

EPAM Cloud Infrastructure

Orchestrator ver. 2.0.23

What's New

February 2013

CIWN-S23

Version 1.0

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1. Overview

EPAM Cloud Infrastructure team is devoted to providing the best possible solutions for our customers. We have been working hard to provide you these awesome new features as well as any issues detected and implement your suggestions. The most notable results of our work are detailed in the sections below. Thanks to all our users for your feedback, we are happy to become better with your help!

This update is primarily focused NOT on introducing some small functionality, but a global usability and functionality update with pack of new exciting and useful features.

Here they come!

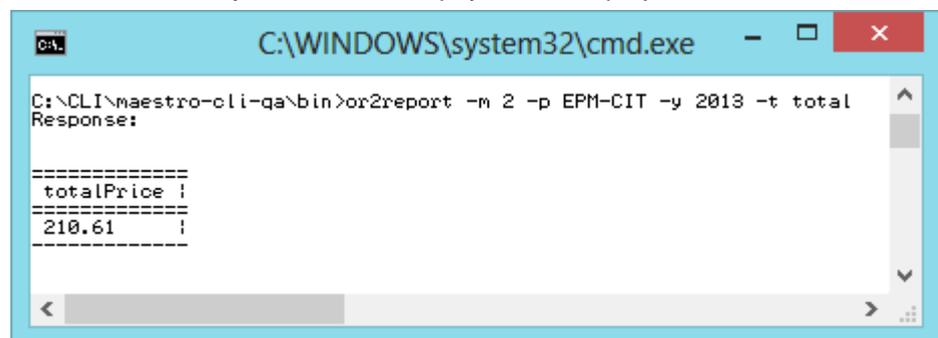
2. New Features and additions

2.1. Reporting and Billing options

Our team was working on possibility to make self-service capabilities of our CLI tools as comprehensive as it actually possible. One of important features that were missing and commonly requested by our consumers was reporting. For sure, reporting of existing computing power capabilities for specific project is unimplementable without billing calculations from our side. Also, remembering important notifications and news letters from EPAM Private Cloud, all of you may understand, that since February, all existing instances are charged.

We provide you with ability to self-manage and control your infrastructure, keep track of money spent through various reports. This is very useful for big projects with large infrastructure. **Each report can be exported into *.csv file** to supply with an option to keep track of changes even in files. Report types:

- **Total**, to view only total number to pay for whole project



```
C:\WINDOWS\system32\cmd.exe
C:\CLI\maestro-cli-qa\bin>or2report -m 2 -p EPM-CIT -y 2013 -t total
Response:
=====
totalPrice |
210.61    |
=====
```

Figure 1 – 'or2report' total command output

- **Summary**, to view summary report by each infrastructure component

```

C:\WINDOWS\system32\cmd.exe
C:\CLI\maestro-cli-qa\bin>or2report -m 2 -p EPM-CIT -y 2013 -t summary
Response:

=====
vCoresPrice | memoryPrice | operatingSystemPrice | storagePrice |
=====
58.56       | 55.93       | 40.03                | 56.10       |
=====
    
```

Figure 2 – 'or2report' summary command output

- **Report**, to view distributed report for each instance by each infrastructure component

```

C:\WINDOWS\system32\cmd.exe
C:\CLI\maestro-cli-qa\bin>or2report -m 2 -p EPM-CIT -y 2013 -t report
Response:

=====
resourceType | resourceId | region | project | vCoresPrice | memoryPrice | operatingSystemPrice | storagePrice | totalPrice |
=====
INSTANCE    | EUBVHNSD4397T1 | EPAM-HSQ-0A | EPM-CIT | 4.24        | 3.98        | 4.24                | 0.00        | 12.47     |
INSTANCE    | EUBVHNSD4401T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 0.00                | 0.00        | 9.76      |
INSTANCE    | EUBVHNSD4406T1 | EPAM-HSQ-0A | EPM-CIT | 4.24        | 3.98        | 0.00                | 0.00        | 8.22      |
INSTANCE    | EUBVHNSD4416T1 | EPAM-HSQ-0A | EPM-CIT | 4.24        | 3.98        | 4.24                | 0.00        | 12.47     |
INSTANCE    | EUBVHNSD4427T1 | EPAM-HSQ-0A | EPM-CIT | 4.24        | 3.98        | 4.24                | 0.00        | 12.47     |
INSTANCE    | EUBVHNSD4431T1 | EPAM-HSQ-0A | EPM-CIT | 2.52        | 2.14        | 0.00                | 0.00        | 4.66      |
INSTANCE    | EUBVHNSD4439T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 5.04                | 0.00        | 14.80     |
INSTANCE    | EUBVHNSD4434T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 5.04                | 0.00        | 14.80     |
INSTANCE    | EUBVHNSD4437T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 5.04                | 0.00        | 14.80     |
INSTANCE    | EUBVHNSD4441T1 | EPAM-HSQ-0A | EPM-CIT | 2.52        | 2.14        | 0.00                | 0.00        | 4.66      |
INSTANCE    | EUBVHNSD4472T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 5.04                | 0.00        | 14.80     |
INSTANCE    | EUBVHNSD4478T1 | EPAM-HSQ-0A | EPM-CIT | 5.04        | 4.72        | 5.04                | 0.00        | 14.80     |
INSTANCE    | EUBVHNSD4484T1 | EPAM-HSQ-0A | EPM-CIT | 0.30        | 0.28        | 0.30                | 0.00        | 0.88      |
INSTANCE    | EUBVHNSD4494T1 | EPAM-HSQ-0A | EPM-CIT | 2.52        | 2.14        | 0.00                | 0.00        | 4.66      |
INSTANCE    | EUBVHNSD4584T1 | EPAM-HSQ-0A | EPM-CIT | 0.79        | 1.49        | 0.79                | 0.00        | 3.08      |
INSTANCE    | EUBVHNSD4602T1 | EPAM-HSQ-0A | EPM-CIT | 0.11        | 0.21        | 0.11                | 0.00        | 0.42      |
INSTANCE    | EUBVHNSD4606T1 | EPAM-HSQ-0A | EPM-CIT | 0.16        | 0.31        | 0.16                | 0.00        | 0.64      |
INSTANCE    | EUBVHNSD4607T1 | EPAM-HSQ-0A | EPM-CIT | 0.03        | 0.05        | 0.03                | 0.00        | 0.11      |
INSTANCE    | EUBVHNSD4608T1 | EPAM-HSQ-0A | EPM-CIT | 0.03        | 0.05        | 0.03                | 0.00        | 0.11      |
INSTANCE    | EUBVHNSD4611T1 | EPAM-HSQ-0A | EPM-CIT | 0.82        | 0.77        | 0.00                | 0.00        | 1.59      |
INSTANCE    | EUBVHNSD4612T1 | EPAM-HSQ-0A | EPM-CIT | 0.82        | 0.77        | 0.00                | 0.00        | 1.59      |
INSTANCE    | EUBVHNSD4613T1 | EPAM-HSQ-0A | EPM-CIT | 0.68        | 1.28        | 0.68                | 0.00        | 2.65      |
INSTANCE    | EUBVHNSD4616T1 | EPAM-HSQ-0A | EPM-CIT | 0.01        | 0.01        | 0.00                | 0.00        | 0.03      |
INSTANCE    | EUBVHNSD4620T1 | EPAM-HSQ-0A | EPM-CIT | 0.04        | 0.03        | 0.00                | 0.00        | 0.08      |
STORAGE    | Storage       | EPAM-HSQ-0A | EPM-CIT | 0.00        | 0.00        | 0.00                | 56.10       | 56.10     |
=====
    
```

Figure 3 – 'or2report' report command output

- **Details**, to view distributed report for each instance by each infrastructure component at any point of time. **Available only to in *.csv format!**

	A	B	C	D	E
1	from	to	resourceType	resourceId	tag
2	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4397T1	
3	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4401T1	
4	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4406T1	
5	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4416T1	
6	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4427T1	
7	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4431T1	
8	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4431T1	user.tag:1
9	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4433T1	
10	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4434T1	
11	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4437T1	
12	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4441T1	
13	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4472T1	
14	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4478T1	
15	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4478T1	user.tag:t
16	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4484T1	
17	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4494T1	
18	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	INSTANCE	EVBYMINS4494T1	user.tag:t
19	2013-02-01T00:00:00+00:00	2013-02-01T01:00:00+00:00	STORAGE	Storage	
20	2013-02-01T01:00:00+00:00	2013-02-01T02:00:00+00:00	INSTANCE	EVBYMINS4397T1	
21	2013-02-01T01:00:00+00:00	2013-02-01T02:00:00+00:00	INSTANCE	EVBYMINS4401T1	
22	2013-02-01T01:00:00+00:00	2013-02-01T02:00:00+00:00	INSTANCE	EVBYMINS4406T1	
23	2013-02-01T01:00:00+00:00	2013-02-01T02:00:00+00:00	INSTANCE	EVBYMINS4416T1	

Figure 4 – 'or2report' details command output

In addition to this, we have implemented AWS-like custom tags functionality to provide you with even more flexible ability to differentiate between costs of different infrastructure levels, even inside one project.

Say, as soon as you attach a custom tag to one of instances, you will be able to track its total price since the tag is attached. For example, if 3 of your instances are running as a QA environment, and QA-one tag is attached to each instance in this infrastructure, you can view cost report only for these 3 QA-one instances:

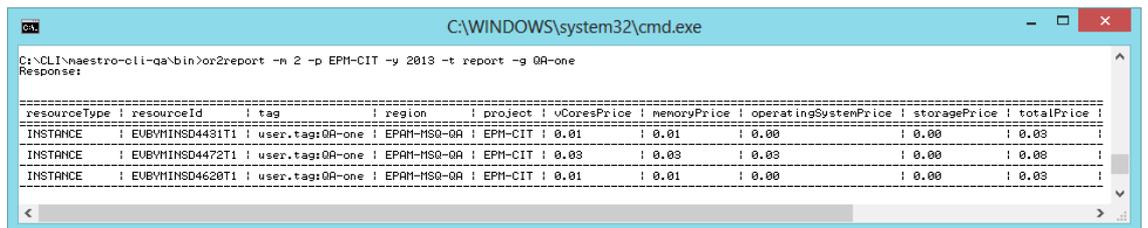


Figure 5 – 'or2report' by tag command output

All the same reporting types apply to tagged instances. You can always set, delete and describe tags by 'or2settag', 'or2deltag' and 'or2dtag' commands respectively.

2.2. PMC roles permissions distribution

We empowered you with PMC roles permission distribution to avoid any unwanted actions from your project members and keep a better track of your infrastructure. This means, that each employee, depending on his current project role will be able to access only those actions,

available and appropriate for him. A detailed PMC roles mapping matrix can be found in [User/Reference Guide](#) and explains set of actions for each project member.

2.3. AWS infrastructure with Maestro CLI Tools

Somehow, this feature went unnoticed. We have no idea how that happened! But better late than never, we are happy to announce that you can control your infrastructure in AWS from Maestro CLI Tools.

Why Amazon AWS is awesome? Because it has [Amazon Cloud Formation](#)! It allows developers to run complicated software stacks on infrastructure in a couple of easy commands and expands capabilities of each developer.

*“AWS Cloud Formation enables you to create and provision AWS infrastructure deployments predictably and repeatedly. It helps you leverage AWS products such as **Amazon Elastic Compute Cloud, Amazon Elastic Block Store, Amazon Simple Notification Service, Elastic Load Balancing and Auto Scaling** to build highly reliable, highly scalable, cost-effective applications without worrying about creating and configuring the underlying AWS infrastructure.”*

If you want to start and work with AWS Services from our CLI tools, just contact our Consulting Team at SpecialEPM-CITConsulting@epam.com and we will be happy to advise and help you with future steps on your way to host your project in AWS.

2.4. New Machine Images added

From now on we have a set of new Machine Images added. This allows us to cover maximum number of projects' and developers' needs. Following images were added for your maximum comfort:

- Windows Server 2003 (32-bit)
- Windows 8 (32-bit)
- Windows XP (32-bit)

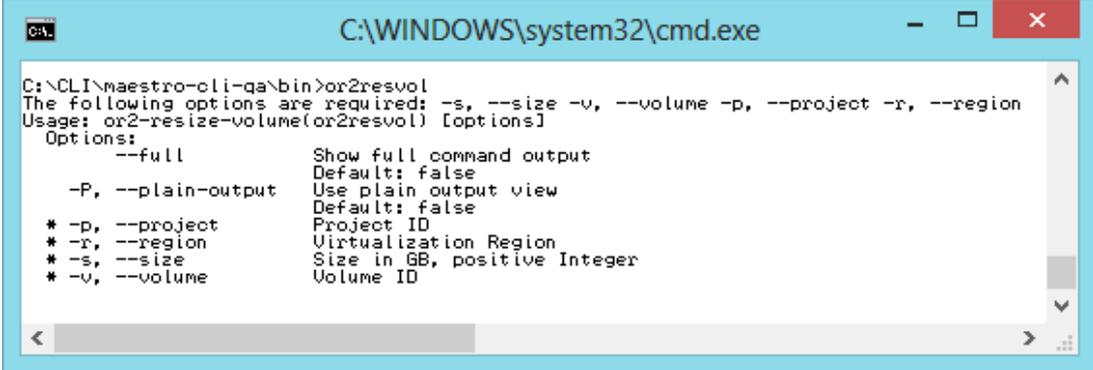
3. New commands and tools

3.1. ReadMe Instructions

To simplify and ease life of our new and existing users even more, we have added a ReadMe instructions file to CLI tools archive package. It includes all basic steps and explanation to start working with tools with command examples. This, along with our constantly updated comprehensive documentation, should improve clear understanding of CLI Tools utilization.

3.2. Resize Storage Volume

An existing storage volume can now be resized by introducing new size parameter for 'or2resvol' command. Keeping in mind storage quotas for projects, this might come useful to anyone out there, who is using our tools. Self-management is even closer now. If you ran out of space on one of your drives for VM, just execute this command and size will be increased.



```

C:\WINDOWS\system32\cmd.exe
C:\CLI\maestro-cli-qa\bin>or2resvol
The following options are required: -s, --size -v, --volume -p, --project -r, --region
Usage: or2-resize-volume(or2resvol) [options]
Options:
  --full                Show full command output
                        Default: false
  -P, --plain-output    Use plain output view
                        Default: false
  * -p, --project        Project ID
  * -r, --region         Virtualization Region
  * -s, --size           Size in GB, positive Integer
  * -v, --volume         Volume ID

```

Figure 6 – 'or2resvol' command sample output

3.3. Filters for Describe Instances command

Sometimes, an output for Describe Volumes can be so dramatically huge, that it is virtually impossible to find what you are looking for in it. We thought it would be so much better to give our users an options to filter command output by their custom parameters. Filtering is currently possible by using provided properties of exact match, or by regexp value, e.g. "QA-*" to show all instances, marked with QA. A full list of filtering options can be found in [Maestro CLI Quick Reference Card](#) and in [User/Reference Guide](#).

3.4. Daily Audit Reports

To make you, as a Head of your project, even more comfortable, along with 'or2audit' command, which can be used to track utilization statistics of your infrastructure, Daily Audit Report will be received by Primary and Secondary Contacts of Projects and will contain all actions, performed for this exact project.

All actions with infrastructure will be listed, each machine start and stop, volume creation and tag attachment will not go unnoticed from your side.

Here is an example of Daily Audit Report:

Region		Project		February
EPAM-MSQ-QA		EPMC-CLO		2013
EVBYMINS4574T1				
Date	User	Action	Message	
Thu Feb 07 16:49:21 EET 2013	Ivan Trofymenko	CHECKPOINT_CREATE_COMMAND	Creating checkpoint. Checkpoint ID: checkpoint-2013_2_07_16_49_21_EVBYMINS4574T1	
EVBYMINS4603T1				
Date	User	Action	Message	
Thu Feb 07 10:37:13 EET 2013	Oleksandr Molchanov	RUN_INSTANCE_COMMAND	Run instance command.	
Thu Feb 07 16:24:03 EET 2013	System	INSTANCE_FAILED	Instance failed to run.	
Thu Feb 07 16:24:03 EET 2013	System	INSTANCE_TERMINATED	Failed instance terminated.	
EVBYMINS4595T1				
Date	User	Action	Message	
Thu Feb 07 10:26:08 EET 2013	Andrii Melekhovskiy	TERMINATE_INSTANCE_COMMAND	Terminate instance command.	
Thu Feb 07 10:26:23 EET 2013	Andrii Melekhovskiy	INSTANCE_TERMINATED	Instance terminated.	
EVBYMINS4605T1				
Date	User	Action	Message	
Thu Feb 07 11:07:52 EET 2013	Oleksandr Molchanov	RUN_INSTANCE_COMMAND	Run instance command.	

Figure 7 – Daily Audit Report

3.5. API Improvements

During Hackaton Event, lots of our users were able to test and utilize API. A special page was created in our [Knowledge Base](#) to form a community and support discussions on API improvements. You can find a detailed list of changes on the aforementioned page. At the same time, we are making our steps to transform existing API in a fully RESTful API usable version.

4. Fixes and Improvements

Numerous stability, speed and quality improvements have been introduced in this release. We are happy to make our product better thanks to you and really appreciate your effort in helping us. Most noticeable improvements have occurred with instance properties manipulations, run of new instances, Storage Volume manipulations. A full list of changes and brief description of fixed bugs can be found in appropriate 'Release Notes' document.

5. Documentation additions

Just as usual, our technical writing department has a package of new and up-to-date documentation prepared. We've taken into account user feedback leading to improvements, ensuring all more-or-less complex actions are described in detail and understood by each and every user of *Orchestrator 2.0.23*.

Re-designed and new:

- [Maestro CLI Setup Guide](#)
- [Maestro CLI Quick Start Guide](#)
- [Maestro CLI Quick Reference Card](#)
- [User/Reference Guide](#)

EPAM Cloud Orchestrator 2.0.23 - What's New

Our [Confluence Space](#) has also been heavily updated and improved, including the following sections:

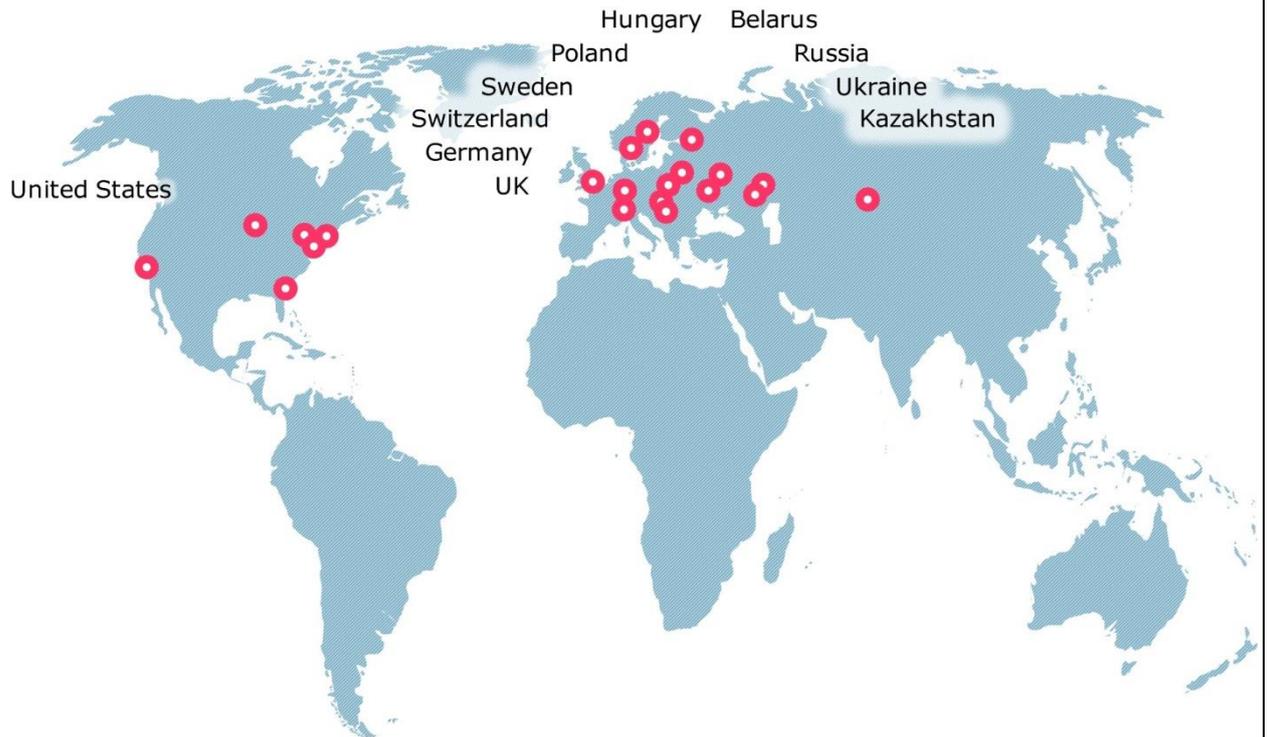
- [Frequently Asked Questions](#) section based on customer feedback
- [Trainings](#), including final and intermediary presentation versions
- [API](#) community page with code examples
- [Known Issues](#) section to show progress on known bugs.

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Version history

Version	Date	Summary
1.0	February 6, 2013	Initial version is published



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