Hewlett Packard Enterprise

FAQ

Resource Metering using HPE Cloud Optimizer

Frequently Asked Questions

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Resource Metering using HPE Cloud Optimizer

Q	What is Resource Metering in HPE Cloud Optimizer?
A	The Resource Metering capability of HPE Cloud Optimizer helps you to track the CPU, memory, and storage allocation information for a set of virtual machines over a specific time interval. Resource Metering is based on resource (CPU, memory, and storage) allocation to the virtual machines. The set of virtual machines is based on a Business Group that you create in HPE Cloud Optimizer. Additionally, you can associate unit cost for CPU, memory, and storage allocation and generate resource allocation (or provider) cost reports. Resource Metering is performed at Business Group level, which means you can generate reports based on your business applications, departments, lines of businesses, and so on. Note: For more information on Business Group, see this blog post - vPV Business Grouping 101—9 common questions.
Q	What are the uses and benefits of Resource Metering in HPE Cloud Optimizer?
A	HPE Cloud Optimizer Resource Metering capability helps in the following: • Total resource (CPU, memory, and storage) allocation made for each Business Group. Business Group can be a business application, department, line of business, and so on. • Total resource cost for each Business Group. • Potential cost savings for the Business Group or additional expenses the Business Group might incur if the virtual machines are right-sizing based on HPE Cloud Optimizer CPU and memory right-sizing recommendations.
Q	Can you explain the details shown in Resource Metering with an example?
A	See the following screenshot:

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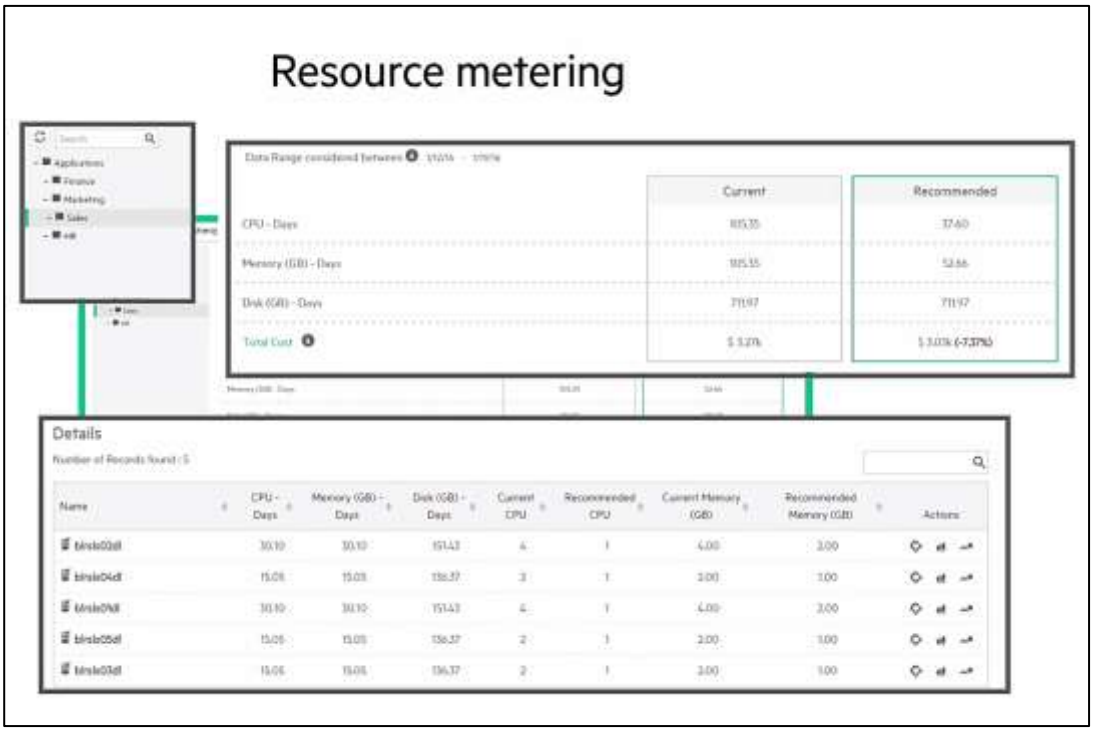

- Applications is a Business Grouping, which contains four Business Groups. Sales is one of the Business Groups.
- The overview section shows the total resource allocation for the Sales group (column Current) in terms of CPU (vCPU count) x days, Memory (GB) x days, and Storage (GB) x days for the specified time period. The Resource Metering capability allows you to select a date or time range. The Recommended column shows what would be the total allocation if the right-sizing recommendations had been applied to the VM configuration (CPU and memory). You can notice that the Business Group could have made a saving of 7% to the cost had the right-sizing recommendations been made to the virtual machines.
- The Details section shows the virtual machines that belong to the Sales Business Group. It also displays:

CPU x days (number of vCPUs assigned to the VM x days the VM was alive within the specified time period), memory x days (memory in GB allocated to the VM x days the VM was alive within the specified time period), and storage x days (storage in GB allocated to the VM x days the VM was alive within the specified time period). It additionally displays the current CPU and memory allocation and the recommended CPU and memory allocation. It is clear that the Sales Business Group can save cost by making the recommended VM right-sizing changes.

Q	How can I enter or edit unit cost of the resources?
A	Set the Advanced Settings option in Resource Meter page of HPE Cloud Optimizer to enter or edit the cost details. You can enter: Cost per day for CPU Cost per day for Memory

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	Cost per day for Disk
Q	Why I do not see Resource Meter capability enabled in my HPE Cloud Optimizer setup.
A	You can view the Resource Meter only if you have created Business Groups for virtual machines.
Q	How can I generate Resource Metering for organizations setup in HPE Cloud Service Automation (CSA)?
A	When you integrate CSA with HPE Cloud Optimizer, HPE Cloud Optimizer obtains information regarding the organizations setup in CSA and it automatically creates a CSA Business Grouping with each organization name setup as a Business Group of virtual machines. You can then launch the Resource Meter capability in HPE Cloud Optimizer, navigate to the organization name under the CSA Business Grouping and generate report for required time period. This report is based on CPU, memory, and storage resource allocation.

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Resource Metering in the Cloud – Integrating HPE Cloud Optimizer with IT Business Analytics (ITBA)

Q	What are the benefits of IT Resource Metering?
A	Measured service has become an important tenet in IT. Resource Metering for showback and chargeback purposes provide you with deeper understanding of the use of IT services and resources and their cost. Measuring and reporting brings transparency and accountability on how IT supports the business objectives and how the business units or organizations within an enterprise make use of the services. The purpose of showback/chargeback are as follows: • Making business units responsible for their usage of IT and its services. • Providing visibility on the reasons behind the costs of IT. • Allowing IT to be agile and respond swiftly to unexpected customer demand.
Q	How can I generate resource usage, utilization and billing statements for the organizations and users in HPE Helion Cloud Suite managed cloud platform? Or How can I generate showback and chargeback reports for the organizations and users of my cloud managed by HPE Helion Cloud Suite?
A	In a cloud deployment managed by HPE Helion Cloud Suite solution, HPE ITBA provides the capability to generate resource usage, utilization and billing statements for organizations and cloud users. This is enabled by integrating ITBA with HPE Cloud Optimizer.
Q	Can you provide more information about the integration capability between ITBA and HPE Cloud Optimizer?
A	By integrating with HPE Cloud Optimizer, ITBA provides the following capabilities: • Store detailed resource usage information obtained from HPE Cloud Optimizer in the existing Service Provider Billing entity. • Store detailed utilization information obtained from HPE Cloud Optimizer in the existing Service Provider Utilization entity. • Store virtual machine information obtained from HPE Cloud Optimizer in the existing Node entity. • Build the connection between CSA subscription and the real usage obtained from HPE Cloud Optimizer. • Generate Resource Usage and Utilization and Billing Statement reports for the organizations and cloud users.
Q	Can you provide a solution architecture diagram?
A	A top-level solution architecture diagram is as follows:

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	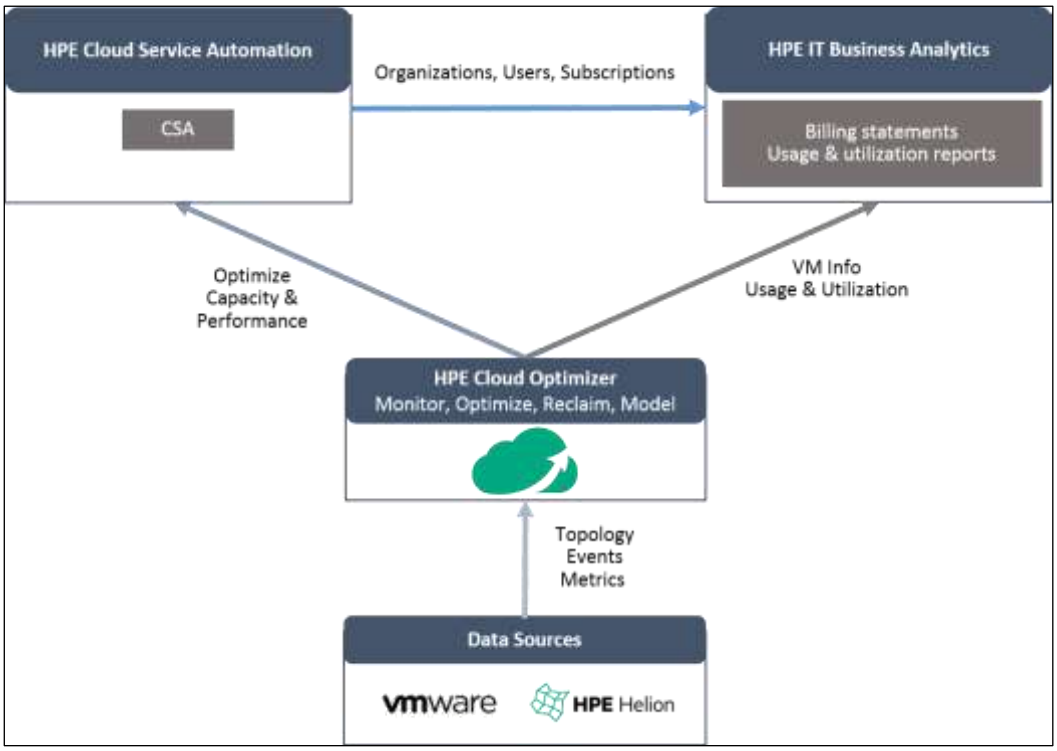 HPE Cloud Optimizer monitors the private cloud environment (based on VMware vSphere and HPE Helion OpenStack or both) and provides performance and capacity management capabilities. HPE Cloud Optimizer exposes REST API to obtain VM configuration information, usage and utilization details. ITBA makes use of the REST API to source relevant VM information and usage details to generate reports for the CSA organizations and users.
Q	What product versions is the integration between ITBA and HPE Cloud Optimizer supported?
A	The supported versions are as follows: • ITBA 10.00 + Content Pack 0002 and HPE Cloud Optimizer 3.00 and 3.01 • ITBA 10.10 and HPE Cloud Optimizer 3.00 and 3.01 For up-to-date support information and important caveats, see *ITBA and HPE Cloud Optimizer support matrix documentation*.
Q	For which virtualization and cloud technologies can HPE Cloud Optimizer provide VM usage and utilization information?
A	HPE Cloud Optimizer supports the integration with ITBA for VMware vSphere (using VMware vCenter Server) and HPE Helion OpenStack.
Q	Can ITBA content pack support multiple instances of HPE Cloud Optimizer?
A	Yes. The content pack supports multiple instances of HPE Cloud Optimizer.
Q	Is it required to have CSA datasource also?
A	Yes.
Q	How can I change the price of the offered private cloud resources?

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A	ITBA has pre-configured default prices to calculate the cost of private cloud resources (CPU, memory, disk) supported by HPE Cloud Optimizer. You can, however, change this. For more information, see *ITBA Content Reference Guide*.
Q	Can you provide samples of a few reports that can be generated in ITBA?
A	1. Sample report: Billing Statement for Cloud Services

Billing Statement for Cloud Services

Billing Period	2015-06-02 07:30:00 to 2015-06-02 07:30:00	Currency	USD
Organization	Engineering	Subcribed User	csa_enguser1
Total Billing Amount:			44,192.07

Date:2015-06-02 — SubTotal for Date : 44,192.07

Org: Engineering — SubTotal for Org : 44,192.07

Person: csa_enguser1 — SubTotal for Person : 44,192.07

Subscription: Application ABC (1.0.0) — SubTotal for Subscription : 16,500

Subscription	Option	Property	Cost
Application ABC (1.0.0)	Application Scaling : CPU and Memory Settings	Cpu:2	559.06
Application ABC (1.0.0)	Application Scaling : CPU and Memory Settings	Cpu:4	190.94
Application ABC (1.0.0)	Application Scaling : CPU and Memory Settings	Memory:2GB	1,381.88
Application ABC (1.0.0)	Application Scaling : CPU and Memory Settings	Memory:4GB	118.13
Application ABC (1.0.0)	Application Scaling : CPU and Memory Settings	[Non-Property]	0
Application ABC (1.0.0)	Backup Storage : 1 B	[Non-Property]	2,000
Application ABC (1.0.0)	Backup Storage : 2TB	[Non-Property]	8,000
Application ABC (1.0.0)	Operational Cost : Application Support	[Non-Property]	3,000
Application ABC (1.0.0)	Primary Storage : 250 GB	[Non-Property]	250
Application ABC (1.0.0)	Primary Storage : 500 GB	[Non-Property]	1,000

Subscription: CSA_Shared_1 — SubTotal for Subscription : 0.96

Subscription	Option	Property	Cost
CSA_Shared_1	Initial Order Profiles : No profile selected.	[Non-Property]	0.41

2. Sample report: Resource Usage and Utilization

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Resource Usage and Utilization

Period	2009-12-31 to 2019-12-31	Total Machine Cost($)	5,632.75
Organization	ALL	Total Machine(#)	10

Date : 2015-10-16 — SubTotal for Date : 159.82

Org : Consumer — SubTotal for Org : 159.82

Person : consumer — SubTotal for Person : 159.82

Private Cloud — SubTotal for Private Cloud : 75.4

Resource Provider	Virtual Machine	Allocation			Consumption			Avg Utilization			Total Cost($)
		CPU(#)	Memory(GB)	Disk(GB)	NumCPU-Days	Mem(GB)-Days	Disk(GB)-Days	CPU(%)	Mem(%)	Disk(%)	
VCenter	LinuxVMa00261	2	4	39.09	0.84	1.68	16.42	68.82	49.37	100	75.4

Public Cloud — SubTotal for Public Cloud : 84.42

Resource Provider	Virtual Machine	VM Type	Consumption			Utilization			Total Cost($)
			Compute(Hours)	Storage(GB)	Networking(GB)	Min CPU(%)	Max CPU(%)	Avg CPU(%)	
Amazon	ITBA2a8bd08ce	t2.micro	24	0	0.2	11.21	83.11	65.41	12.52
Amazon	Wendy-Windows2008	t2.small	24	0	0.51	36.19	92.7	55.26	14.68
Azure	ITBADEVVM01	small	9.88	0	0	31.33	97.83	54	57.22

Note: HPE Cloud Optimizer monitors the private cloud environment based on VMware vSphere (vCenter) and ITBA obtains the cloud resources usage and utilization information from HPE Cloud Optimizer.

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