

## CC-IN2P3



#### Who we are:

CC-IN2P3 (100) < IN2P3 (2.5k) < CNRS (34k) < Government

#### What we do:

offer IT services to academic users:

- Computing
  - HTC (18k cores managed by Oracle Grid Engine)
  - HPC (1k cores)
  - Grids (EGI, 2nd biggest Tier 1 for WLCG: 140 centers, 35 countries, 100k cores)
- Storage
  - Mass storage (HSM on HPSS: 500TB disk, 14PB Tape)
  - Semi-Permanent, high throughput storage (GPFS, 1PB)
  - Disk frontends (dCache, SRM, SRB, Irods, Xrootd... 10PB)



## Cloud status at CC-IN2P3



### Main goals:

- Build an academic community cloud, integrated to wider federations
- HTC use case is no option

#### Motivation & User needs:

- Users need more specific environments
- Users need flexibility (elasticity)
- Another way of achieving distributed computing (vs/with grids)
- Satisfying new use cases (servers on demand...)

### Steps:

- Offer IAAS ressources through generic interfaces (EC2/OCCI)
- Integrate national/european/worldwide accademic federations



## Cloud status at CC-IN2P3



### Work in progress:

- State of the art of existing/upcoming technologies: evaluation of proprietary (IBM, DELL/Canonical, VMware, Oracle, Redhat) and OSS (OpenNebula, Openstack, Nimbus...) solutions
- Reuse experience
- Identify the hot spots: security concerns, storage, performance, networking...

### And then:

- Open to new communities (other scientific fields, academic institutes, industry?)
- Higher level tools for users (to PAAS/SAAS)
- Branch to the batch system
- Will the users follow the move and adopt those new technologies?



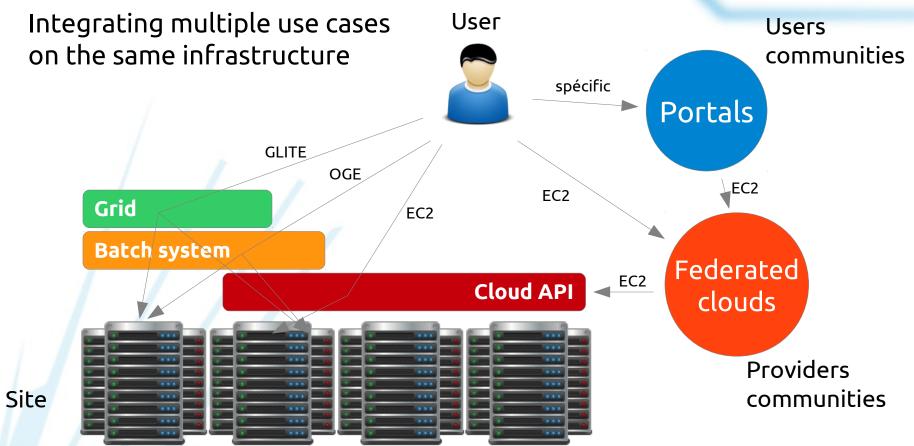
## Identified use cases



- EGI FCTF testbed (HEP, traditional grid users)
  provide IAAS ressources to former grid users, computing
- Webimatics (neurobiology)
  medical image data analysis
- Etriks (academic and pharmaceutical companies) data analysis
- DiracYet Another grid scheduler

# Computing & cloud interfaces





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