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Research/Industry Collaboration on Open Source Cloud Middleware: An OpenNebula Perspective

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Public Cloud

- Simple Web Interface
- Raw *Infrastructure* Resources
- Pay-as-you-go (On-demand access)
- Elastic & “infinite” Capacity



Private Cloud

A “*Public Cloud behind the firewall*”

- Simplify internal operations
- Dynamic allocation of resources
- Higher utilization & operational savings
- Security concerns

Hybrid Cloud

- Supplement the capacity of the Private Cloud
- **Utility Computing dream made a reality!**

Flexible Management Layer

- Private, Public & Hybrid Deployments
- Orchestration of multiple technologies

Integration Capabilities

- Make use of current infrastructures
- Integrate data-center tools & practices



Large-scale & Production

- Be ready for thousands of resources
- Be ready for HA & Fault tolerance

Make the life easy

- Be compatible with Cloud ecosystem
- Interoperate with others

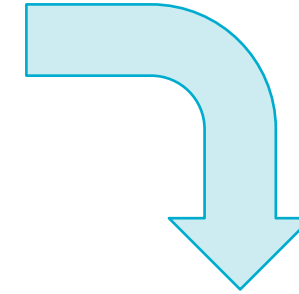
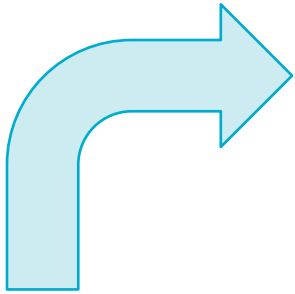
Participation in Leading International Projects

- Stimulating and rich interaction with Industrial and Academic Partners
- Real-life requirements for a variety of use cases

OpenNebula: Open Source Cloud Toolkit

- Started in 2005 (first release in 2008)
- A tool for innovation in Cloud environments
- A production-ready Cloud technology
- Active and engaged community
- >3000 downloads/month (direct)
- Commercial support provided by C12G Labs.

**Avoid Software Fragmentation
Re-use sw Components**

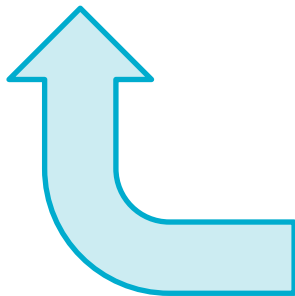


Adopt Standards

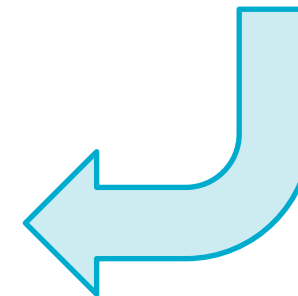


**Stronger European
OSS Ecosystem**

**Leverage Open Source
Alliances**



**Exploit Traditional OSS
Distribution Channels**



Boost Adoption of Cloud Technologies

Technology Gap

- Fund Cloud Initiatives
- Promote OSS
- Focused Innovation

Usability Gap

- Standards
- Interoperability



Cultural Gap

- Educate users
- Provide exp. testbeds

