

CompatibleOne

Multi-PaaS Provisioning

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Summary: The study we have conducted of existing cloud platforms shows that their operating requires the use of specific and proprietary APIs. This PaaS providers' policy is hampering the interactions between different clouds. If appropriate solutions are not considered, this issue would for instance slow down the democratization of clouds federation and cooperation. As a part of our work, we developed a generic PaaS application provisioning and management API named CompatibleOne Application and Platform Service - COAPS. Our solution applies the separation of concerns principle by separating the provisioning and the management API from the defined description model.

Application provisioning on PaaS

- PaaS operating requires the use of specific and proprietary APIs
 - Issue: Cooperation and interactions between different clouds

- Motivating example

- Provisioning of a Web application (WAR archi



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- Requirements to be provisioned by the hosting Pa



Jelastic



OPENSIFT



CLOUD
FOUNDRY

- Apache tomcat as service container



- MySQL as database se



Application provisioning Issues

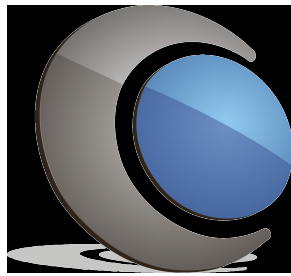
- Provisioning steps are specific per PaaS provider
 - Not the same commands
 - Not the same inputs
 - Not the same order of creation



However,

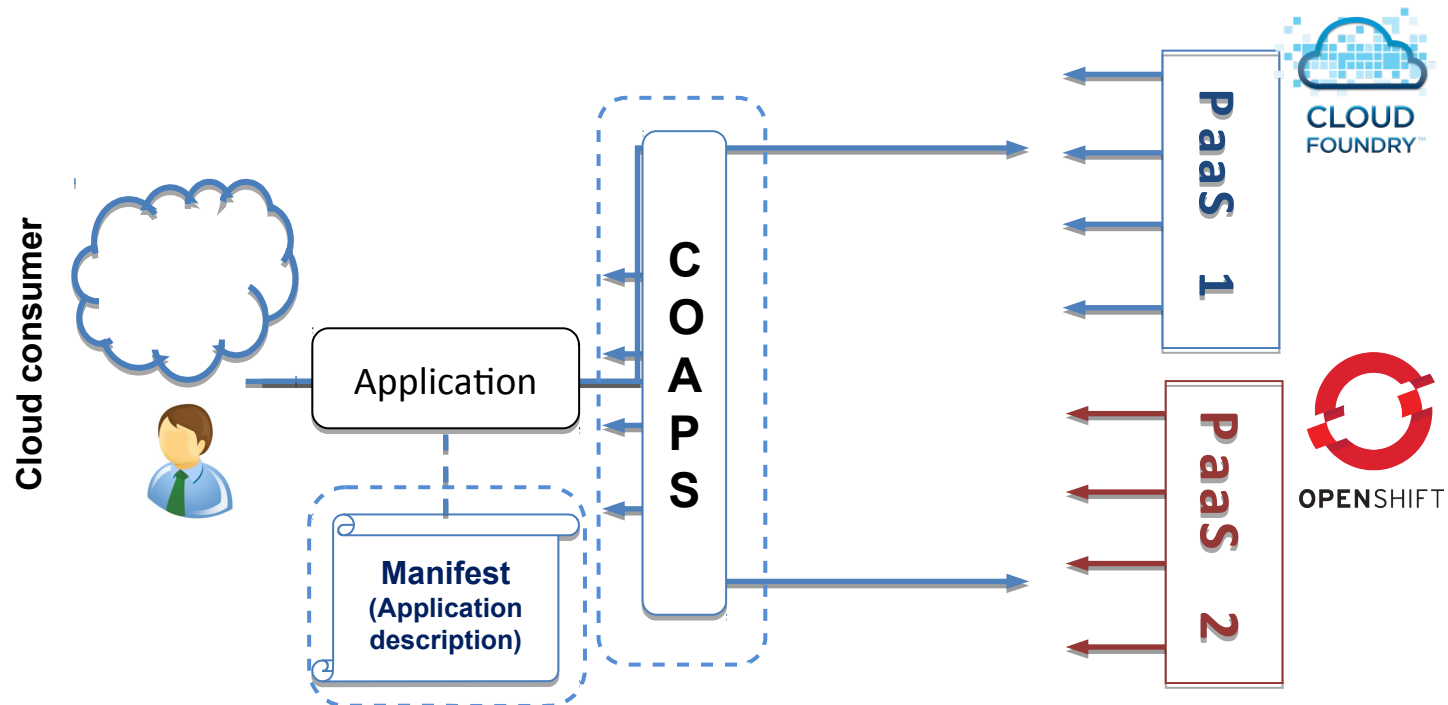
- They have all the same semantics

**OCCL-compliant API to manage and provision
PaaS resources**



COAPS API

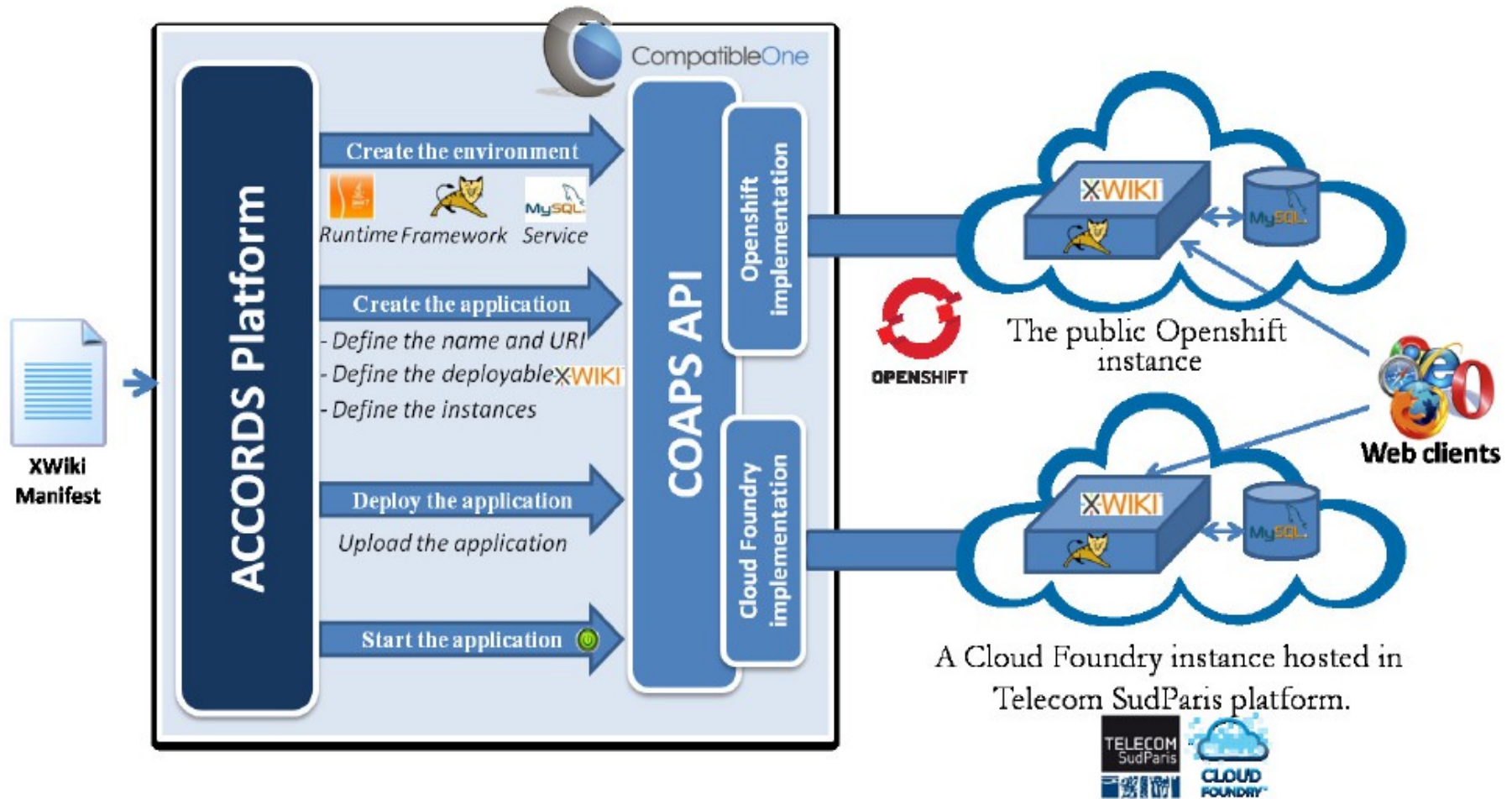
- **PaaS-independent** approach for the provisioning and management of applications in the Cloud
 - **Resource description manifest** to express user requirement
 - **Unified description model** for cloud application description
 - **Generic RESTful API** to interact with heterogeneous PaaS

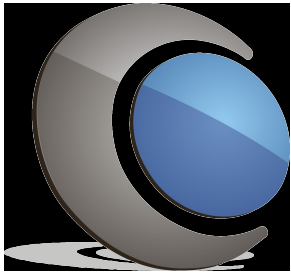


Video Demo



COAPS on CompatibleOne





COAPS useful links

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- COAPS sources
 - <http://gitorious.ow2.org/ow2-compatibleone/coaps>
 -
- COAPS Web client for Cloud Foundry PaaS
 - <http://star-paas-client.cloudfoundry.com/>
 -
- COAPS implementation for Cloud Foundry PaaS
 - <http://cf-paas-api.cloudfoundry.com/>