you will be charged for only 50 percent.
 - The ceiling value or a 24-GB cap is the maximum value that could be charged. For example, if you are consuming 1 terabyte of vGB hours, then you will only be billed for 24 GB of vGB hours.

Example:

During one 30-day calendar month, a service provider uses the vCloud Premier Service Provider Bundle to configure his or her virtual machine with 16 vGB hours for 15 days and 48 vGB hours for the remaining 15 days. The reservation level for the virtual machine is set at 75 percent for the entire month.

- 15 days x 24 hours x 16 vGB x 0.75 = 4,320 vGB hours
- 15 days x 24 hours x 24 vGB (48 vGB x 0.75 but capped at 24GB) = 8,640 vGB hours
- Total vGB hours = 12,960 vGB hours
- Total points = 12,960 vGB hours ÷ 720 hours/month x 7 points (for Premier) = 126 points

The service provider must report the usage data provided by the vCloud Usage Meter each month to his or her aggregator.

For more information on points and examples of point calculations, refer to the VSPP product usage guide.



Steps for calculating net points:

To calculate net points based on your usage data, you will use the License Summary Report and possibly the Product Report. The License Summary Report screen is shown in Figure 2:

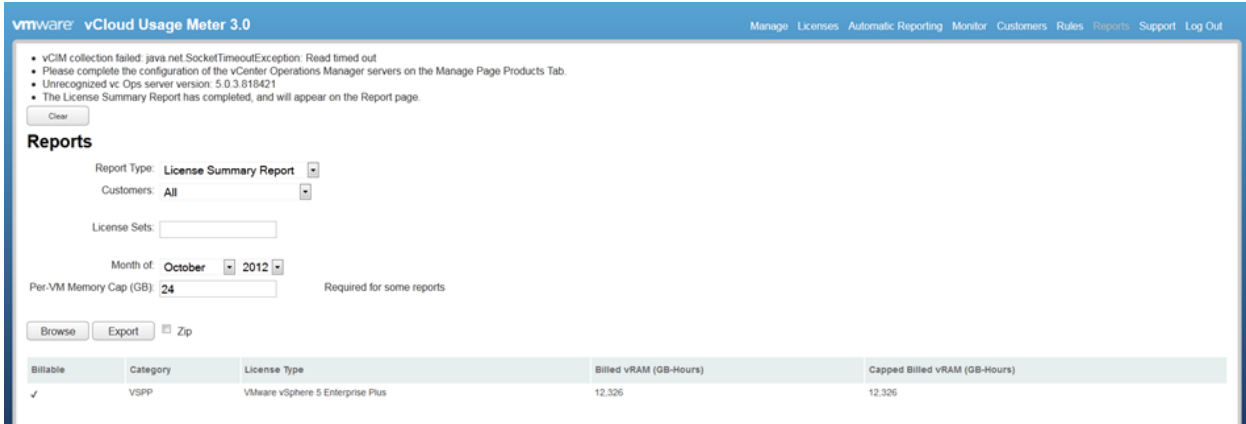


Figure 2. License Summary Report

Figure 3 shows the Product Report screen:

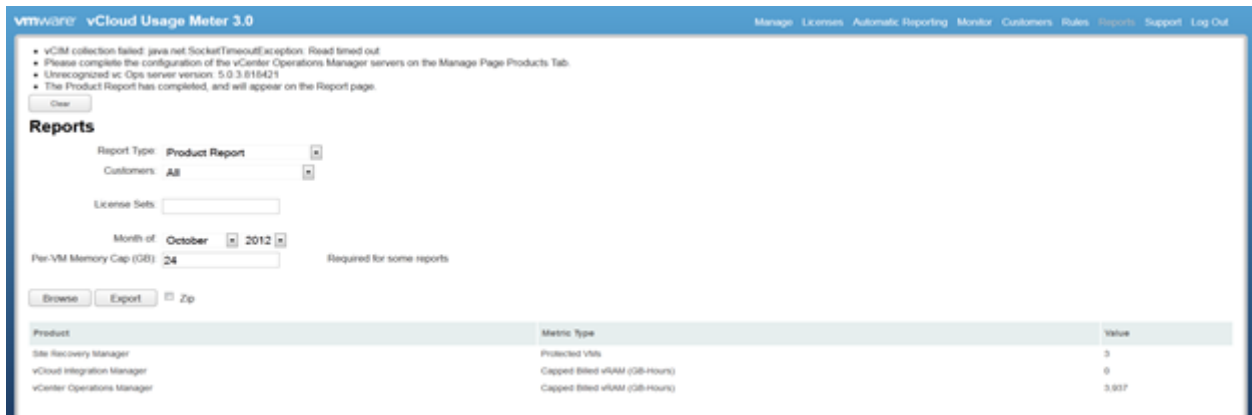


Figure 3. Product Report



Follow the steps in this table to calculate what needs to be reported.

| To report on | Steps |
|--|---|
| VMware vCloud Service Provider Bundle – Standard Edition | <ol style="list-style-type: none">1. Run the License Summary Report.2. Capture the total usage for vSphere Enterprise.3. Apply the formula (5 points per GB reserved vRAM). |
| VMware vCloud Service Provider Bundle – Premier Edition | <ol style="list-style-type: none">1. Run the License Summary Report.2. Capture the total usage for vSphere Enterprise Plus.3. Apply the formula (7 points per GB reserved vRAM). |
| Add-on Products | <ol style="list-style-type: none">1. Run the Product Report.2. Capture the total usage mapped to vCenter Servers under management. |
| VMware vCloud Service Provider Bundle – Premier Plus Edition (available Q4, 2012) | <ol style="list-style-type: none">1. Run the License Summary Report.2. Capture the total usage for vSphere Enterprise Plus.3. Apply the formula (7 points per GB reserved vRAM) for vSphere Enterprise Plus.4. Run the Product Report.5. Capture the total usage for vCenter Operation Manager.6. Apply the formula (3 points per GB reserved vRAM) for vCenter Operations Manager.7. Add points from steps 3 and 6 for the total to be reported. |
| VMware Infrastructure 3 | <ol style="list-style-type: none">1. Run the License Summary Report.2. Capture the total usage for the License Server.3. Apply the formula (7 points per GB reserved vRAM) regardless of the bundle in use. |



What VMware products does the vCloud Usage Meter report on?

The vCloud Usage Meter reports on the following products:

| | |
|--|-----------------------------------|
| VMware vCenter Operations Management Suite | |
| VMware vCloud Integration Manager | |
| VMware vCloud Service Provider Bundles: | |
| VMware vSphere Enterprise | Standard Edition only |
| VMware vSphere Enterprise Plus | All editions other than Standard |
| VMware vCloud Director | All editions |
| VMware vCenter Server | All editions |
| VMware vCenter Chargeback Manager | Standard & Advanced Editions only |
| VMware vCloud Network & Security Advanced | Advanced & Premier Editions only |
| VMware vCenter Operations Manager Chargeback vCenter Configuration Manager vFabric Hyperic | Premier Edition only |

What else needs to be sent to the aggregator?

The vCloud Usage Meter only reports on the vCloud Service Provider Bundles that are measured per GB of virtual RAM. If service providers are using other products available through the VSPP, they will need to report on those products separately based on their aggregator agreement. For the most up-to-date guidelines on point calculation and usage and measurement, refer to the VSPP Program Guide and VSPP Product Usage Guide.

What are the minimum system requirements to run the vCloud Usage Meter?

Software requirements:

- VMware vSphere 4.0 (or higher)
- VMware vCenter Server 4.0 (or higher)



- Web Browser – The vCloud Usage Meter is a browser-based application that is tested and supported on the following:
 - Microsoft Internet Explorer 8 and later
 - Firefox 7 and later
 - Google Chrome 12 and later

Hardware requirements:

- 2.0GHz or faster Intel or AMD x86 processor
- 3.6 GB or more RAM
- 40 GB or more disk storage
- 10/100 Ethernet adapter (1 Gigabit recommended)

Note: When working with large datasets of virtual machines, vCenter Server inventory objects, over 10,000 virtual machines, and 2,500 vCenter Server inventory objects, VMware recommends having at least 750 MB of RAM available on the client for efficient operation.

TCP ports: The vCloud Usage Meter is accessed using predetermined TCP ports. Managing network components from outside a firewall may require service providers or aggregators to reconfigure the firewall to allow access on the appropriate ports.

| Port | Source | Target | Purpose |
|------|------------------------|--------------------|------------------------------------|
| 80 | vCloud Usage Meter | vCenter Server | vSphere API |
| 443 | vCloud Usage Meter | vCenter Server | vSphere API |
| 5480 | vCenter Update Manager | vCloud Usage Meter | Used for virtual appliance updates |
| 8443 | Client Browser | vCloud Usage Meter | Used for the web application |

Are there limitations on how many vCenter Servers or virtual machines can be monitored?

A single vCloud Usage Meter virtual appliance can monitor up to 10 vCenter Servers or 10,000 virtual machines across multiple data centers. VMware recommends that separate vCloud Usage Meter instances be used for data centers in different time zones to ensure consistent monitoring and reporting.

Each vCloud Usage Meter virtual appliance supports metering of:

- 10 vCenter Servers
- 10,000 virtual machines
- 1,000 customers
- 2,500 vCenter inventory objects



When do I need to install vCloud Usage Meter 3.0?

All service providers who are using the VMware Service Provider Bundle – Premier Plus Edition (available Q4, 2012) are required to use Usage Meter 3.0. We recommend that all service providers install version 3.0 of the vCloud Usage Meter to take advantage of customer reporting. At a minimum, service providers should be using version 2.1.1, which enables the use of the reserved RAM pricing model. Version 2.1.1 can be upgraded to version 2.3.2 only.

Usage data from versions 1 and 2.x cannot be uploaded into the new version of the tool. VMware recommends that service providers and aggregators install version 3.0 at the end of the current billing month.

What do I need to do with the usage data stored in the vCloud Usage Meter 1.0.x or 2.x.x?

Service providers are required to keep usage data collected by the vCloud Usage Meter for a minimum period of three years. It is highly recommended that service providers currently using the vCloud Usage Meter 1.0.x or 2.x.x should maintain exports of their monthly reports until the retention period has expired or migrate their usage data by performing sequential updates (from 1.x to 2.x to 2.3.2 and so on) until they reach the latest version.

What are the migration and upgrade options available?

- The Usage Meter supports upgrades from version 2.3.2 only.
 - Back up the appliance before upgrading (recommended).
 - Remove passwords from email configurations to allow for new encryption in version 3.0 of the virtual appliance.
- Upgrade files from previous versions available on the download site.

Who do I contact for technical issues?

For technical issues, please refer to the vCloud Usage Meter Community page at http://communities.vmware.com/community/vmtn/vcd/vcloud_usage_meter/.

For further technical assistance, please contact VMware Global Support Services at <http://www.vmware.com/support/contacts/>.

A current vSphere or vCloud entitlement is required in order to receive support on the vCloud Usage Meter.