Standards and interoperability support

- Interoperable hardware resource provisioning via a simple interface (GUI or CLI)
- Open Virtualization Format (OVF) support for application description
- Cloud Infrastructure Management Interface (CIMI) for managing the Cloud infrastructure
- OCCI support for IaaS interaction

Code available in open source

- VEP 2.2 under new BSD license
- OCCI SLAs visualization under Apache 2.0 license
- IaaS supported: OpenNebula, OpenStack

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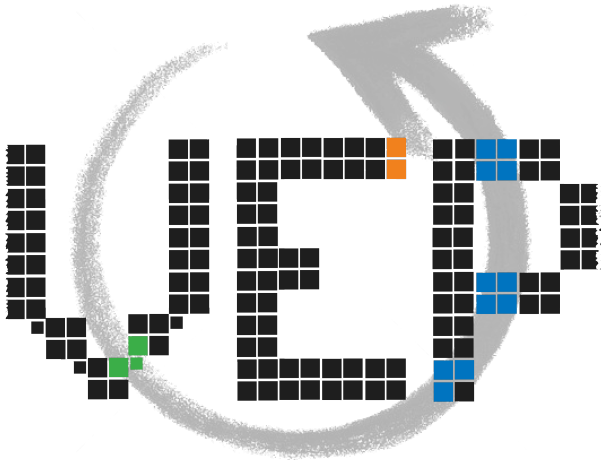
https://project.inria.fr/vep/

VEP-S

SLA-Aware Heterogeneous Data-Centers Management through Standards

A trustworthy platform to manage Clouds



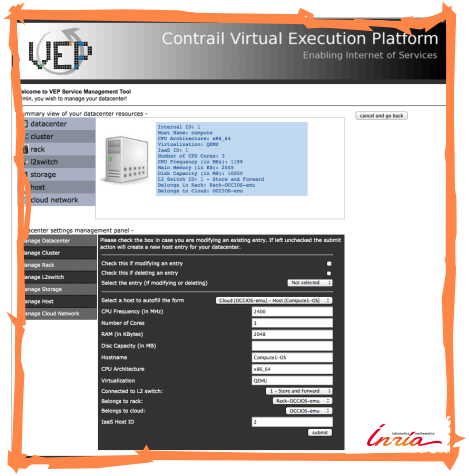
https://project.inria.fr/vep/

VEP-S is partially funded by the EIT ICT Labs under the activity #14436.

VEP-S in action

VEP-S is a trustworthy platform that uses the **Virtual Execution Platform (VEP)** cloud middleware software to interface multiple Infrastructure as a Service (IaaS) clouds and provide support for **Service Level Agreement (SLA)** negotiation and **monitoring** of resource usage.
VEP-S is developed in the framework of EIT ICT Labs.

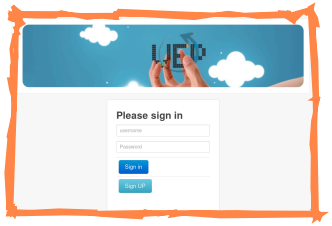
Virtual Execution Platform



Administering data centers

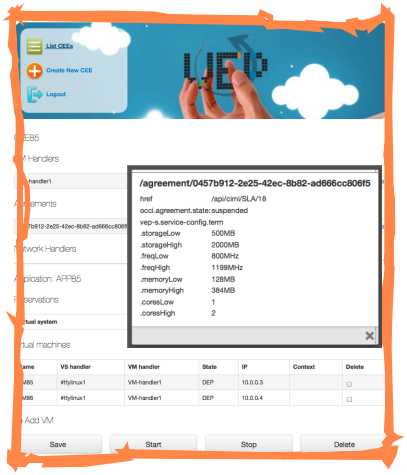
VEP (an outcome of the FP7 Contrail project) offers administrators a GUI to configure available IaaS resources, define **data center structure**, and manage users. The data center structure is exploited by VEP to enforce placement constraints via SLA on the resources before application deployment.

VEP presents end-users with an interface facilitating easy deployment and application life cycle management of distributed applications made up of several inter-networked virtual machines.



VEP has a RESTful API.

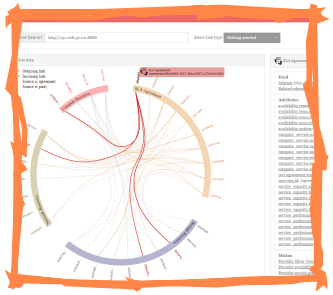
Deploying distributed apps under SLA



Quick deployment: users submit an OVF document describing the whole application, then VEP-S is in charge of allocating resources and initializing the application.

SLA negotiation: users can specify constraints on physical resources (ex. placement, type, size,...) which are negotiated based on their availability in the data center.

OCCI SLAs: extension to the OCCI specification which supports the definition and negotiation of machine readable SLAs. Agreements are "linked" with the associated cloud resources.



Monitoring: VEP-S monitors the usage of the resources thanks to a Zabbix server.

Other features:

- Portability to hide the complexity of heterogeneous IaaS'
- Advance reservation
- Elasticity by submitting new requests or enforced by SLAs