

ConPaaS: an integrated runtime environment for elastic Cloud applications

www.conpaas.eu

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Problem

Deploying toy applications in the Cloud is easy.
 What about **mission-critical applications**?

- Capacity control
- Cost control
- Fault-tolerance
- Deployment
- Automated reconfigurations
- Software upgrades

Building everything yourself is feasible but **time-consuming** and **error-prone**.

Solution

ConPaaS is an **integrated PaaS solution**

- A broad range of elastic services
- Automated performance control
- Resource provisioning
- Configurable and extensible platform
- Runs on public and private Clouds: EC2, OpenNebula.
- Open-source
- No lock-in

Upload your application and relax.
 ConPaaS will take good care of it.

ConPaaS Services

- Web application servers: Static documents, PHP, Java
- MySQL
- Scalarix (key-value store)
- MapReduce
- Bags-of-Tasks
- **Add your service to the list?**

All services are **fully elastic** and **self-managed**

Research challenges

Complex application composition

Describe applications rather than services
 Build a VPN automatically between nodes
 Useful for resource provisioning

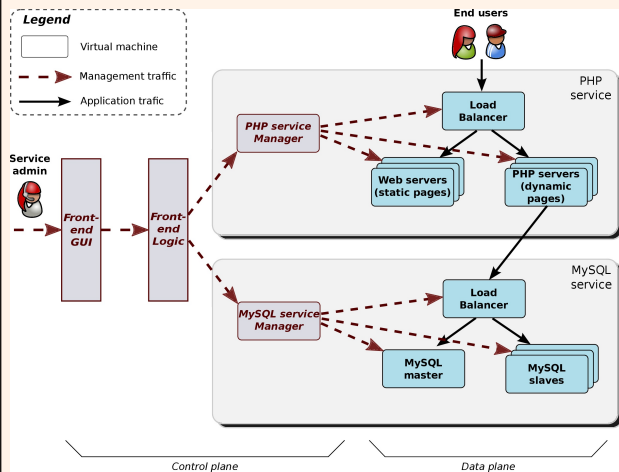
Performance guarantees

Multi-service resource provisioning
 Give an SLO only to the front-end service
 Let services negotiate performance

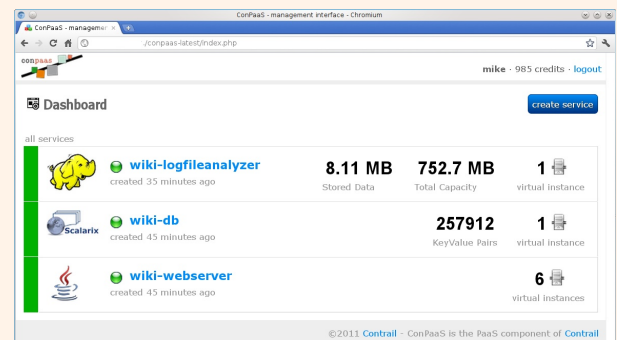
Cloud heterogeneity

Inherent Cloud performance heterogeneity
 Several Clouds involved
 Performance modeling problem

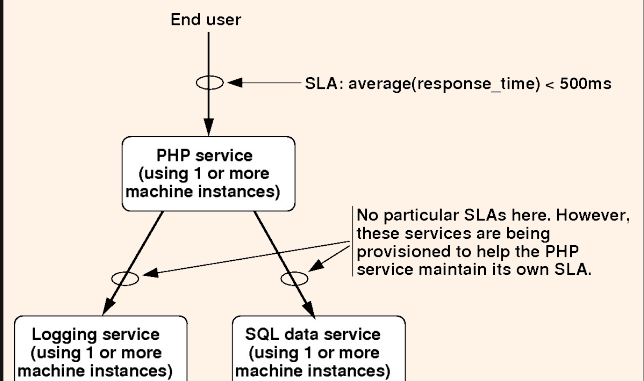
ConPaaS organization



The Web frontend

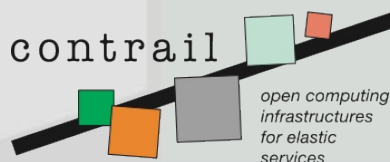


Resource provisioning



Software availability

- Software is available: <http://www.conpaas.eu>
- Test our technology yourself! No software install is necessary. <https://online.conpaas.eu>



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