

## Cloudscape IV

Advances on Interoperability & Cloud Computing Standards  
Brussels, Belgium, February 23th, 2012

# Open-source and Standards - Unleashing the Potential for Innovation of Cloud Computing

**Ignacio M. Llorente**

Project Director

**OpenNebula.org**

### Acknowledgments



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*Unleashing the Potential for Innovation of Cloud Computing*

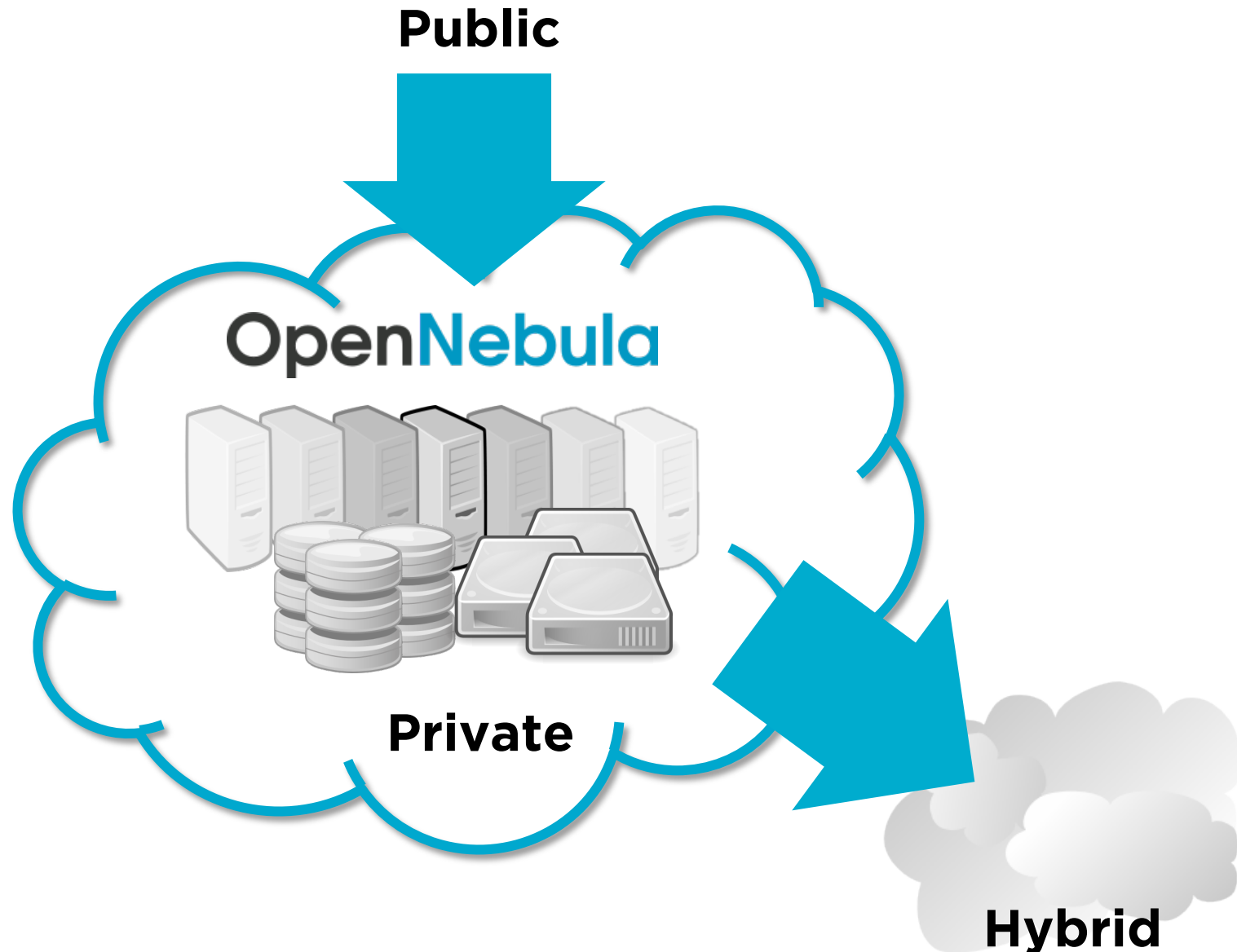
This presentation is about

... **OpenNebula**

... its support for **Interoperability**

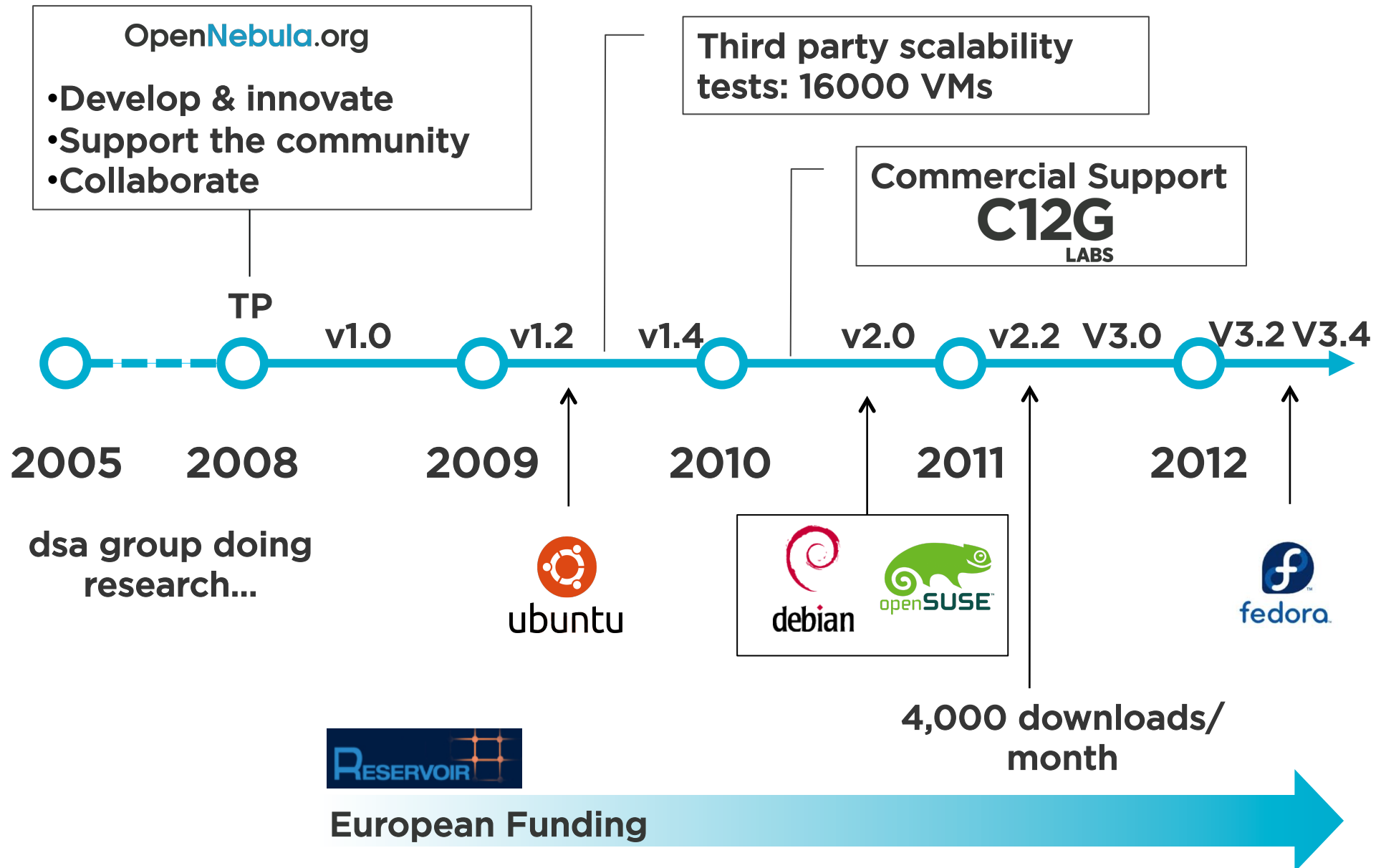
... use cases in **Research Infrastructures**

*Open Cloud Solution for Building and Managing Virtualized Data Centers*



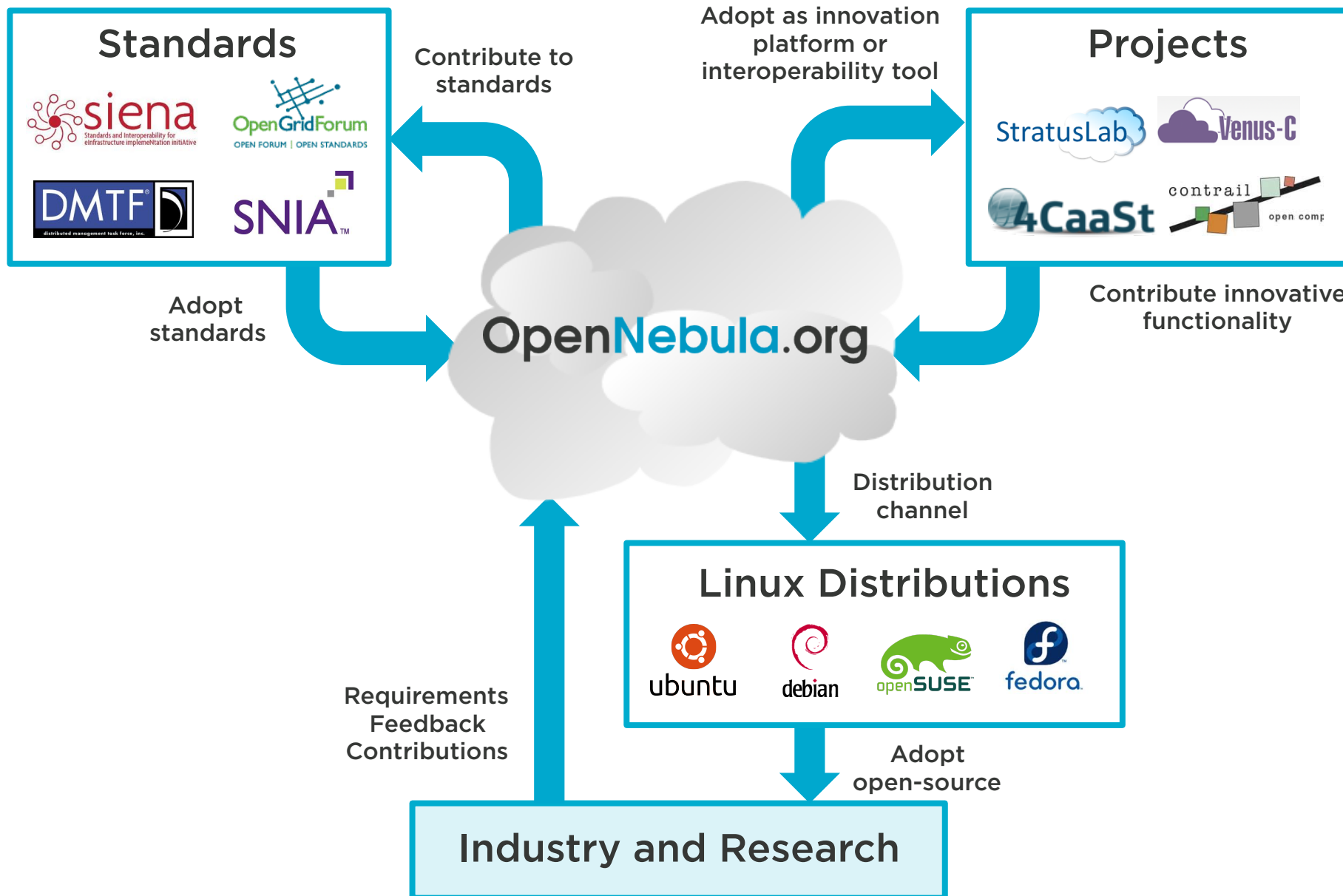
# What is OpenNebula?

*A Project Aimed at Building the Industry Standard Open Cloud Management Tool*



# What is OpenNebula?

*Open Platform for Innovation*



*Open Cloud Enabler in the ICT Industry*

## Enabling Hosting Companies and Telcos to Offer Cloud Services



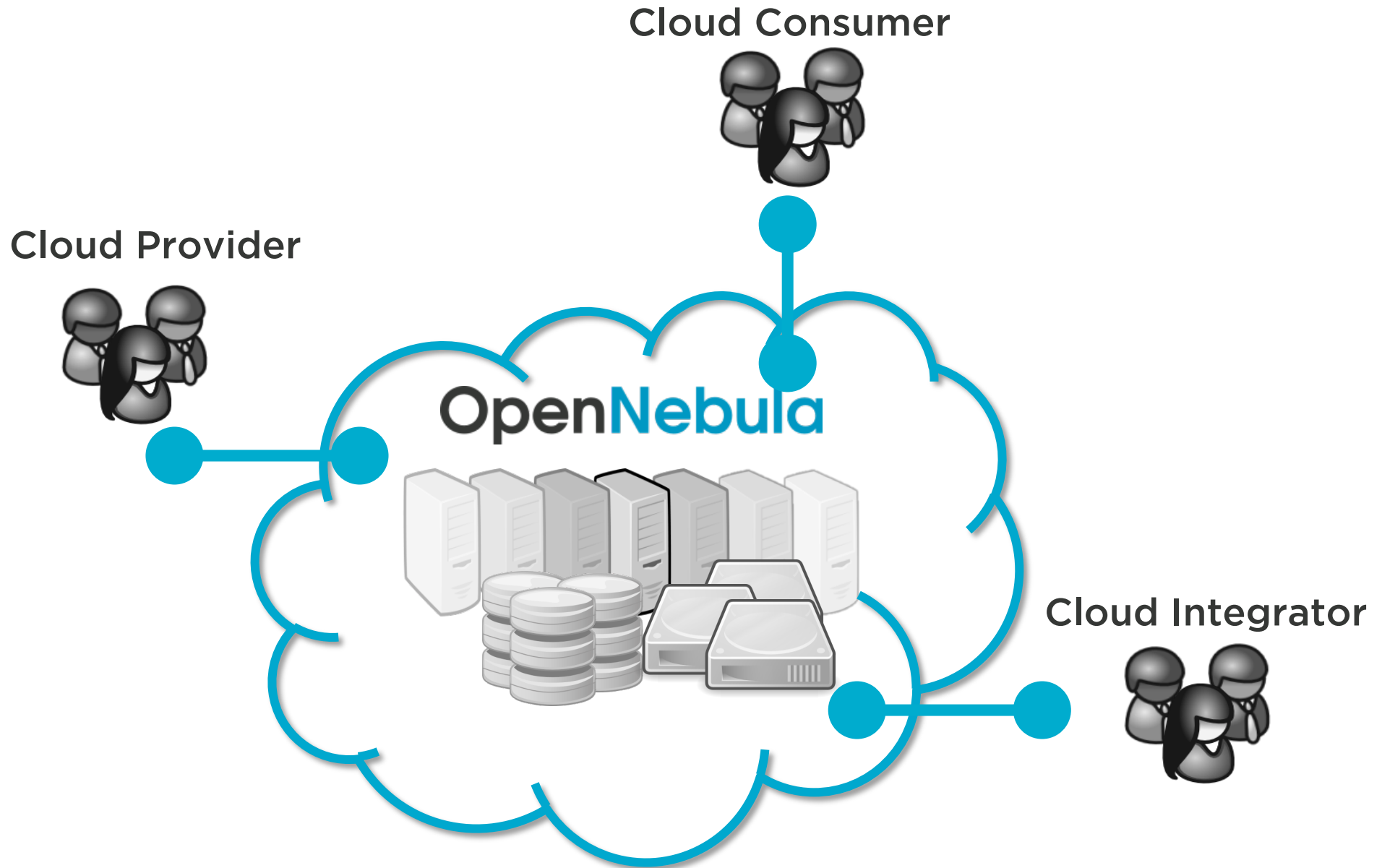
## Enabling Technology Companies to Offer Cloud Products



## Enabling Service Companies to Offer Cloud Consulting and Integration

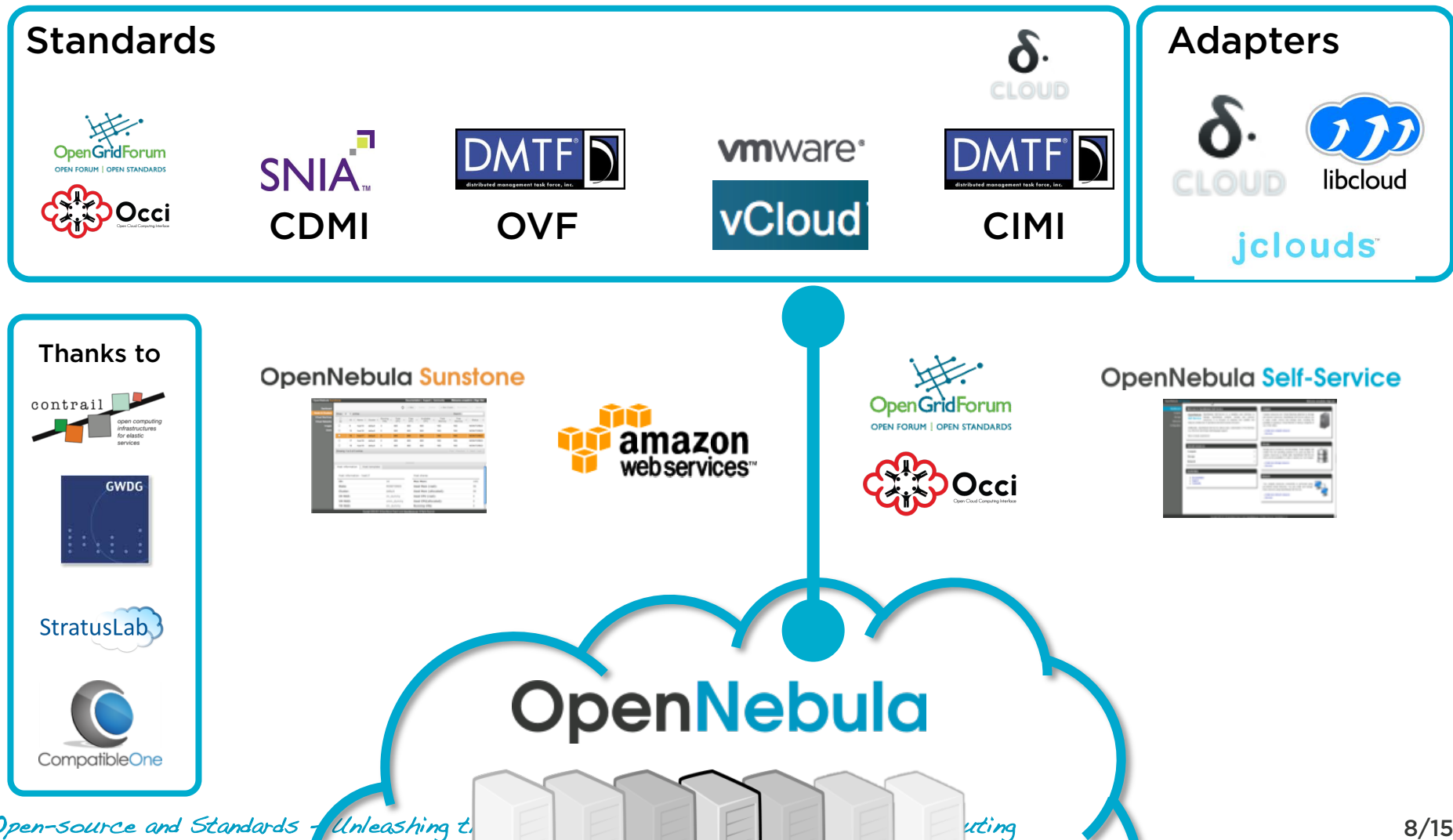


## *Interoperability from Different Perspectives*



## The Cloud Consumer Perspective

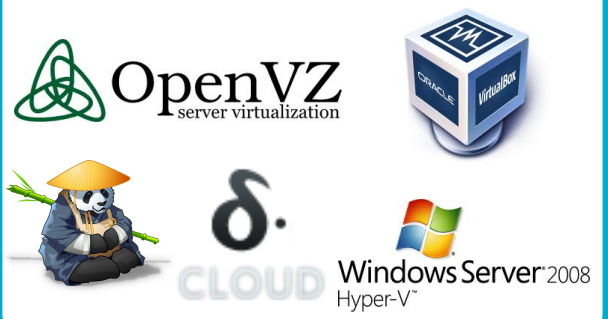


... standards (*de facto* and *de jure*) and adapters to leverage existing ecosystems and ensure portability across providers....

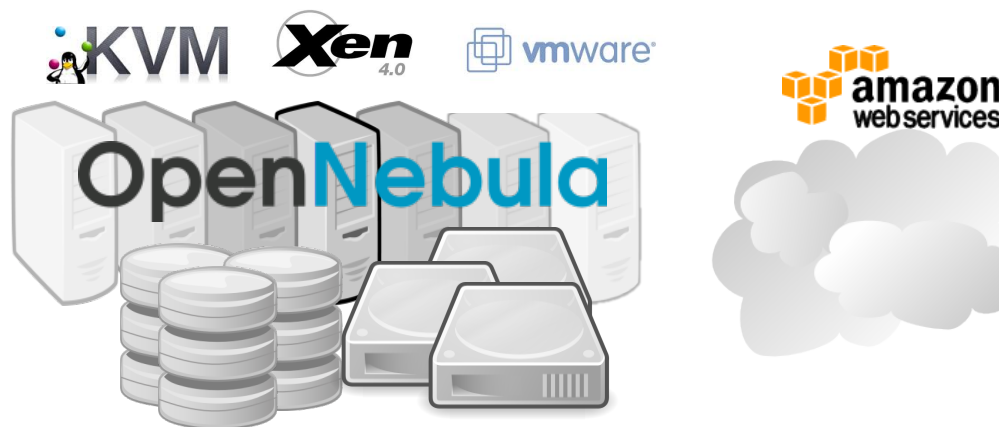




## *The Cloud Provider Perspective*

... **interoperable** (platform independent), **innovative** (feature-rich) and **proven** (mature to run in production)...

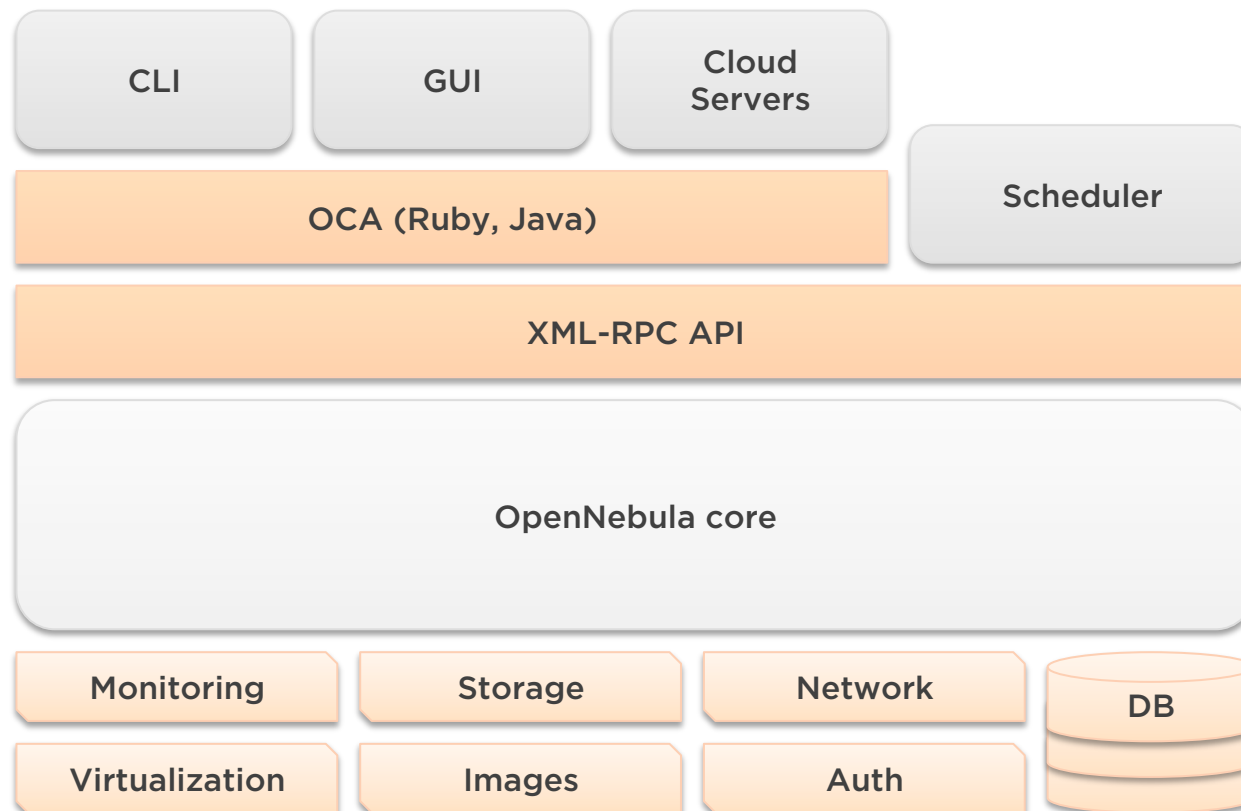
Virtualization Drivers	Configuration	Storage
		



The central graphic features the OpenNebula logo in blue and black text. Above it are logos for KVM, Xen 4.0, and VMware. Below the logo are icons representing server racks, stacks of hard drives, and a grey cloud. To the right of the cloud is the Amazon Web Services logo.

## *The Cloud Integrator Perspective*

... **truly open** (fully open-source, Apache license) and **adaptable** (modular and extensible)...



# Use Cases in Research Infrastructures

*One of Our Main User Communities*

## Supercomputing Centers



## Research Centers

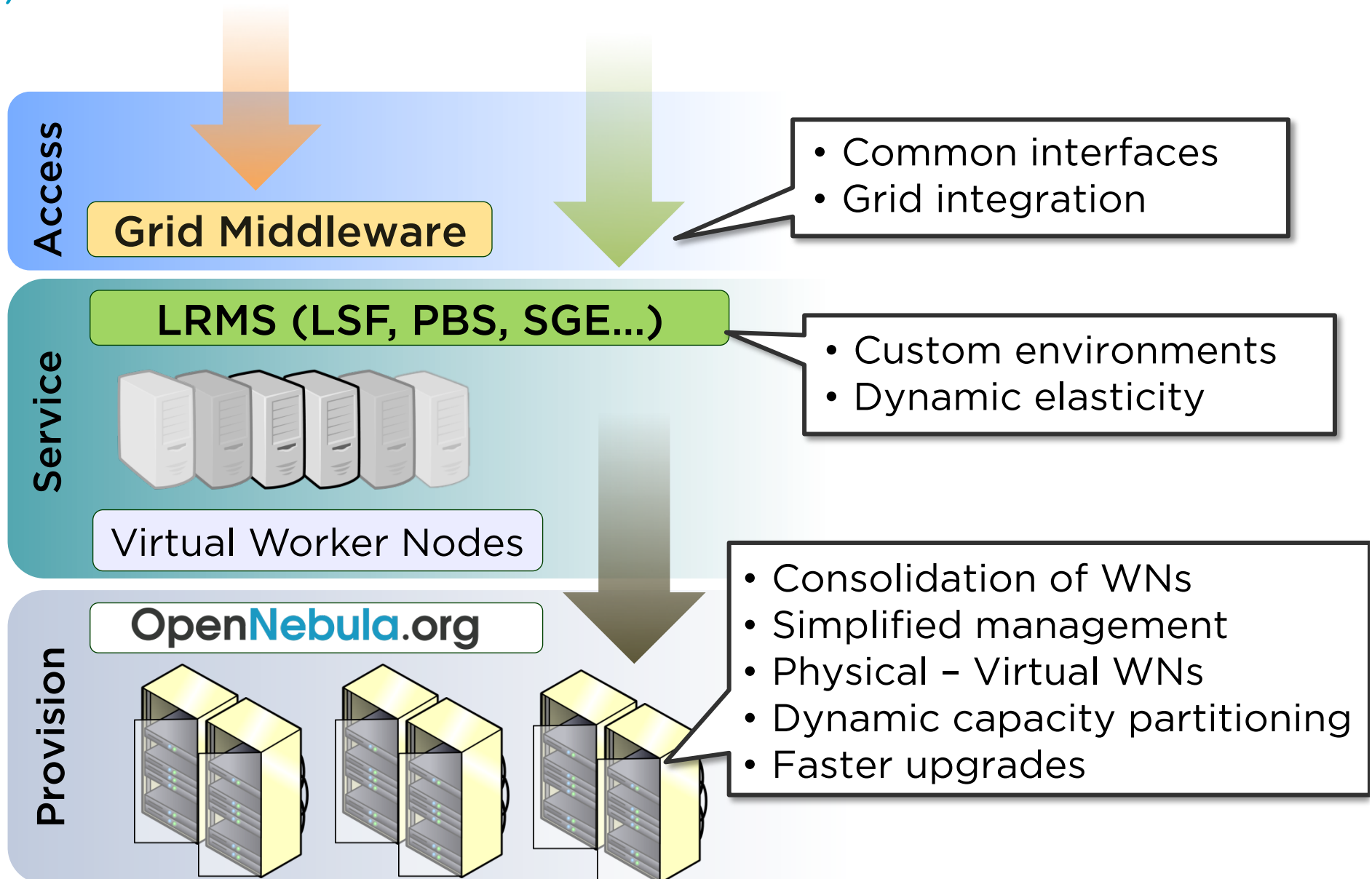


## Distributed Computing Infrastructures



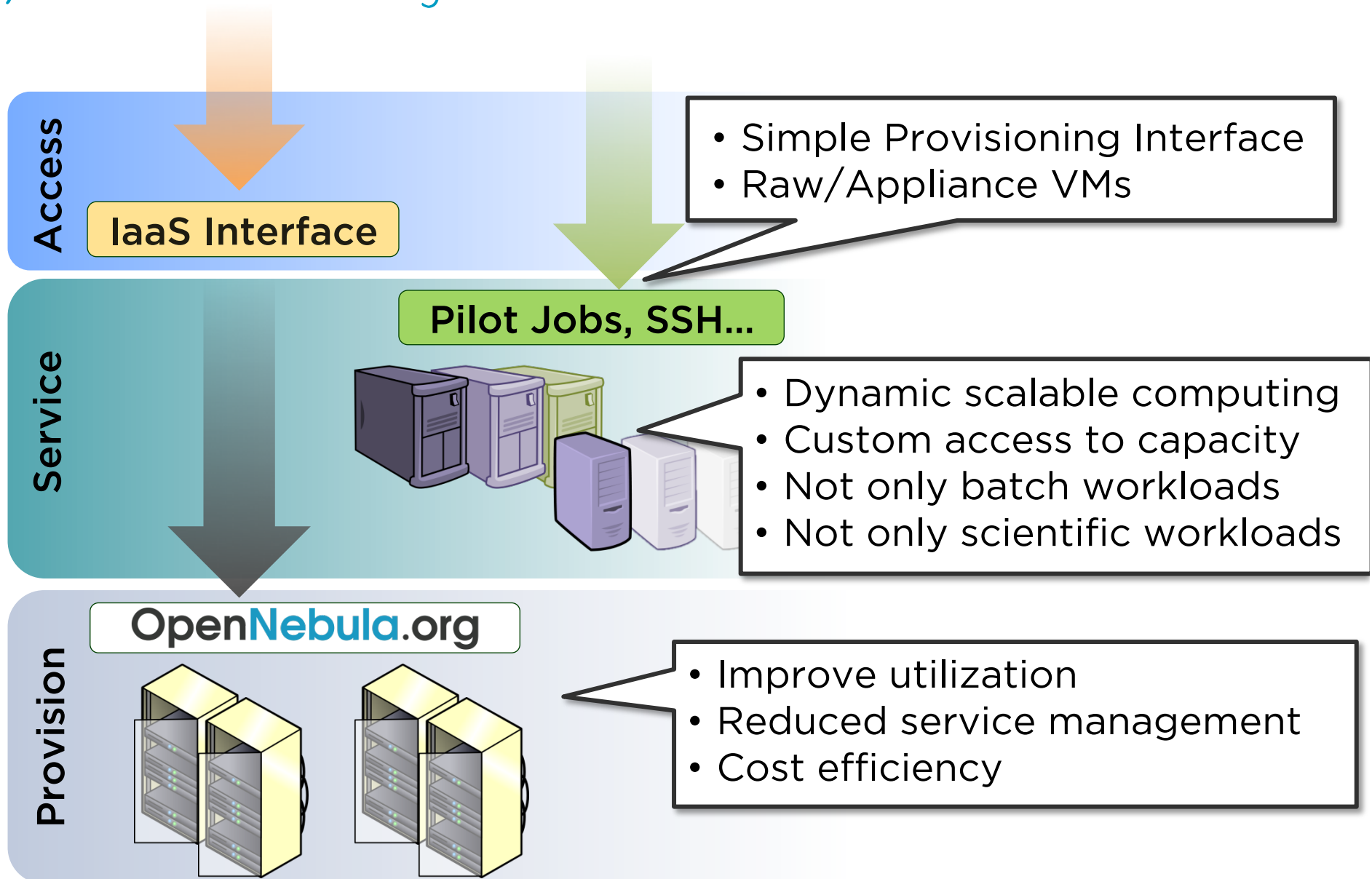
# Use Cases in Research Infrastructures

## *OpenNebula as an Infrastructure Tool*

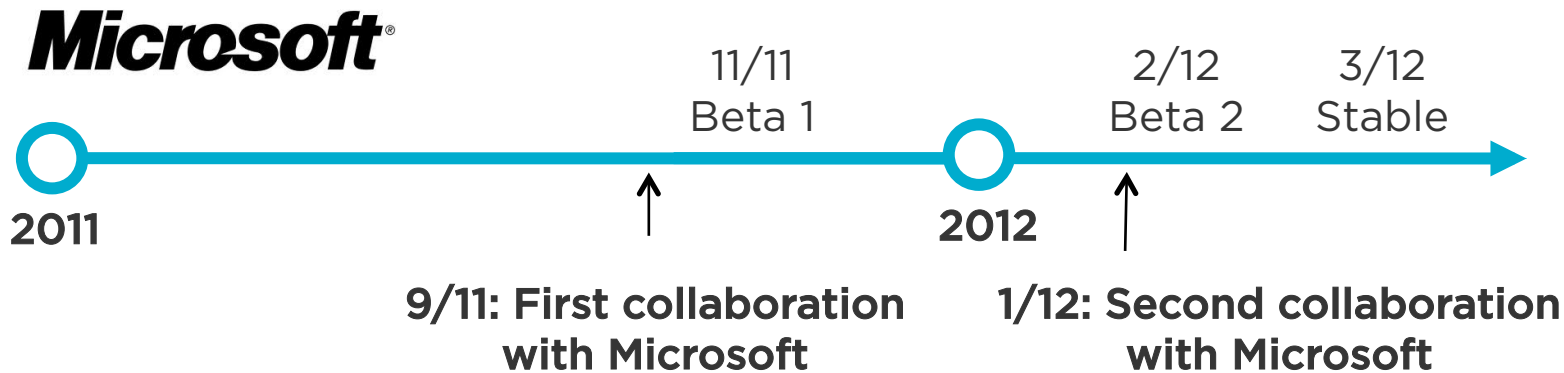


# Use Cases in Research Infrastructures

## *OpenNebula as an Provisioning Tool*



## New Release of OpenNebula Drivers for Hyper-V Clouds



OpenNebula Sunstone

Documentation | Support | Community | Welcome | Sign out

Virtual Machines

Name	State	CPU Usage	Assigned Memory	Memory Demand	Memory Status
one-19	Running	0%	64 MB		

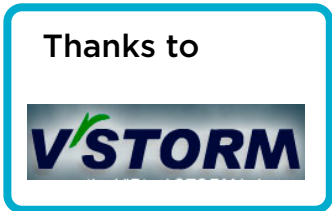
one-19 on localhost - Virtual Machine Connection

```
File Action Media Clipboard View Help
ttylinux 9.0
> http://ttylinux.org/
> hostname: ttylinux_host

/dev/hda1: clean, 744/10200 files, 9480/40792 blocks
root file system checked ..... [ OK ]
file systems checked ..... [ OK ]
mounting local file systems ..... [ OK ]
setting up system clock (Wed Feb 22 09:42:16 UTC 2012) ..... [ OK ]
mount: mounting /dev/hdc on /mnt/context failed: No such device or address
mount: can't mount /mnt/context: Invalid argument
initializing random number generator ..... [ OK ]
startup klogd ..... [ OK ]
startup syslogd ..... [ OK ]
bringing up loopback interface lo ..... [ OK ]
/etc/rc.d/rc.startup/10.network: line 78: ./ifup-eth0.template: No such file or
directory
startup dropbear ..... [ OK ]
startup inetd ..... [ OK ]

ttylinux ver 9.0 [RC11
i486 class Linux kernel 2.6.20 (tty1)
The initial root password is "password".
ttylinux_host login:

Status: Running
```



*We Will Be Happy to Answer Any Question*

 [CloudPlan.org](http://CloudPlan.org)

 [@imllorente](https://twitter.com/imllorente)



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