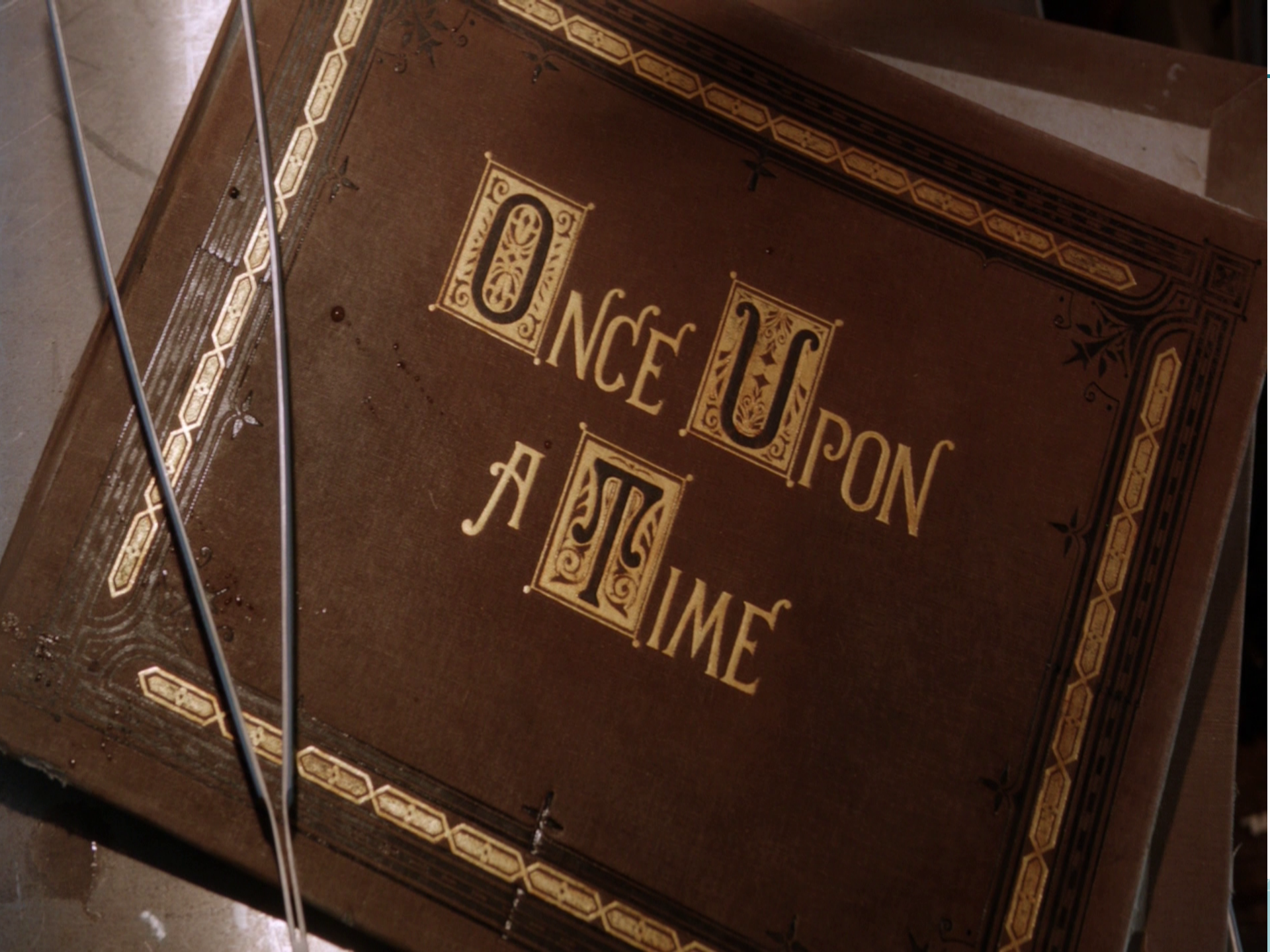

ONCE UPON
A TIME

UN MUNDO SIN CLOUD

CSUC

Consorci de
Serveis Universitaris
de Catalunya

Modelos de Cloud híbrido:
Caso del CSUC y proveedores IaaS locales

jordi.guijarro@csuc.cat
@jordiguijarro
@cloudadms

JT2016 Valencia, 17/11/2016

Agenda

- ✓ **Introducción**
- ✓ Modelo de Cloud Híbrido
  - ¿Por qué? ¿Para qué?
  - Estrategia de la comunidad académica e investigación
- ✓ Cloud Bursting
  - El “caso” -> CSUC
  - Nuevo driver VCLOUD para OpenNebula
- ✓ Alguna conclusión

- **Nuevos proyectos y servicios consorciados**

CSUC
Consorci de Serveis Universitaris de Catalunya

Generalitat de Catalunya
Universitat de Barcelona
UAB Universitat Autònoma de Barcelona
UPC Universitat Politècnica de Catalunya BarcelonaTech
upf. Universitat Pompeu Fabra Barcelona
Universitat de Girona
Universitat Rovira i Virgili
Universitat de Lleida
UOC Universitat Oberta de Catalunya
Universitat Ramon Llull
UVIC Universitat de Vic Universitat Central de Catalunya

- **Nuevos proyectos y servicios consorciados**

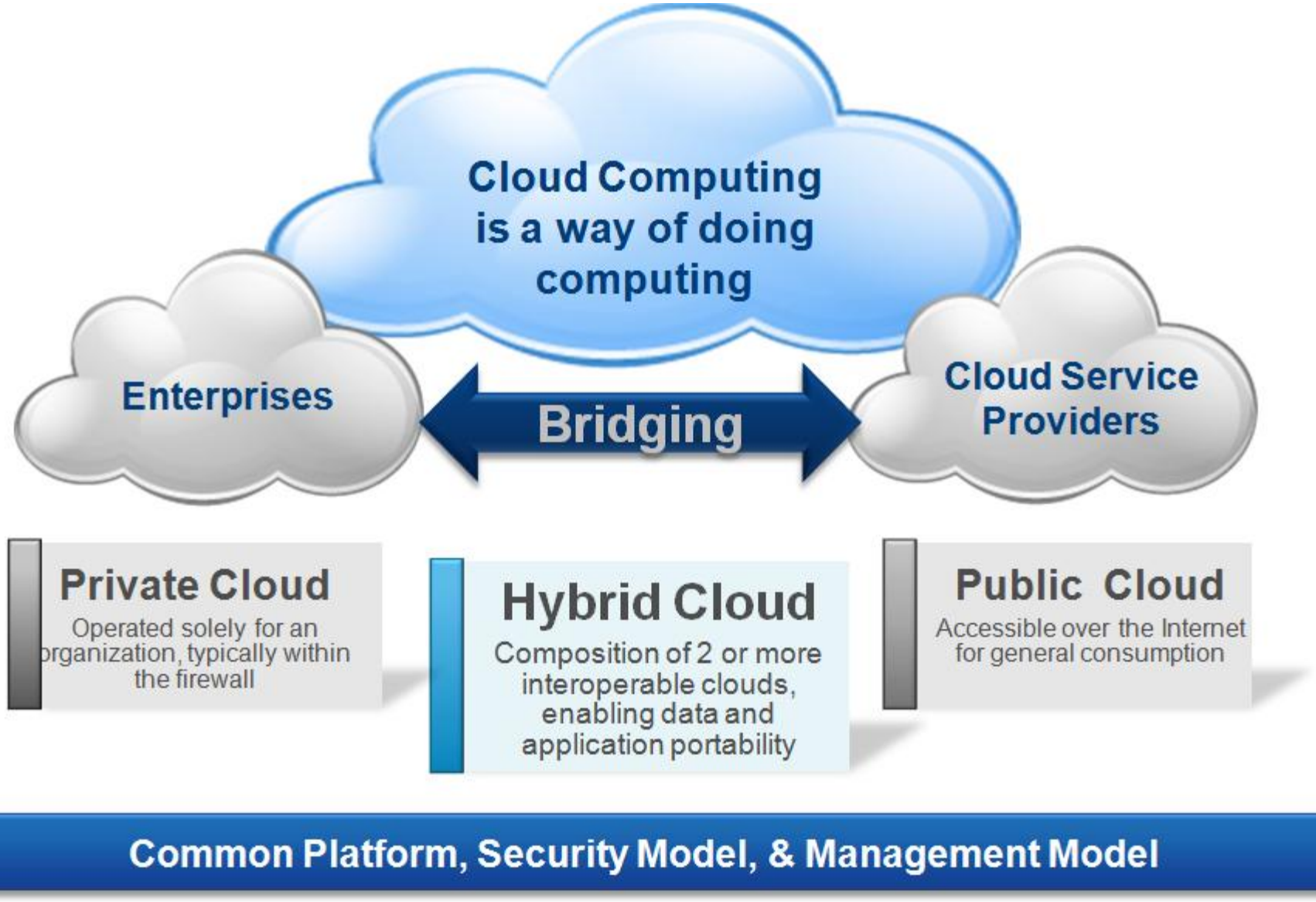
Cloud Híbrido: La definición

'True Hybrid Cloud consists of at least one or more private clouds **with most of public cloud features** and at least one or more public clouds'

Challenges: networking, common mgmt and security layers.

My Fitbit has the potential to be paired to a public cloud, but that doesn't make it a private or hybrid cloud.

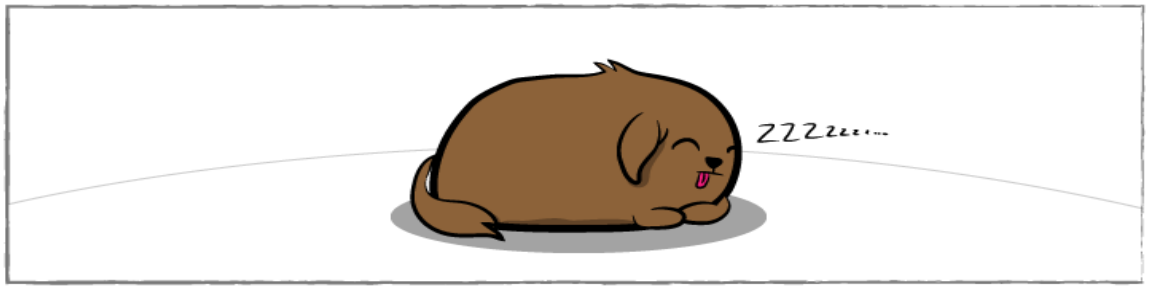
Modelo de Cloud híbrido



ALL OR NOTHING

My dog has two speeds:

Zero miles-per-hour



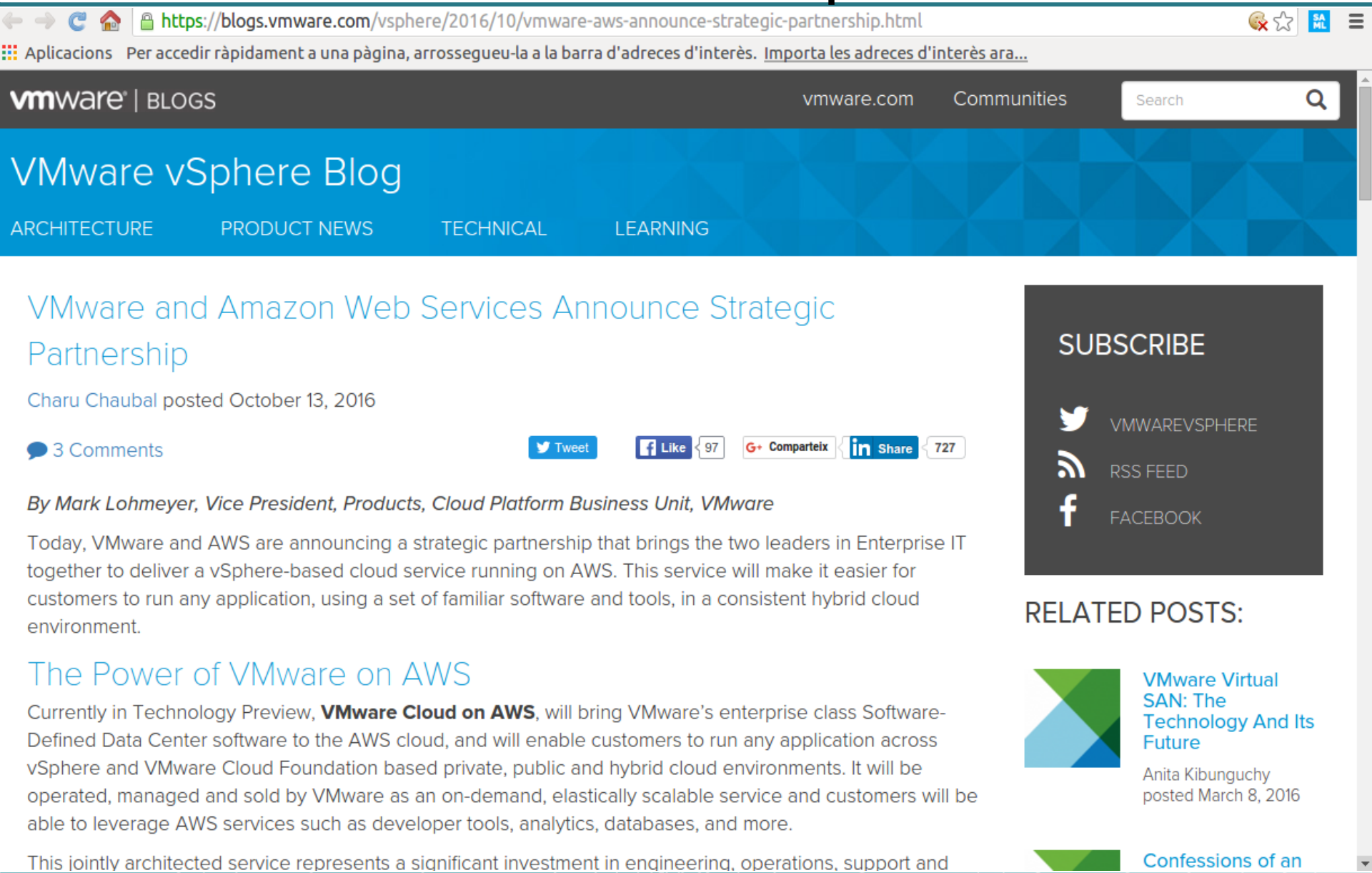
and

SHIT-YEAH-LIGHTSPEED-MOTHERFUCKER
miles-per-hour

The Oatmeal

AN AMAZON ORIGINAL SERIES
ALL OR NOTHING
A SEASON WITH THE ARIZONA CARDINALS

“La vida te da sorpresas...”



THE POWER OF WORDS SCRABBLE

Worth1000.com

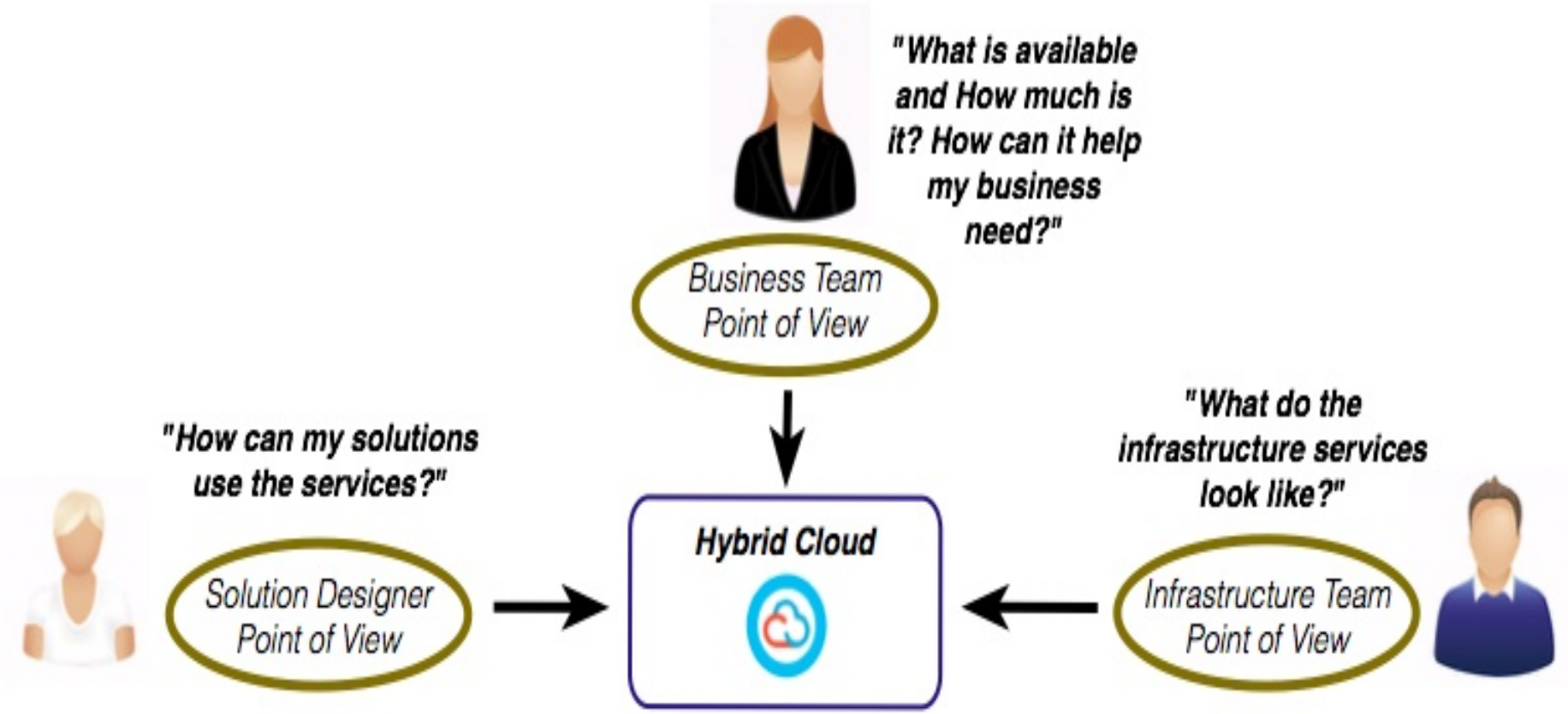
OVER
THERE

THERE

HERE

RIGHT
HERE

Diferentes puntos de vista



Estrategia IaaS en las redes académicas

Estrategia IaaS en las redes académicas

El “caso” -> CSUC

- Autoservicio y servicios gestionados
- Arquitectura híbrida **MULTICLOUD**
- Ecosistema OpenNebula 5.x
- Alineado a la cultura

- Entornos PaaS

El “caso” -> CSUC

- **Open Cloud Power**
  - ✓Interoperable
  - ✓100% Software Libre
  - ✓Orientado a servicio
  - ✓WebUI & CLI

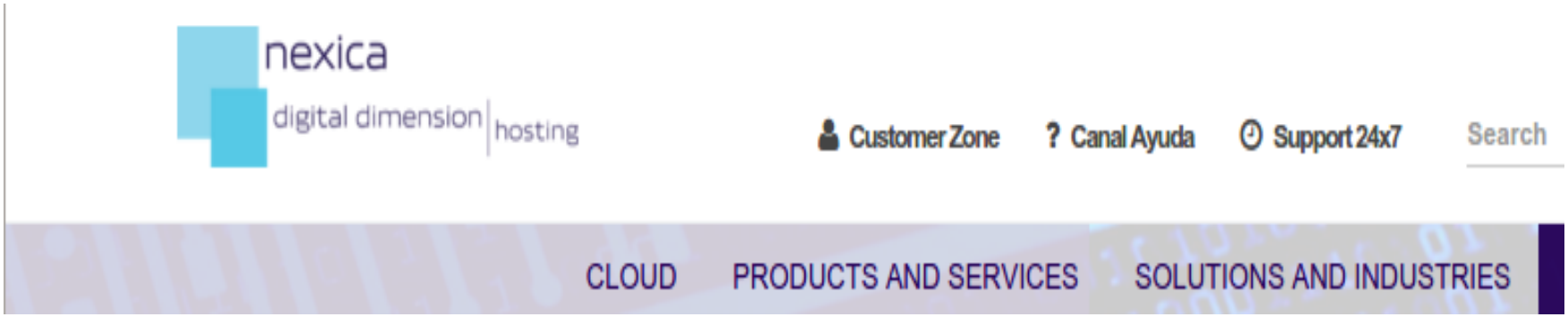
Acceso gratuito (cuota básica) para instituciones conectadas a la *Anella Científica.*

https://iaas.anella.csuc.cat

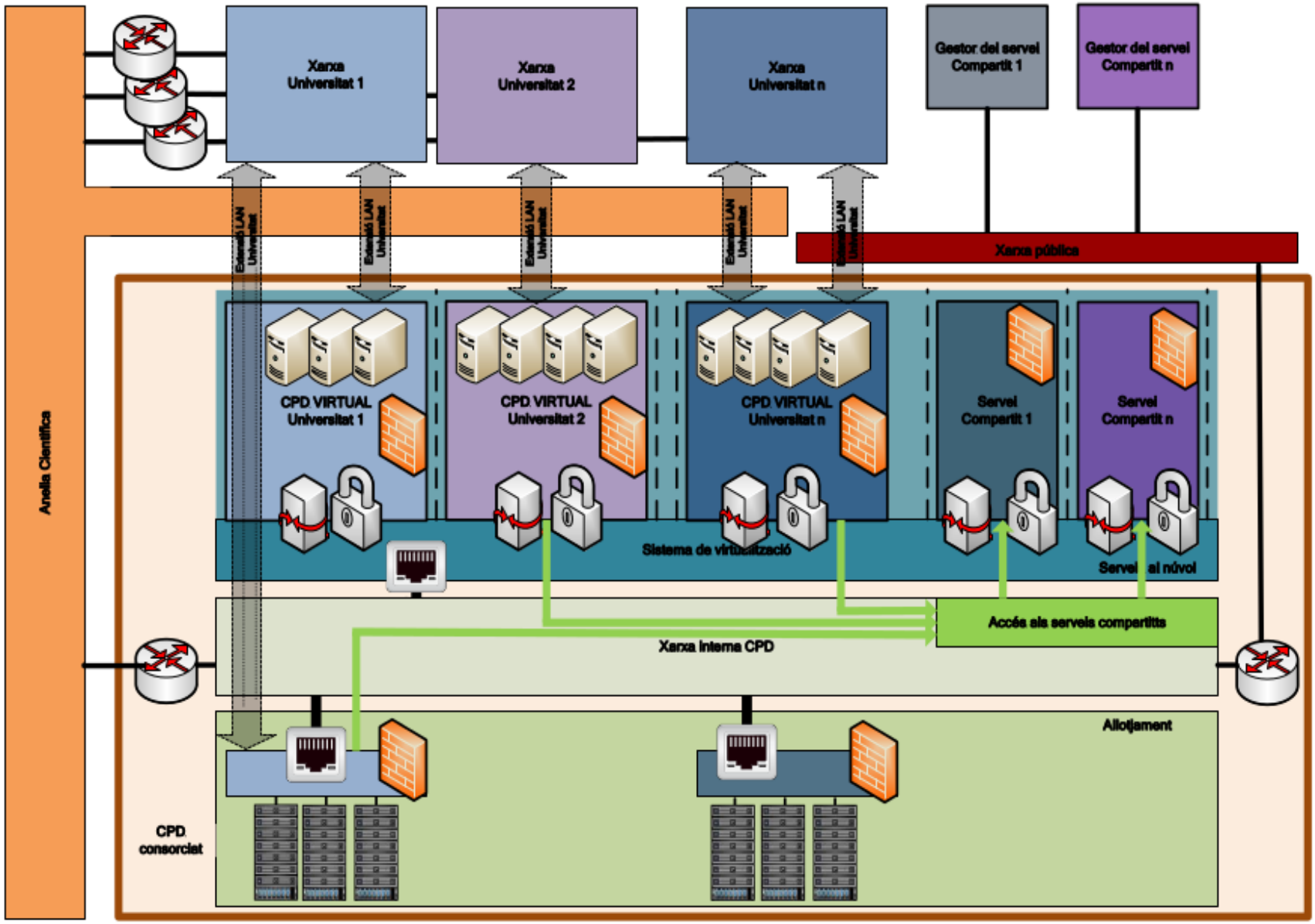
ANELLA CIENTÍFICA

El “caso” -> CSUC

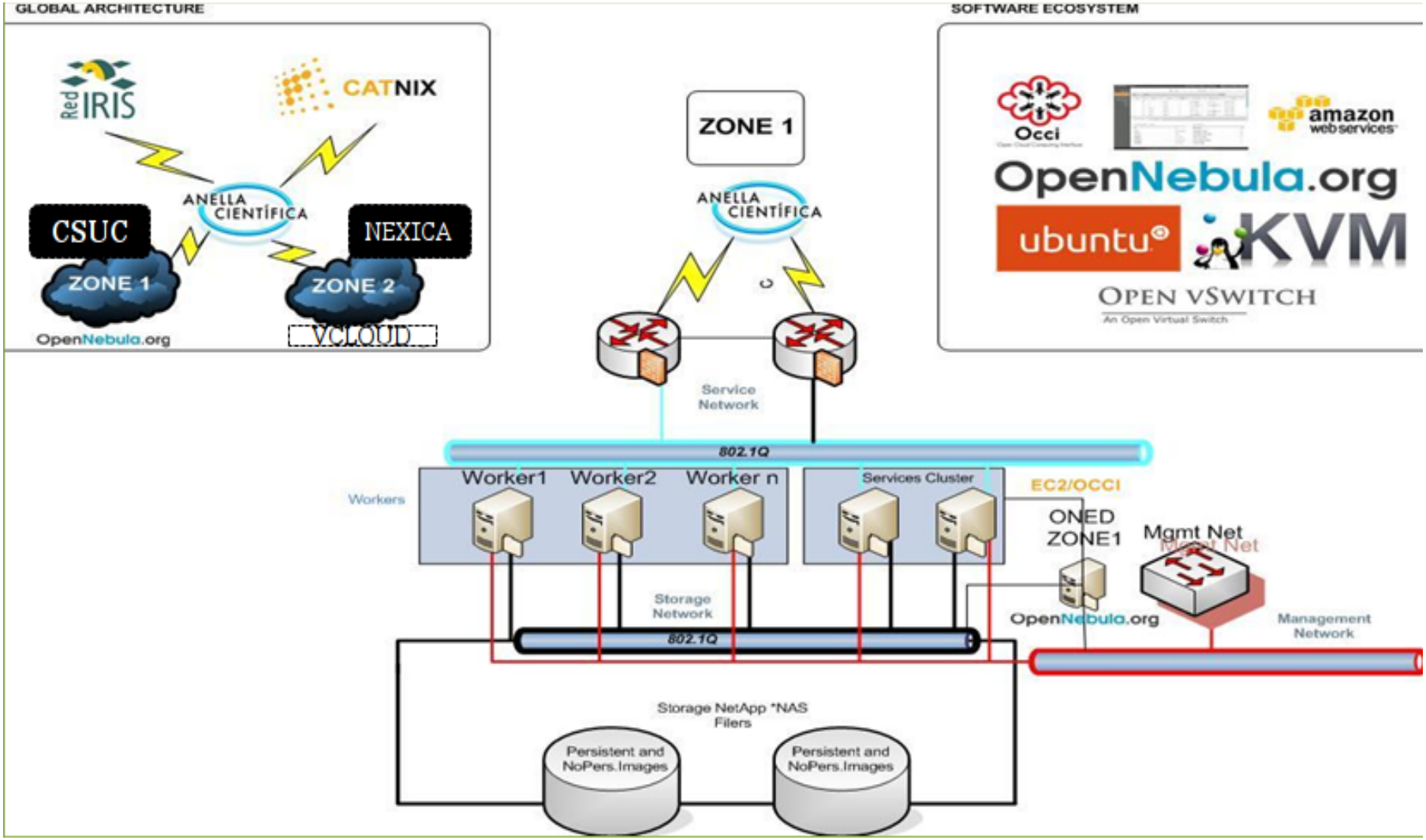
NUEVO PROVEEDOR COMERCIAL DE SERVICIOS DE CPD



El “caso” -> CSUC


Anella Científica
Xarxa Universitat 1
Xarxa Universitat 2
Xarxa Universitat n
Gestor del servei Compartit 1
Gestor del servei Compartit n
Extensió LAN Universitat
Xarxa pública
CPD VIRTUAL Universitat 1
CPD VIRTUAL Universitat 2
CPD VIRTUAL Universitat n
Servei Compartit 1
Servei Compartit n
Sistema de virtualització
Servei al núvol
Accés als serveis compartits
Xarxa interna CPD
Allotjament
CPD consorciat

El “caso” -> CSUC


GLOBAL ARCHITECTURE
Red IRIS
CATNIX
ANELLA CIENTÍFICA
CSUC
NEXICA
ZONE 1
ZONE 2
OpenNebula.org
VCLOUD
SOFTWARE ECOSYSTEM
Occi
amazon web services
OpenNebula.org
ubuntu
KVM
OPEN VSWITCH
An Open Virtual Switch
ZONE 1
ANELLA CIENTÍFICA
Service Network
802.1Q
Workers
Worker1
Worker2
Worker n
Services Cluster
EC2/OCCI
ONED ZONE1
Mgmt Net
OpenNebula.org
Storage Network
802.1Q
Management Network
Storage NetApp *NAS Filers
Persistent and NoPers.Images
Persistent and NoPers.Images

New OpenNebula VCLOUD driver: Building Hybrid Clouds with VMware cloud providers

October 18, 2016 / 0 Comments / in Community, Experiences, News / by Jordi Guijarro

Based in its definition, the **"Hybrid Cloud Computing"** is a model which combines the use of multiple Cloud services across different deployment models, including combining the use of services of public cloud services private cloud outside or inside organization / institution.

Most companies and organizations have not been born in the "cloud", a situation that often causes the cloud resources are to be connected to traditional systems or applications with some criticality and are usually located in their own premises. This type of architecture is the most common where the keys to their success pass take into account aspects such as integration capabilities, hyper-converged management, etc.

Cloud bursting is always welcome!

Today we are sharing exciting news about the expansion of the number of public clouds supported by OpenNebula to build hybrid cloud deployments. As a result of the collaboration between OpenNebula and CSUC, a new addon to support VCLOUD providers has been added to OpenNebula catalogue.

"With this addon, real hybrid architectures can use OpenNebula's rich set of infrastructure management tools to manage cloud deployments across VCLOUD private, public and hosted cloud platforms."

OPENNEBULA VCLOUD DRIVER

This addon gives Opennebula the posibility to manage resources in Vmware vCloud Infraestructures.

It includes virtualization and monitoring drivers.

VCLOUD DRIVER FEATURES

- Deploy, stop, shutdown, reboot, save, suspend,
- resume and delete VM's in the Virtual Data Centers
- hosted in vCloud.
- Create, delete and revert snapshots of VM's.
- Change RAM and CPU values of VM.
- It's able to hot-attach and detach NICs to VM's.
- Automatized customization of the VMs instanciated.
- Obtain monitoring information from the VDC, Datastore
- and VM's.

https://github.com/OpenNebula/addon-vcloud-driver

VCLOUD DRIVER FEATURES II

- 1 Vapp = 1 MV
- 1 VDC = a Host in OpenNebula.
- Import networks, hosts, templates and datastores hosted
- in vCloud using onevcloud script.

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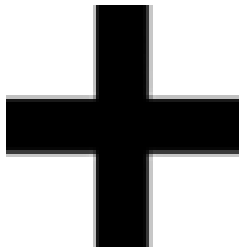
Demo



https://youtu.be/TMKmMubm6W0

Getting Started with InnerSource

¿PREGUNTAS?

Gracias!

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