

OpenNebula

L'informatique élastique 100% Open Source

Daniel DEHENNIN
Luc BOURDOT

Pôle de Compétences Logiciels Libres

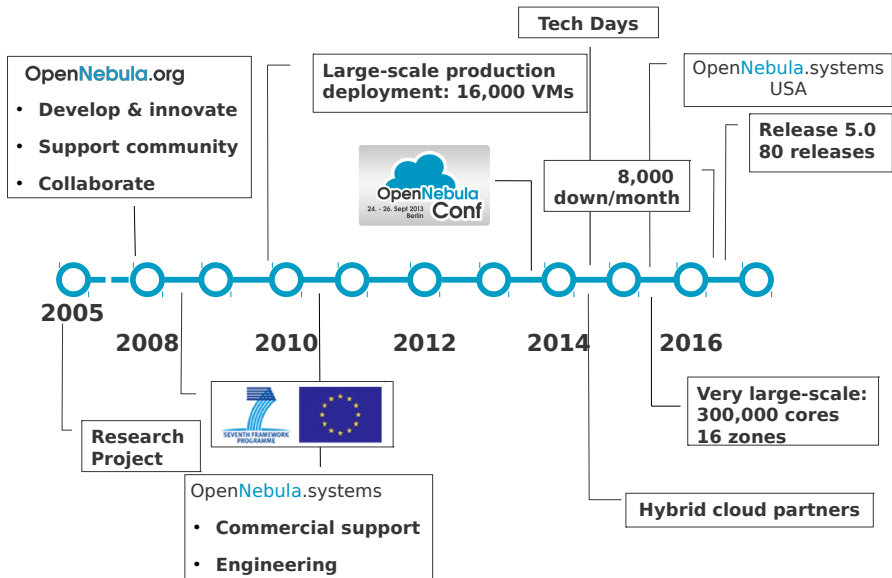
Journées Systèmes et Réseaux 2016

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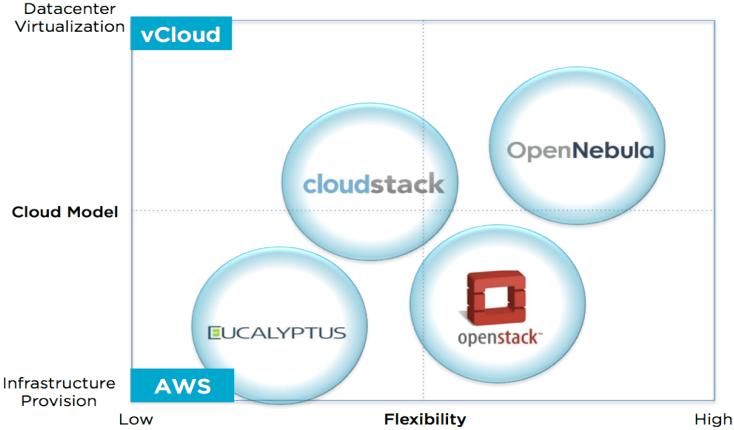


Qu'est-ce que c'est ?

un nuage ou de la fumée ?



Positionnement



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Architecture

Gestion du nuage

- **VDC multi-entité**
- **Interfaces web/cli simple**
- **Élasticité et provisionning**
- **Federation/hybrid**

OpenNebula

Gestion de l'infrastructure

- **Capacité**
- **Gestion multi-VM**
- **Optimisation des ressources**
- **Haute disponibilité**

OpenNebula

vCenter

KVM

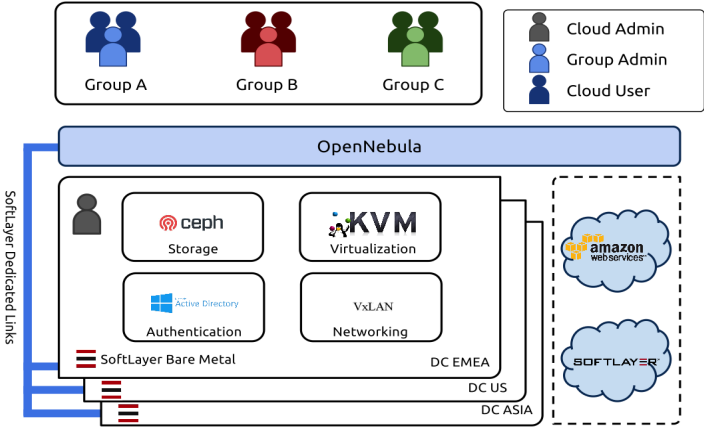
Xen

VMware




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Centres de données virtuels




© OpenNebula Project



The Users

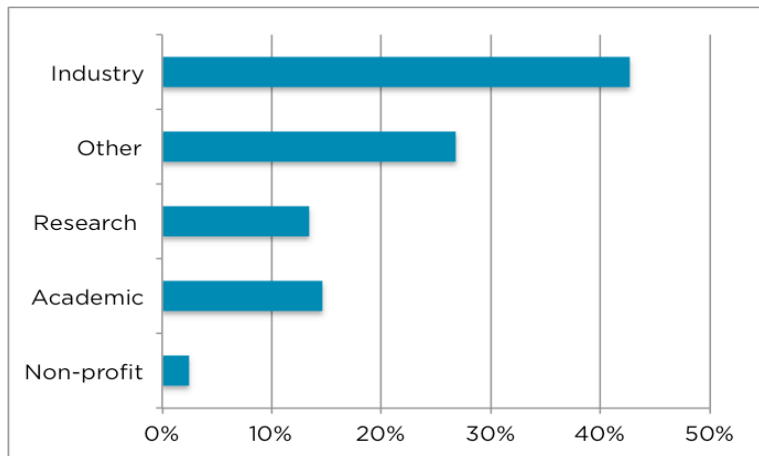
Now running > 3,000 clouds
Largest cloud with 270,000 cores



A world map with the word 'one' overlaid in the center, indicating global reach.

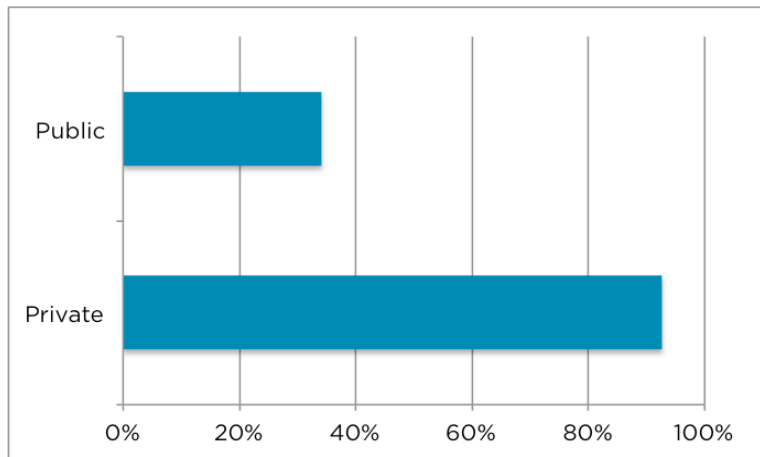
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Qui l'utilise ?



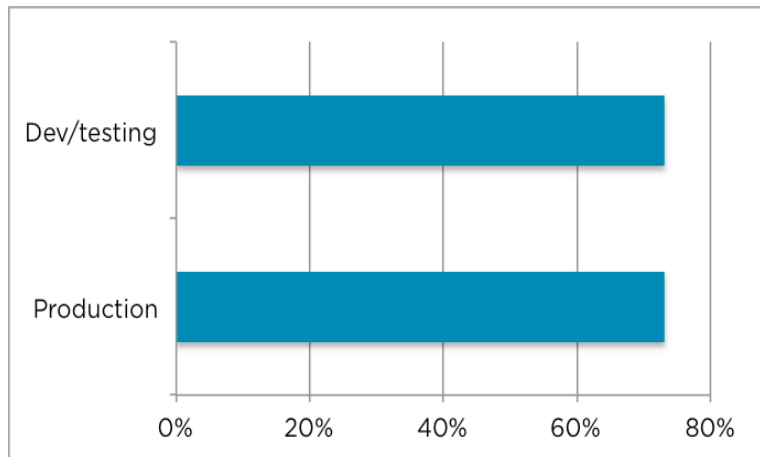
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Pour quoi faire ?



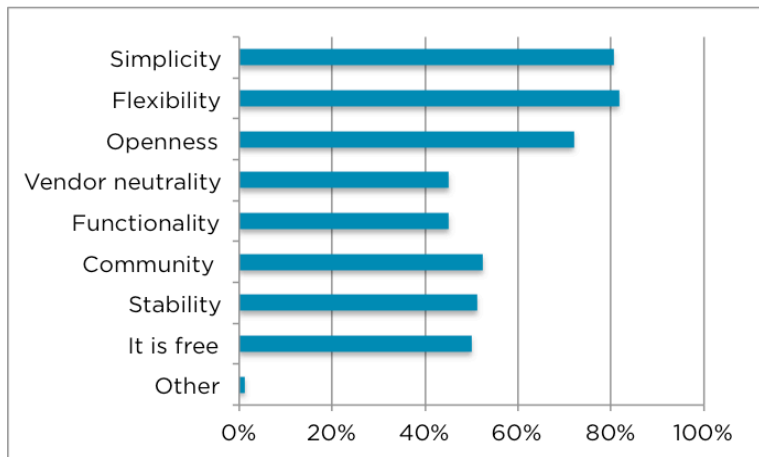
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Est-ce exploitable ?



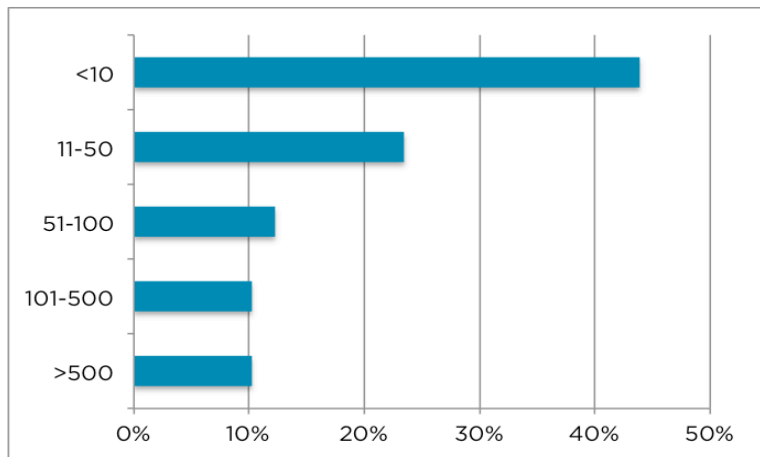
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Atouts



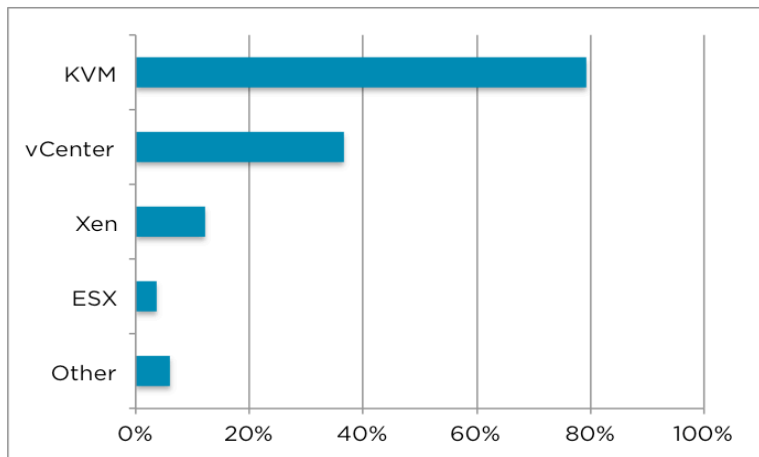
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Taille des infrastructures



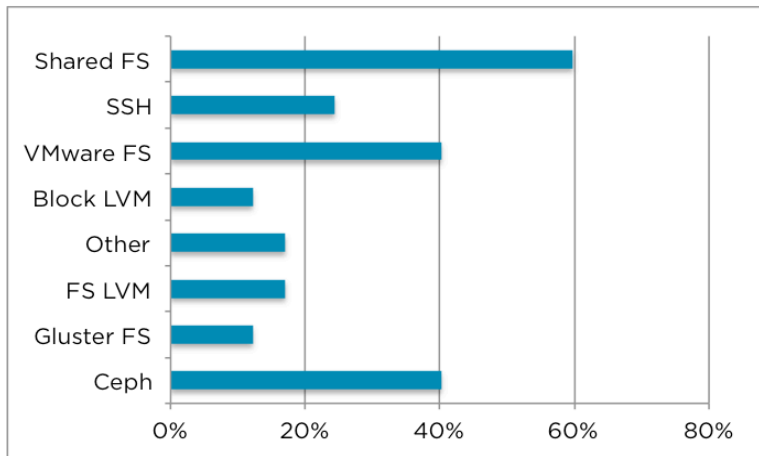
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Hyperviseurs

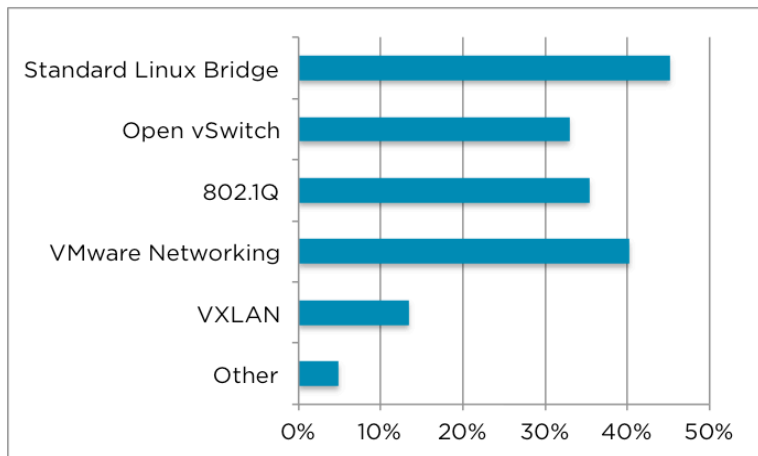


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Stockage



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En résumé

Constat après 3 ans d'utilisation au **Pôle de Compétences Logiciels Libres**

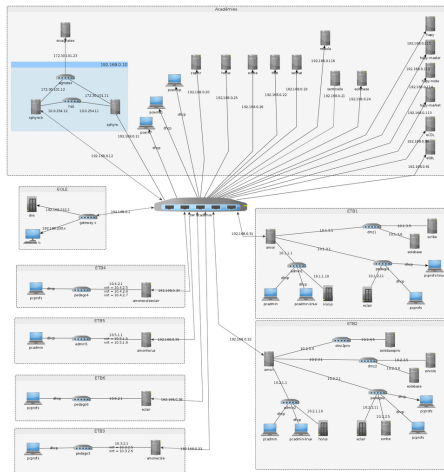
- 100% **Open Source**
- Communauté ouverte et dynamique
- Simple, léger et « hackable »
- Évolutif
- Aucun verrouillage

L'essayer c'est l'adopter !

Au Pôle de Compétences Logiciels Libres

une infrastructure complète par utilisateur

- Infrastructure réseau standardisée
- Réseaux isolés par VLAN
- 1 utilisateur == 1 passerelle
- Génération automatique par Jenkins



Demonstrations / Questions

Dashboard

System

- Users
- Groups
- VDCs
- ACLs

Virtual Resources

- Virtual Machines
- Templates
- Images
- Files & Kernels

Infrastructure

- Clusters
- Hosts
- Datastores
- Virtual Networks
- Security Groups
- Zones

Marketplace

OneFlow

- Services
- Templates

Settings

Dashboard

VMs

88

79 0 0

ACTIVE PENDING FAILED



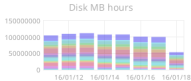
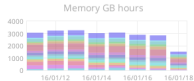
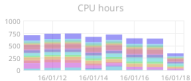
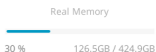
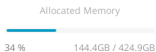
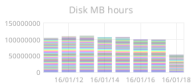
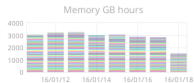
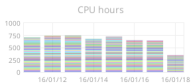
HOSTS

5

3 2 0
ON OFF ERROR

USERS

32





Dashboard

System

Users

Groups

VDCs

ACLs

Virtual Resources

Virtual Machines

Templates

Images

Files & Kernels

Infrastructure

Clusters

Hosts

Datastores

Virtual Networks

Security Groups

Zones

Marketplace

OneFlow

Services

Templates

Settings

nebula

Yggdrasil

OpenNebula Marketplace



Import

Name	Publisher	Hypervisor	Arch	Format
<input type="checkbox"/> Debian 8.2 - KVM	Admin	KVM	x86_64	raw
<input type="checkbox"/> Debian Wheezy Proteomics	IRISA	all	x86_64	raw
<input type="checkbox"/> Debian Wheezy Bio Imaging	IRISA	all	x86_64	raw
<input type="checkbox"/> Debian Wheezy NGS	IRISA	all	x86_64	raw
<input type="checkbox"/> Debian Wheezy Galaxy NGS	IRISA	KVM	x86_64	raw
<input type="checkbox"/> Debian Wheezy XGrid	IRISA	KVM	x86_64	raw
<input type="checkbox"/> Debian 7 - KVM	OpenNebula Systems	KVM	x86_64	raw
<input type="checkbox"/> DCI Bridge Direct Cloud Slave Appliance	MTA SZTAKI LPDS	KVM	x86_64	raw
<input type="checkbox"/> debian-7.1-amd64-kvm	Demo-TIC	KVM	x86_64	raw
<input type="checkbox"/> gUse v3.5.2	MTA SZTAKI LPDS	KVM	x86_64	raw

Showing 1 to 10 of 10 entries (filtered from 40 total entries)

Previous **1** Next **100**

OpenNebula 4.14.2 by OpenNebula Systems.



Virtual Machines

7

TOTAL



7

RUNNING

0

DEPLOYING

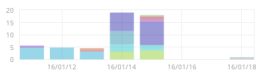
0

OFF

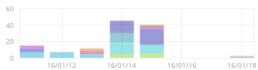
0

ERROR

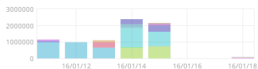
CPU hours



Memory GB hours



Disk MB hours



Quotas

0%

RUNNING VMS

7 / -

0%

CPU

3.8 / -

0%







MEMORY

11.3GB / -



Create Virtual Machine

Select a Template

System	Group	Saved
<input type="text" value="Search"/>		
Debian Wheezy 40G (amd64)	Ubuntu Trusty Tahr EOLE (40...	Ubuntu Trusty Tahr EOLE (40...
 debian ...	 ubuntu ...	 ubuntu ...
Debian Jessie EOLE x86 (40Go)	Debian Jessie EOLE x64 (40Go)	MimUntu-14.1-poc1-install
 debian ...	 debian ...	 MimUntu ...
Previous <input type="button" value="1"/> <input type="button" value="2"/> Next <input type="button" value="6"/>		



Create Service

Select a Template

etb1 2.5.2a1



Amon	1 VMs
Scribe	1 VMs
Horus	1 VMs
PC_Eleve	1 VMs
PC_Prof	1 VMs
PC_Admin	1 VMs

Previous

1

Next

6



dad

Yggdrasil

VMs

Templates

Services

Search Services



etb1 2.5.2a1	
Amon	1 / 1 VMs
Scribe	1 / 1 VMs
Horus	1 / 1 VMs
PC_Eleve	1 / 1 VMs
PC_Prof	1 / 1 VMs
PC_Admin	1 / 1 VMs
dad	19m ago

Previous **1** Next 6

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Remerciements

Je remercie la communauté du logiciel libre pour tous ces merveilleux logiciels sans lesquels si peu de choses existeraient.

Cette présentation a été réalisée grâce aux logiciels libres suivants :

- Le système de composition \LaTeX [TeX Live](#)
- L'éditeur de texte [GNU/Emacs](#)
- L'environnement graphique [Awesome](#)
- Le système d'exploitation [Debian GNU/Linux](#)



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