# Deploying the ATLAS Metadata Interface in the cloud with Jenkins

CNRS IN2P3 Les deux infinis

CERN

The ATLAS Metadata Interface[1] (AMI) is a mature application of more than 15 years of existence. Recently we developed a Jenkins-based system to on-demand deploy and monitor AMI in the cloud.
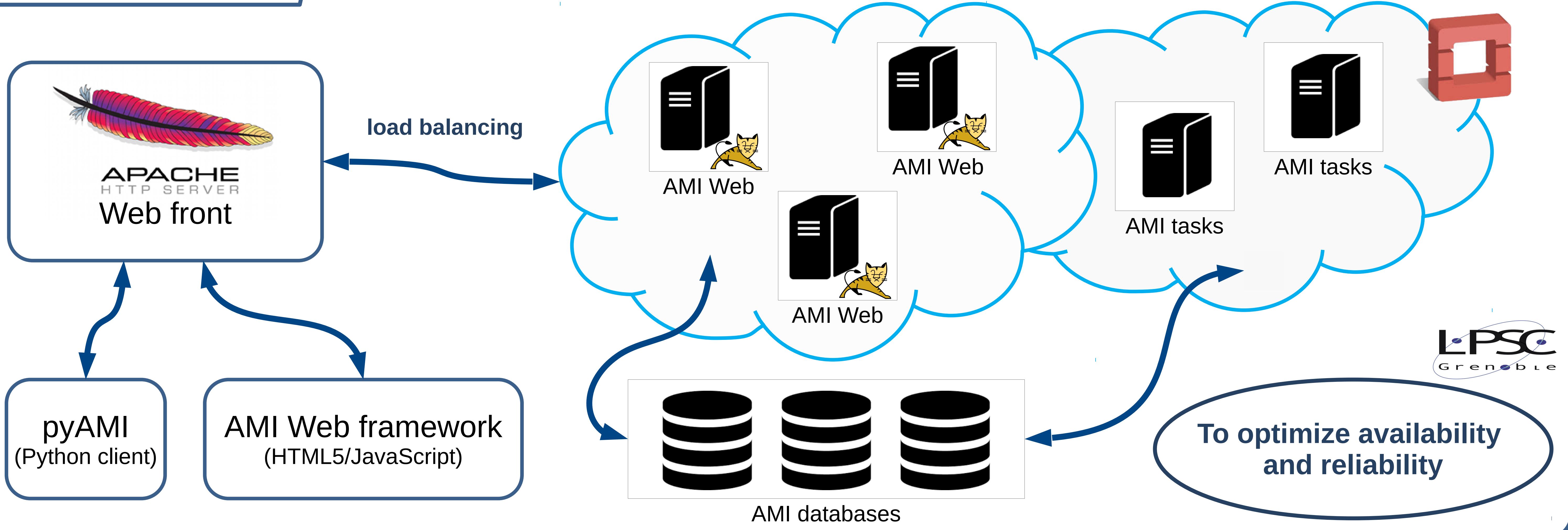
## What is AMI?

AMI is a generic framework to quickly design **metadata-oriented** applications. It provides facilities for aggregating and searching data with easy-to-use web interfaces and lightweight clients.
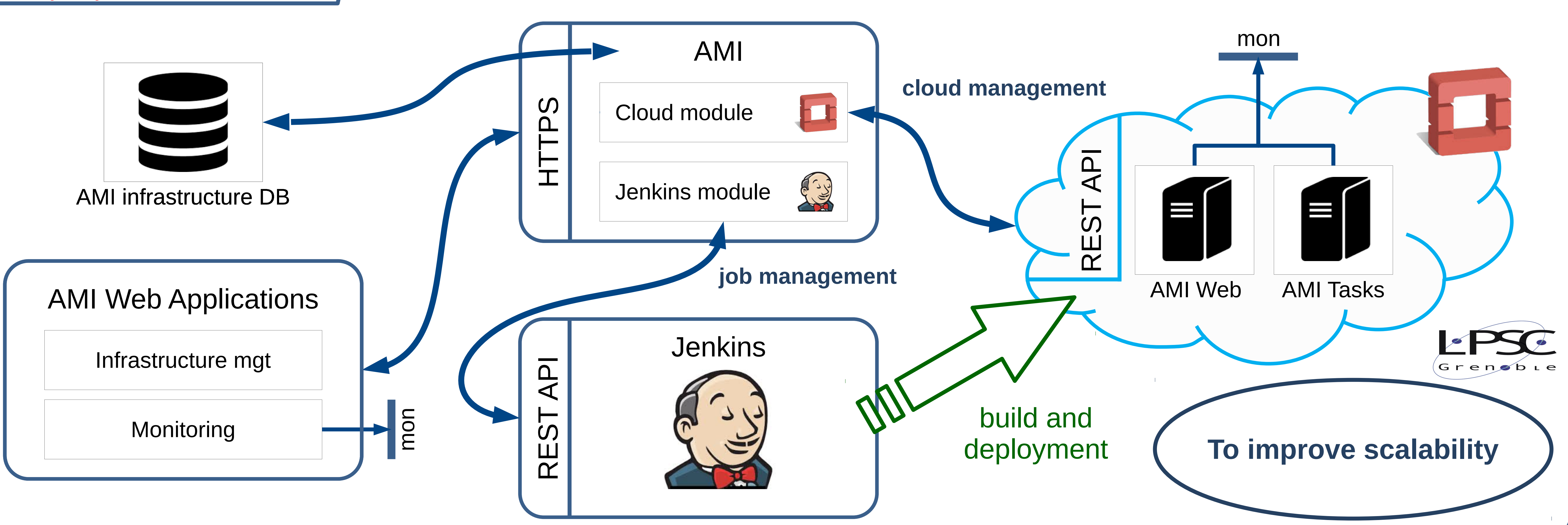
## Deployment system's benefits

- Dedicated web application to centralize:
  - ✓ cloud server administration,
  - ✓ application deployments.
- Jenkins has made on-demand deployment possible.
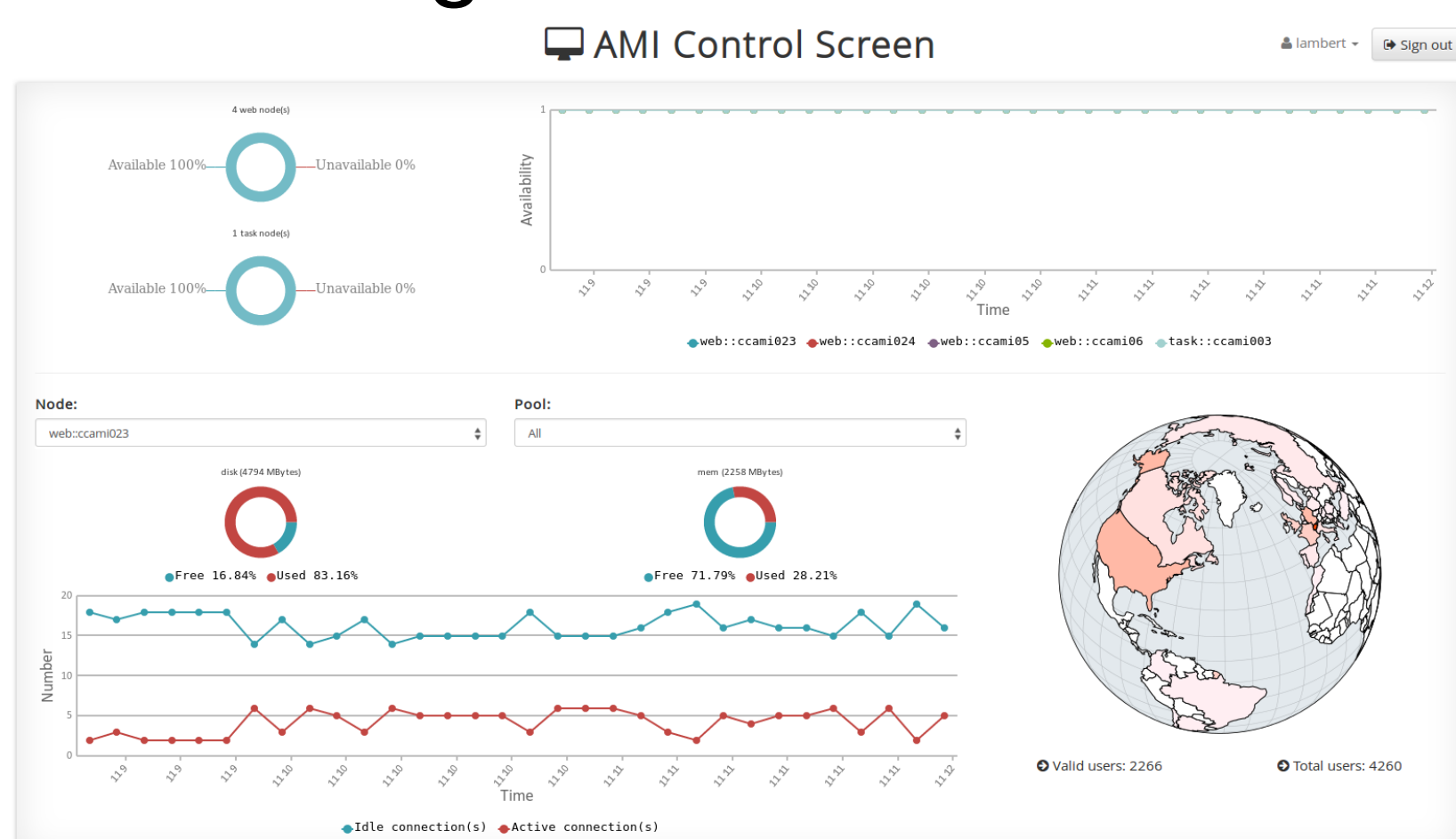
## AMI Infrastructure



APACHE HTTP SERVER
Web front

load balancing

AMI Web
AMI Web
AMI Web
AMI tasks
AMI tasks

pyAMI (Python client)

AMI Web framework (HTML5/JavaScript)

AMI databases

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**To optimize availability and reliability**

## Deployment workflow



AMI infrastructure DB

AMI
HTTPS
Cloud module
Jenkins module

**cloud management**

mon

REST API
AMI Web
AMI Tasks

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AMI Web Applications
Infrastructure mgt
Monitoring

mon

job management

REST API
Jenkins

build and deployment

**To improve scalability**

## Web 2.0 interfaces

### Monitoring



AMI Control Screen

### Cloud node management



Admin Dashboard

### Jenkins triggered by AMI



### Installed application view



| Tools | appName | cloudName | serverName | InstallPath | InstallScript | firewallTCPPorts | firewallUDPPorts |
|---|---|---|---|---|---|---|---|
| | AMITaskServer | CC-IN2P3 | ami-dev-1 | /opt/AMITaskServer | | | |

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Refs.: [1] J Odier and O Aidel and S Albrand and J Fulachier and F Lambert. Evolution of the architecture of the ATLAS Metadata Interface (AMI). J. Phys.: Conf. Ser., vol. 664, num. 4, year 2015. http://stacks.iop.org/1742-6596/664/i=4/a=042040

ATLAS EXPERIMENT