The OpenCloudware collaborative project

An Infrastructure platform for Building, Maintaining and Operating Enterprise Distributed Applications in the Cloud

vApp Life-Cycle Management Solution for multiple cloud

Alban Richard, UShareSoft CEO
OpenCloudware

Towards a PaaS management stack over multiple clouds

Summary

The main way to “go cloud” has proved to be, for security and economic reasons, hybrid: mixing private with public.

Moving to Cloud Software Management then requires to manage the lifecycle of applications over different cloud providers: mask the heterogeneity; automate the deployment whatever the application technology and execution environment, etc.

This is what tackles OpenCloudware, which aims at enabling flexible multi-cloud applications thanks to a full automated think-build-run chain.
What is OpenCloudware?

- French collaborative research project
- Development of software modules for building a IaaS agnostic Dev to PaaS Enterprise Grade Infrastructure platform
- Enables to easily build, generate and operate enterprise distributed applications for deployment on any cloud
  - Their **Modeling, Assembly and Build**
  - Their **Deployment and Operation (PaaS)**
  - On **Multiple Infrastructure (Multi-IaaS)**
- 3 years (Jan 2012 – Dec 2014)
- Supported by the French FSN (Fonds National pour la Société Numérique), aka Grand Emprunt
OpenCloudware partners

- **Corporations**
  - Bull
  - Orange Labs
  - Thalès Com
  - Thalès Services

- **SMEs**
  - ActiveEon
  - eNovance
  - eXo Platform
  - Linagora
  - UShareSoft

- **Academic**
  - Armines/Ecole des Mines de Nantes
  - IRIT – INP Toulouse
  - Télécom Paris Tech
  - Télécom Saint Etienne
  - Univ. Joseph Fourier
  - Univ. Savoie - LISTIC
  - INRIA

- **Open Source organisation**
  - OW2
  - A consortium of 18 partners
  - [http://opencloudware.org](http://opencloudware.org)
One slide on UShareSoft

**Multi-OS**

Factory
- Full Stack Templating
- IT Solutions, Blueprints
- Lifecycle, Governance

Migration
- Import Live Server
- Migrate to Cloud
- Config Monitoring, Audit

AppStore
- Cloud Marketplace
- Enterprise IT Catalog
- Self-Service Portal

Governance
- Enterprise Workspace
- Control & Security
- Collaboration & Sharing

UForge AppCenter

Single Pane of Glass for Hybrid Cloud Workloads Management

**Multi-Cloud**

- nimbula
- EUCALYPTUS
- abiqoo
- VMware
- cloudstack
- flexiant
- Amazon Web Services
- Windows Azure
- openstack

OpenCloudware Scope

- VM Building Services
- vApp Blueprints Factory Services
- Self-Service Portal
- Image Gallery (BI, eGov, eHealth, eCommerce, load test, …)
- PaaS Platform Multi-IaaS
- 3rd party IaaS Cloud environment (incl. open source)
- 3rd party build environment
- other collaborative projects

application Templating
OpenCloudware - building blocks

Self Service Build

OpenCloudware Self Service Portal
- Continuous Build
- Service Plan Builder vApp Creation and Configuration
- Template Gallery JavaEE, OSGi, LAMP, etc.

PaaS Layer
- PaaS Orchestration vApp Deployment
- Self-Management Runtime auto-adaptation
- Monitoring & Billing logs

Multi IaaS Layer
- VM multi-IaaS Provisioning
- VM Placement
- Multi-IaaS Controller / API
- Federation Proxis

Management Console
- OpenCloudware and vApp administration

IaaS Provider 1
- Open Source

IaaS Provider 2
- Commercial

(...)

IaaS Provider n
- Any Other

Modeling
- End-to-End vApp Modeling, MetaData Modeling Tools

Testing
- Performance / Load Testing As A Service

Billing
- Aggregated Multi-IaaS Resource Accounting for vApps
OpenCloudware London 2015

- Alban Richard UShareSoft
- March 12th 2015

Infrastructure

- Multi-IaaS
  - UForge (Image Builder)
  - Sirocco (Multi-IaaS Manager)

- Infrastructure Library

- Compute
- Network
- Storage

- Database OCW

- Modeler (SLA, Elasticity)
- CLIF
- Billing

- VAMP (App Manager)
- Orchestrator

- register
- create provider
- provider projects user app
- estimate cost deploy app
- deploy app
- deploy CLI
- test app
- notify app deploy
- create app
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- notify metric
- get metrics
- get billing
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Technologies for OpenCloudware

- OpenCloudware Open Source Projects
  - Portal: eXo
  - Security: AuthzForce
  - PaaS: JOnAS, JASMINe, Petals, JORAM
  - Performance: CLIF
  - Multi-IaaS: Sirocco, ProActive, Entropy

- Use of other open source software
  - Hudson, Maven, Jenkins, sunxaclm ...

- UShareSoft's UForge for cloud image template Mgt. & VM generation
Contacts

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OpenCloudware Q&A

Enterprise PaaS to Multi-IaaS

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