StratusLab

Technical Overview

StratusLab Final Periodic Review

Brussels, Belgium

10 July 2011

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The StratusLab Vision (before…)

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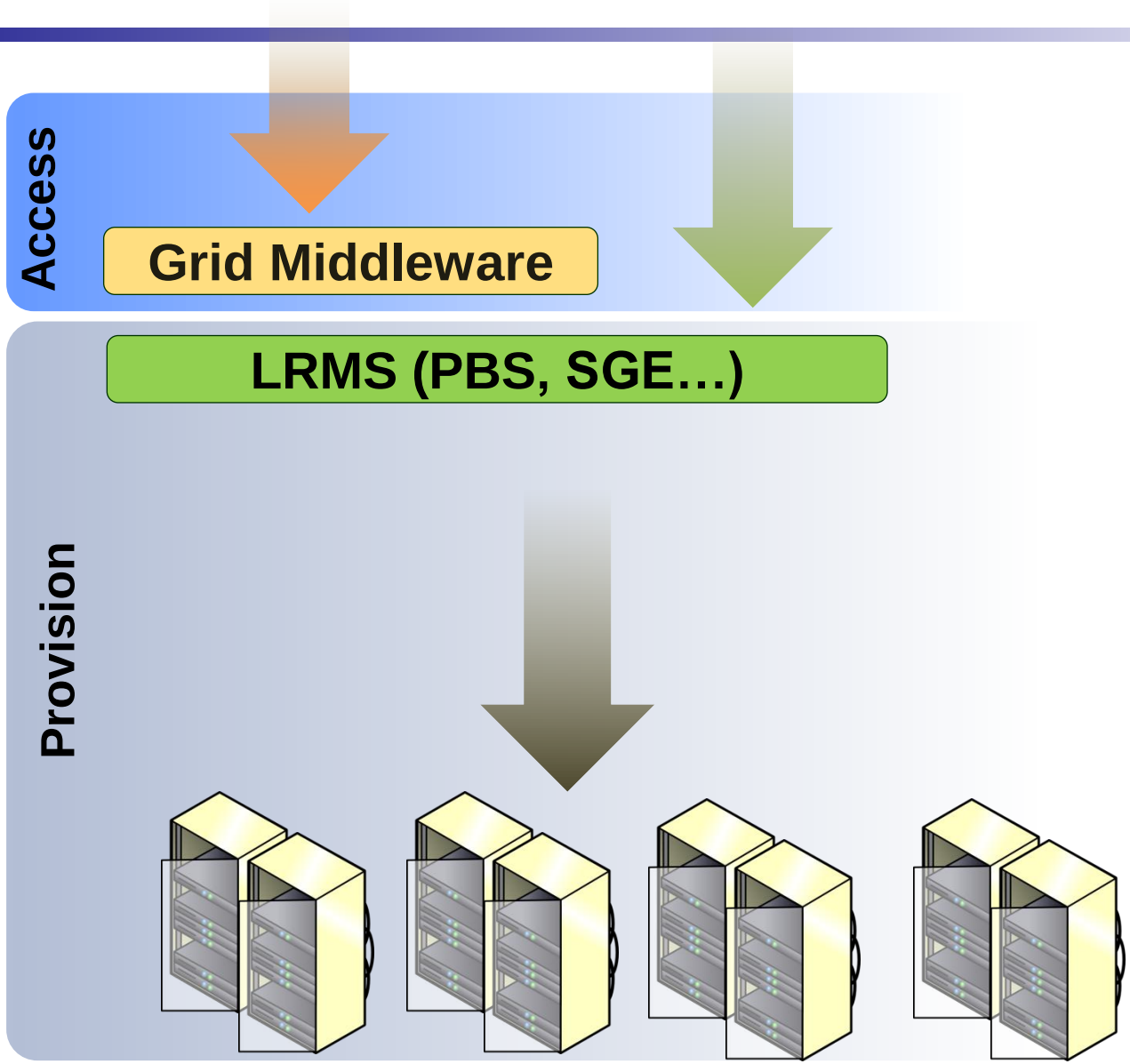

The StratusLab Vision (Year 1)

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Access

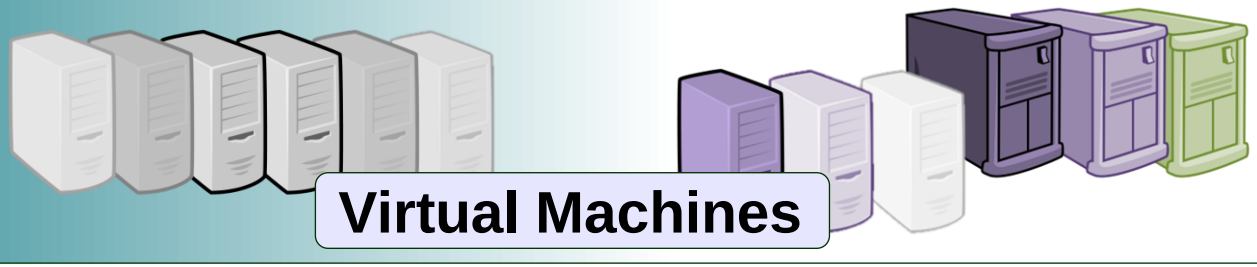
Grid Middleware

Cloud API

Service

LRMS (PBS, SGE…)

HTTP, SSH…



Virtual Machines

Service-Provisioning Decoupling

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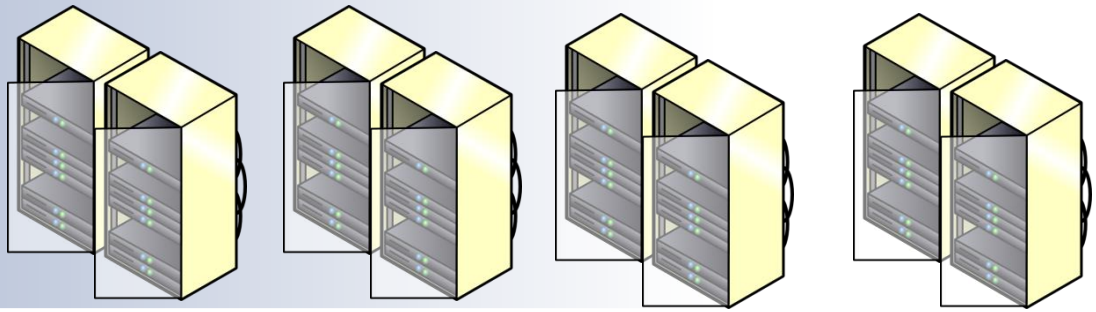
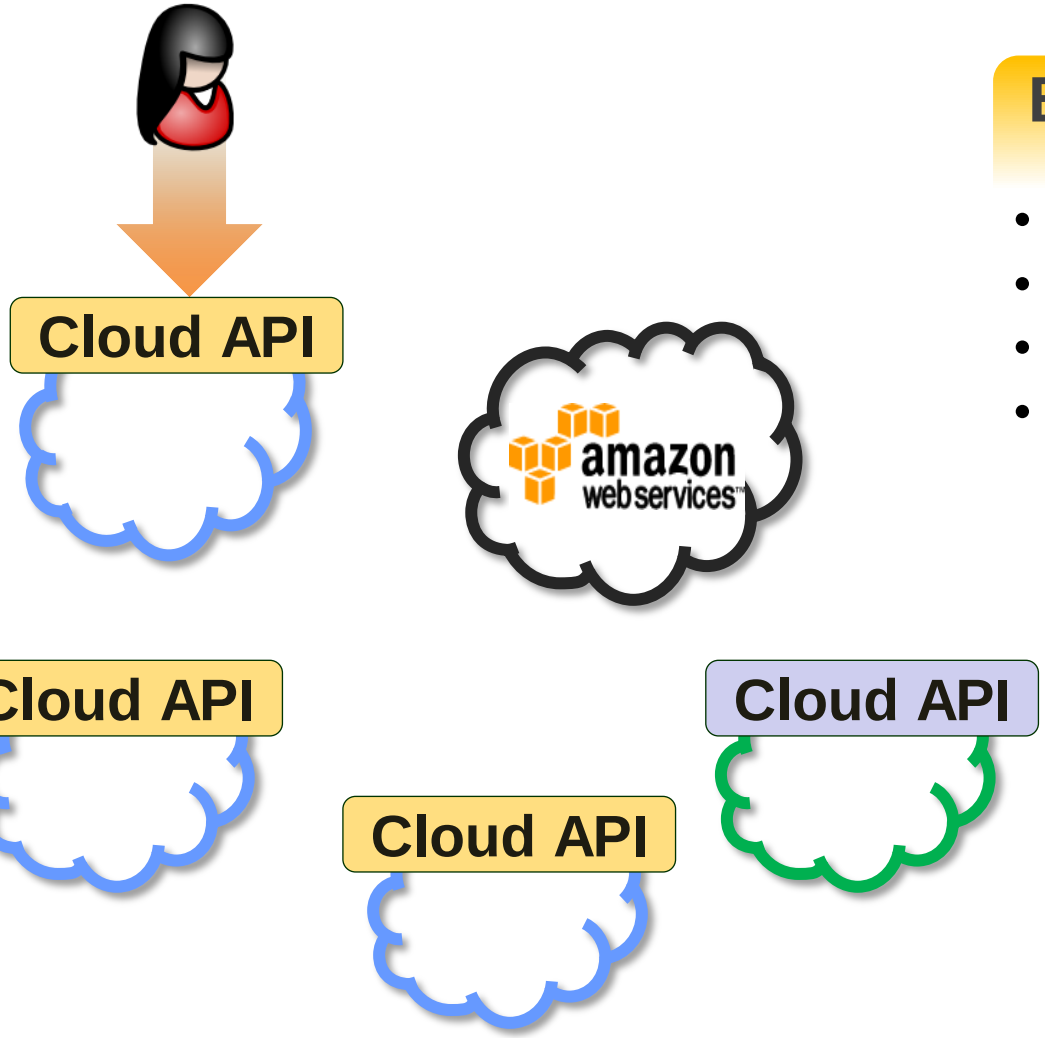
Provision



The StratusLab Vision (Year 2)



But…

- Identity on multiple clouds
- Different API's
- Access to Images
- Networking

The StratusLab Vision (Year 2)

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Cloud API

Hybrid Cloud

Cloud API

amazon web services

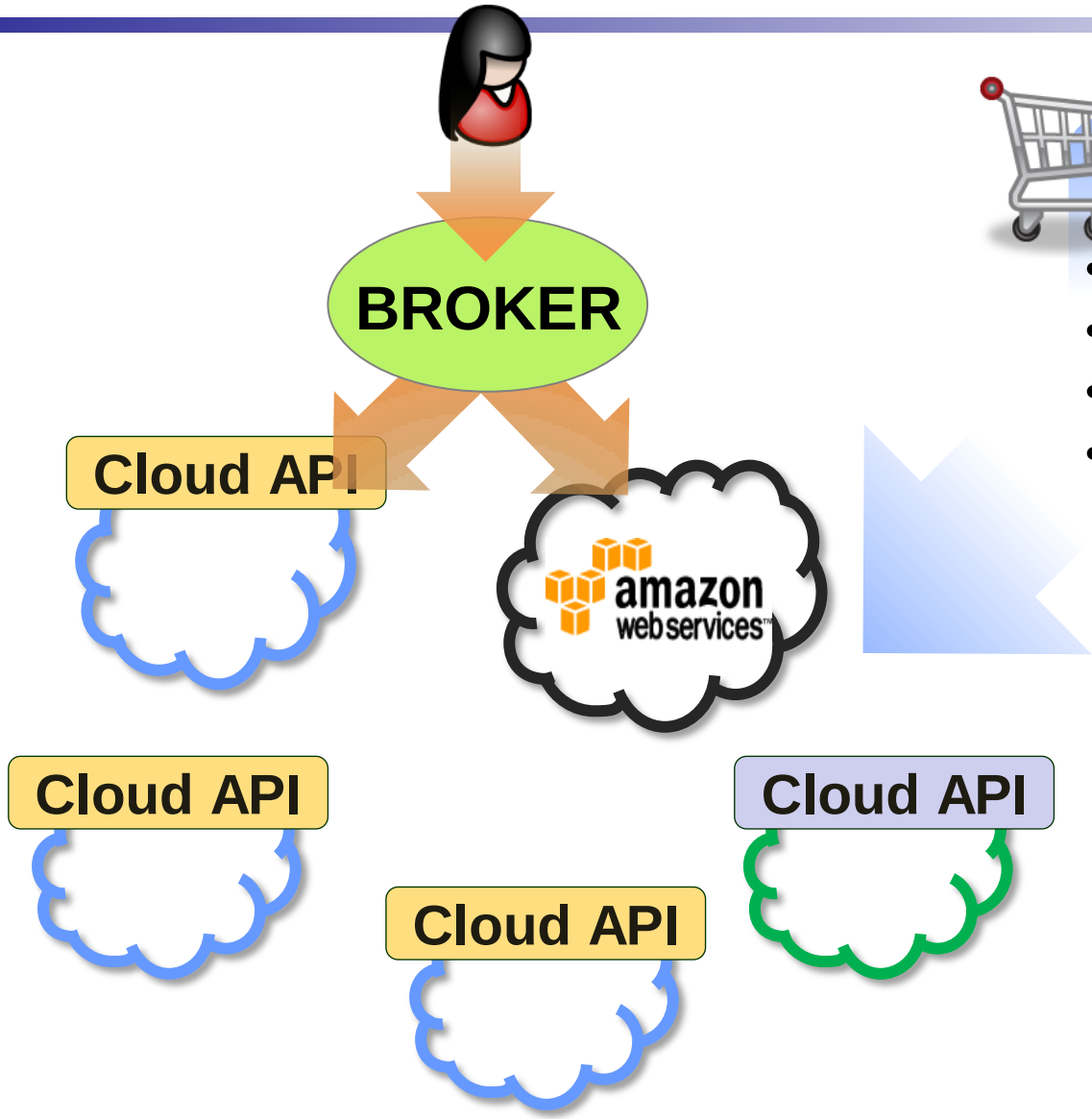
Cloud API

Cloud API

MarketPlace

- Sharing existing VM images
- Registry of metadata
- Image are kept elsewhere
- Supports trust

The StratusLab Vision (Year 2)



MarketPlace

- Sharing existing VM images
- Registry of metadata
- Image are kept elsewhere
- Supports trust

Cloud Services & Infrastructures

StratusLab Distribution

- Stratus Components
- Easy to install
- Thoroughly tested
- Regularly released
- Supported

Cloud Services

- Virtualized Grid Site
- 2 x IaaS Sites
- Marketplace
- Show-case
- Know how

StratusLab Distribution

Marketplace

REST

Cloud, Web, Grid…

Users

IaaS Cloud

Tcloud

Service Mang.

XML-RPC

REST

REST

Networking

802.1Q, FW

VM Manager

KVM

Hybrid

Persistent Disk

iSCSI, NFS…

Monitoring & Acct

Physical Resources

Reference Deployments

Virtualized Grid Site

- Deploy a production site in an IaaS cloud
- Typical Grid configuration (CE, SE, WNs, APEL)
- Certified by the Greek NGI
- Integrated within the Greek NGI

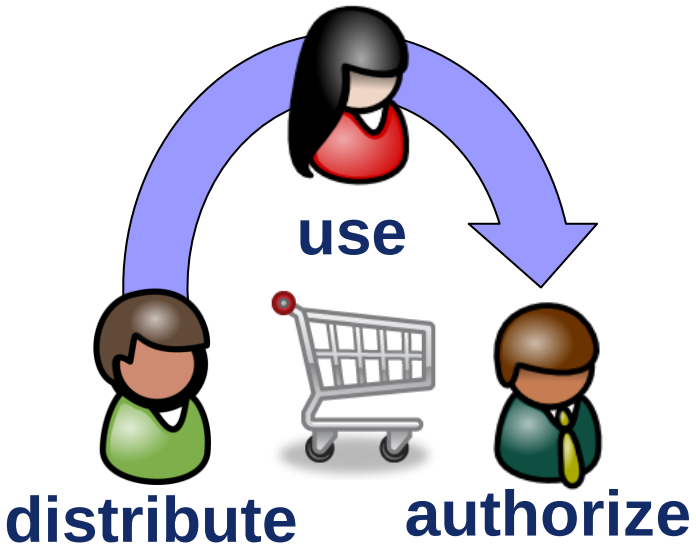
IaaS Clouds

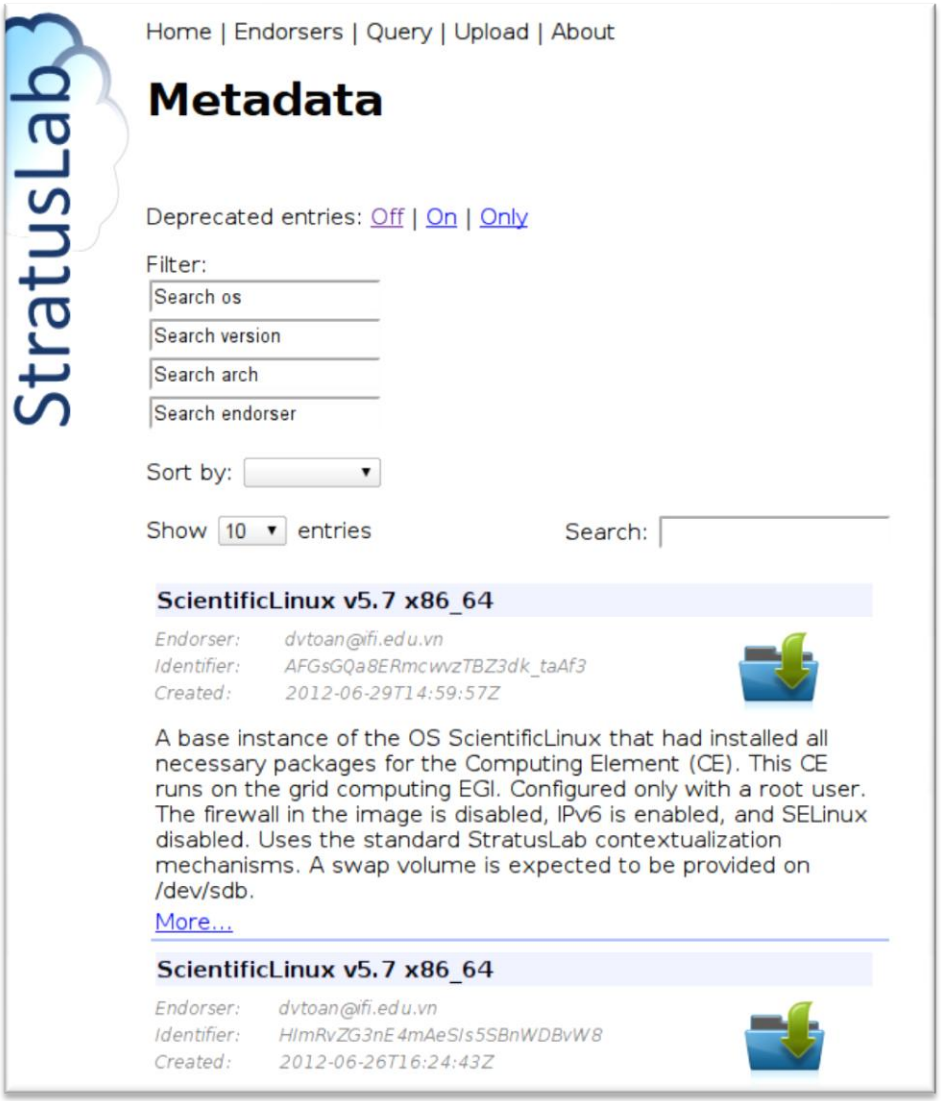
- Operated in production exposing StratusLab IaaS APIs
- GRNET + LAL
- Operated in a Federated Way
- Demonstration, Validation & Best practices
- Host production applications

Cloud Services

Marketplace

- Image sharing facility
- Stores image metadata
- Actual images stored elsewhere
- Support trust: users, admin, devs





Achievements I

StratusLab Distribution

- Stable, periodically released & comprehensive software distribution
- Easy to build a IaaS Cloud
- In use by several EGI sites & commercial solutions

Cloud Services & Reference Deployments

- Operation of a virtualized Grid site
- Operation of 2 IaaS clouds
- MarketPlace

Achievements II

StratusLab

Support for Production Applications & Adoption

- Production use-cases for a wide-range of application domains
- Reference services attracted and served multiple users

Multi-Cloud Federation

- Demonstrated a federated set-up of IaaS Clouds
- Deployed complex (multi-tier) applications in multiple-clouds
- Federated tools (Marketplace) being adopted by EGI

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Questions?

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