



EPAM Cloud Infrastructure

# Orchestrator ver. 2.1.9

## What's New

January 2014

[CI2WN-S6-9](#)

Version 1.0

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# 1. Overview

*EPAM Orchestration Framework* version 2.1.9 was released on January 25<sup>th</sup>, 2014. It has been over a month since our last release, and we took our time to improve the familiar and new features as well as to pin-point the updates you need most. Naturally, we kept on increasing the stability and the reliability of the framework.

In previous release, we improved the feedback collecting and processing, and we already have the first fruits of this collaboration between *EPAM Cloud Orchestration* team and our users.

This document introduces you to major new features and improvements, detailed further below.

# 2. New Features

This time, we introduce a set of new features intended to give you better control over the Cloud Infrastructure by providing you with the performance analysis data and the ability to set up user permissions. We also kept on working on AWS-related improvements.

## Cloud Analytics

*EPAM Cloud Orchestration v.2.1.9* introduces a **highly informative analytics** solution that allows you to monitor the Cloud infrastructure performance and cost alteration at all the structural levels:

- VM level
- Project level
- Region level
- Cloud level

On each level, the analytics data is represented as a set of graphs and their descriptions, each illustrating the dynamic changes and the general trend of the available Key Performance Indicators (KPI) for the last 7 days.



**NB:** Please, be informed that VM and Project level statistics is available for all EPAM Cloud users and can be reached on “Monitoring” page of Orchestration UI. The Region and Cloud level statistics is available on the “Radar” page accessible only for users associated with the CSUP project.

To see the analytics data of the desired level, select the target item in the **Metrics** area in the left part of the corresponding UI page. For example, the selection below will give the data on the EPM-CSUP project:

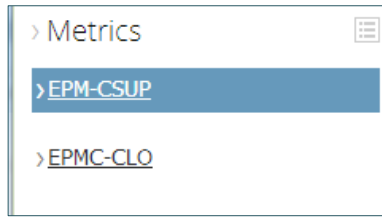


Figure 1 – Project-level selection

### VM-Level Analytics

VM-level analytics allows you get Zabbix and Chef Server performance statistics which provides you with the information on different processes of any machine within the Cloud.

Chef Server performance analysis is started automatically and does not need to be set up manually. The following KPI (Key Performance Indicators) are covered by Chef Server monitoring service:

- SDA device read operations
- SDA device write operations
- Incoming network traffic
- Outgoing network traffic

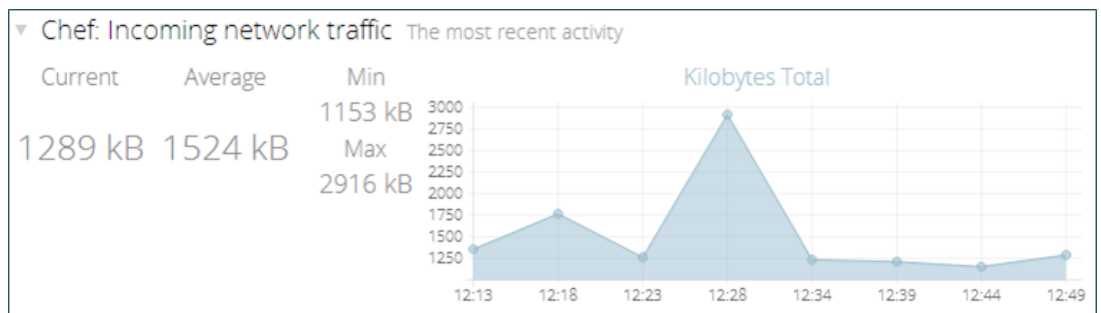


Figure 2 - Chef Server graph for incoming traffic

Zabbix monitoring service should be started with the **or2-manage-service -p project -r region -s monitoring -activate** command. When the service is activated, you can add instances to Zabbix monitoring list. This is done with the **or2-start-monitoring** command giving the ID of the instance to be monitored.

After that, on the UI Monitoring page, Zabbix information on the specified instance will be available. Below are listed the metrics that are covered by Zabbix monitoring service by default.

For **Windows** systems:

- CPU Load
- Free Memory
- Free memory in %

For **Linux** systems:

- CPU Load
- Disk Read/Write Operations

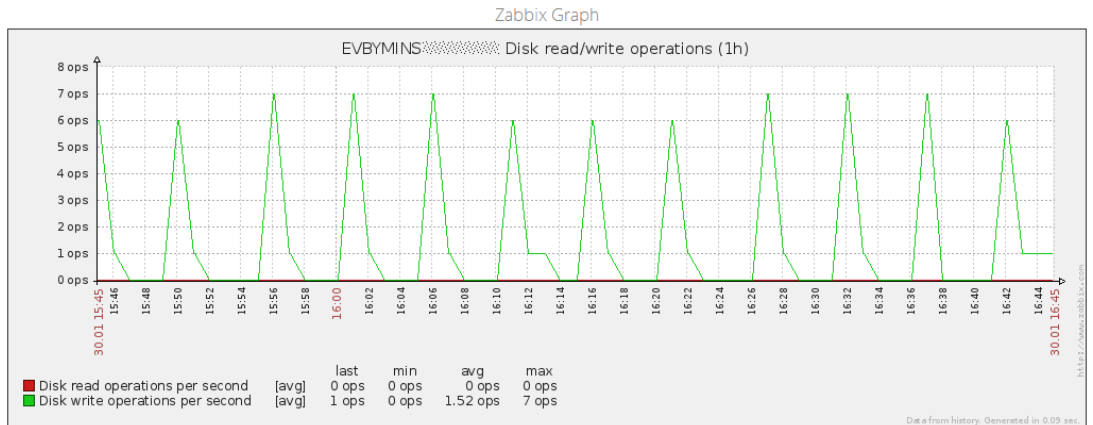


Figure 3 - Zabbix graph for disk read/write operations

The set of monitored metrics can be customized by specifying a custom template when adding the instance to the monitoring list.

### Project-Level Analytics

On Project level, you can monitor the current project costs and their general trends. Here, you can see the influence of following KPI on the overall project cost:

- Agility KPI (Run VM, Start VM, Stop VM, Kill VM which give the number of VMs that were respectively run, started, stopped and killed during the investigated time period)
- Compute Service Cost KPI (Base, Initial, Memory and CPU usage costs)
- Storage Service Cost KPI (machine image, storage volume and checkpoints active and passive usage costs)

At Project level, the Current value represents the actual total sum for the current month.

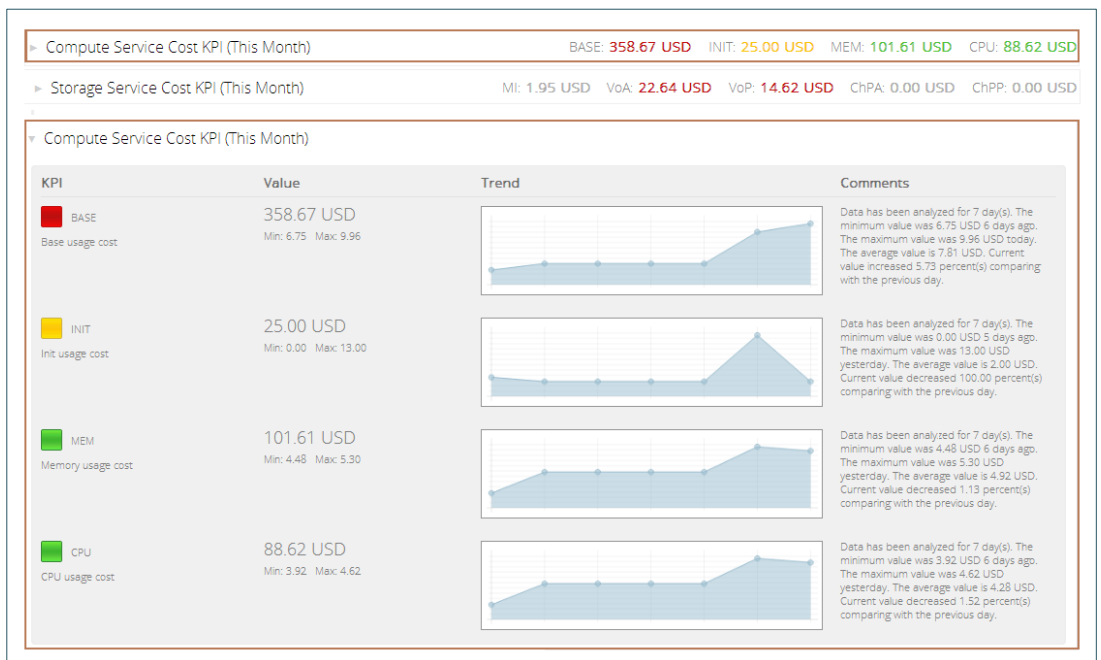


Figure 4 – Folded and full Compute Service Cost statistics for a region

### Region-Level Analytics

There is the possibility to get the performance statistics by regions in general. The following KPI groups are available:

- General KPI (includes the number of active projects, VMs and VMs in personal projects)
- Infrastructure utilization (includes the overall CPU, RAM, and storage usage).
- Financial KPI (the overall project cost)

At Region and Cloud levels, the Current value represents the metrics for the current day.

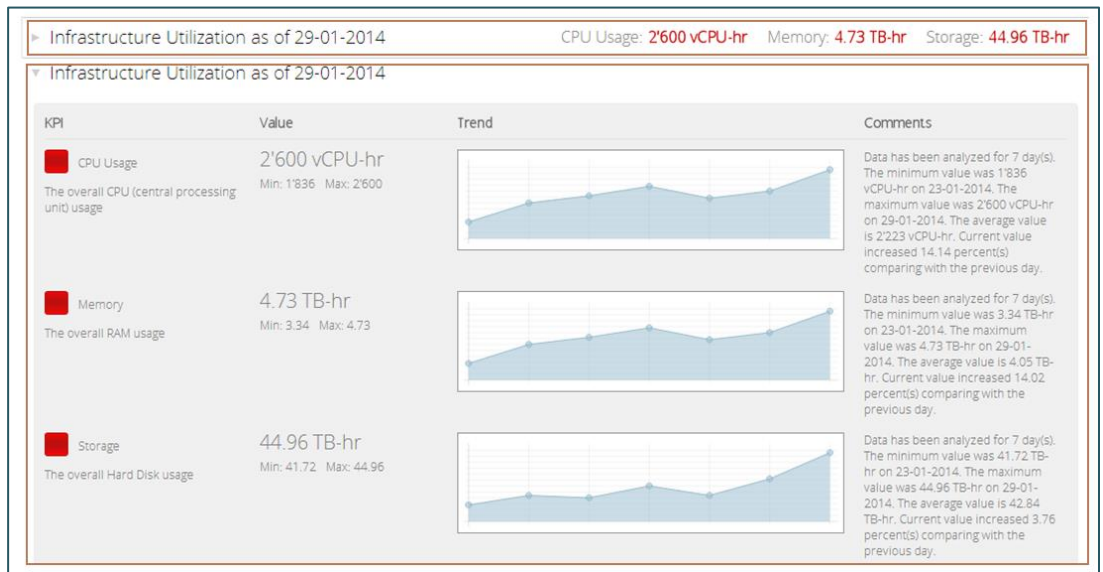


Figure 5 – folded and full statistics for project Infrastructure Utilization

### Cloud-Level Analytics

It is possible to obtain the resources utilization and cost statistics for the whole EPAM Private Cloud. To see this data, select “**For All Regions**” item in the **Metrics** area on the **Radar UI** page. The set of the represented KPI is the same as for regions analytics, but gives the sum of the KPI of all the regions.

### Amazon Updates

In the new release, we introduced a set of Amazon updates that are listed below:

- The ability to pass input stack parameters simultaneously is implemented. The following options are supported:
  - 1. --parameter key1=value1 --parameter key2=value2
  - 2. --param-config <path\_to\_json\_containing\_param\_configs>
- or2-describe-stacks is now performed via SDK
- Multi region support for AWS was implemented

### 3. User Feedback Processing

We highly appreciate your participation in [Feature Requests](#) poll. This helps us to determine the priority of the feature request processing: the features that get more voices will be scheduled for sooner implementation. Currently, according to the voting results, the **Top 3 Feature Requests** are:

- [Clone VM](#)
- [Web and Mobile CLI Access](#)
- [Push Notification via RabbitMQ Messaging](#)

The voting still goes on. Please, do not hesitate to leave your voice for the new feature you consider to be more important and useful for you.

### 4. Fixes and Improvements

We are constantly struggling to reach the better performance and usability of our product. Therefore, we pay careful attention not only to creating new features and abilities, but also to improving the existing ones.

In *EPAM Cloud Orchestration* release 2.1.9, much attention was paid to improving UI and CLI, including both fixing the known issues, updating the existing commands and adding some new ones.

The full list of changes and brief description of fixed issues bugs can be found in the '*Release Notes*' document accompanying this paper.

**Version History**

<b>Version</b>	<b>Date</b>	<b>Summary</b>
1.0	January 30, 2014	Initial version is published





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