



**VESPA**

Virtual European Solar and Planetary Access

# **VESPA-Cloud** *EOSC-Hub EAP*

**Virtual European Solar and Planetary Access**  
**Europlanet-2024-RI**

Website: <http://europlanet-vespa.eu>

Main Query Portal: <http://vespa.obspm.fr>

**Baptiste Cecconi (Obs. Paris) & Baptiste Grenier (EGI)**

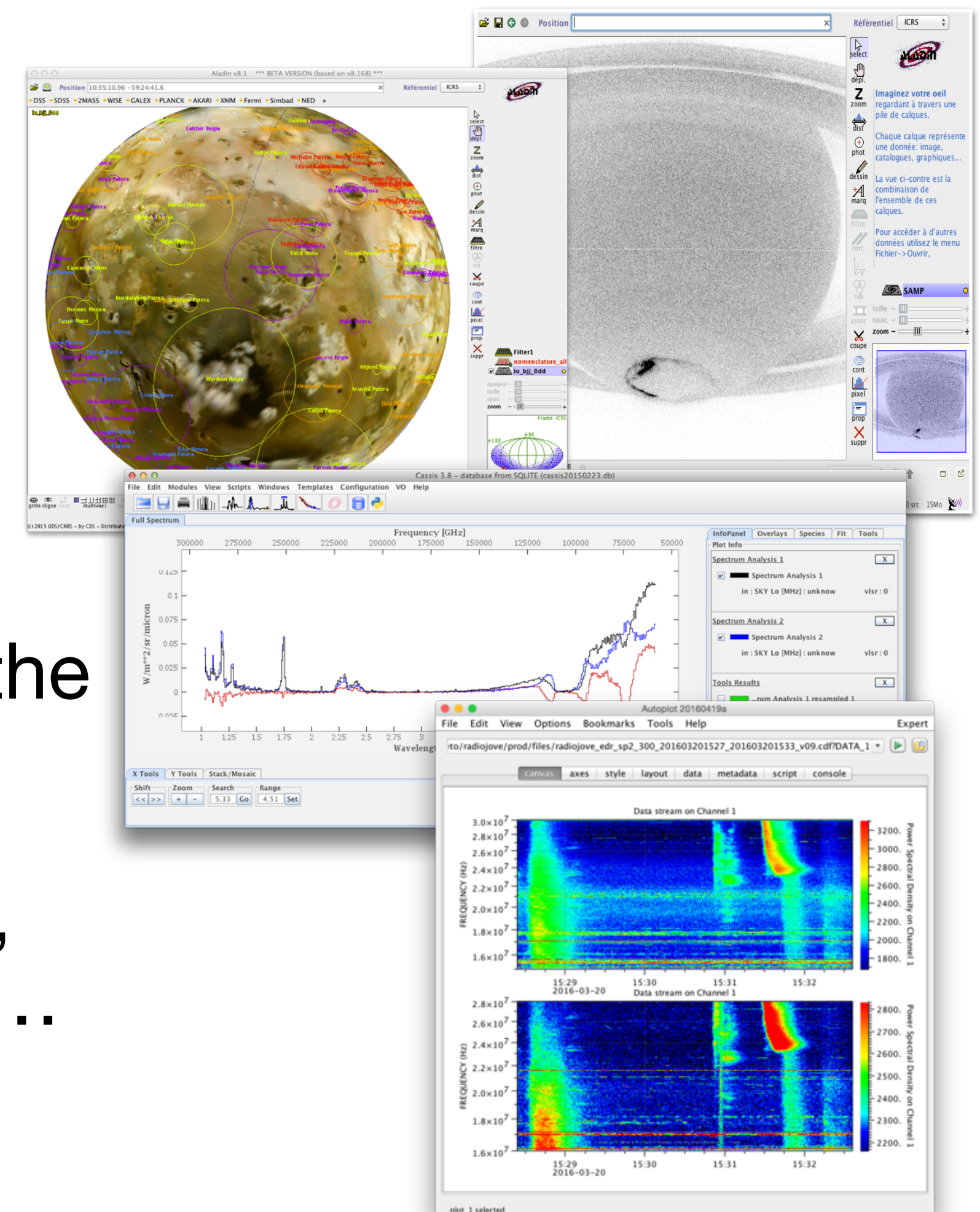
**October 1st, 2020**

# VESPA-Cloud

Virtual European Solar and Planetary Access

## A distributed Virtual Observatory for Solar System Sciences

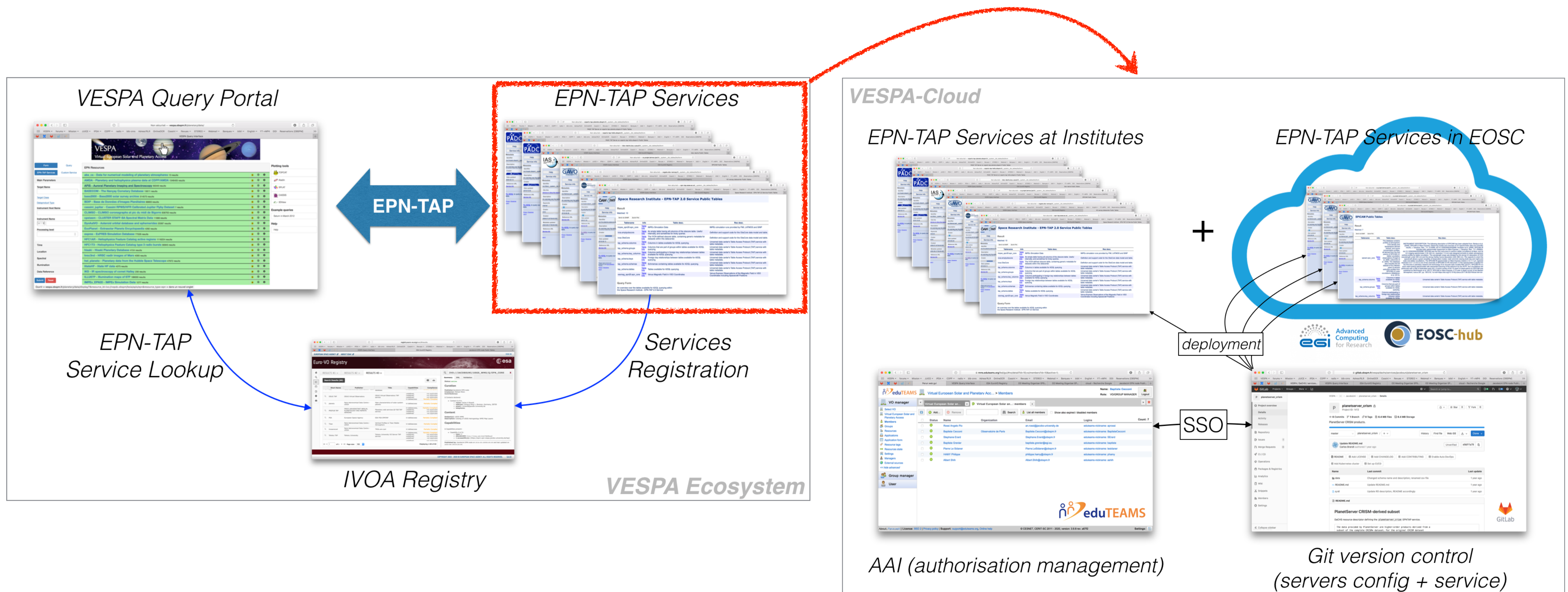
- **Sharing metadata for science data products** using relational databases and a standard metadata (*target, observer, location, spectral range, time range, physical parameter, product type...*)
- Distributed virtual research environment:
  - *Astronomy* interoperability framework (IVOA) and the tools developed by this community
  - Other interoperability standards from *heliophysics*, *planetary sciences* archives, and associated tools...
  - Community recommended data formats



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## A distributed Virtual Observatory for Solar System Sciences



# VESPA-Cloud

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## New provider on-boarding workflow

- **Provider team**
  - contact [support.vespa@obspm.fr](mailto:support.vespa@obspm.fr) (VESPA Heldelsk): list of persons (emails) for eduTEAMS invitations
- **VESPA:**
  - invite provider team to VESPA-VO (through eduTEAMS)
  - create placeholder gitlab groups and projects on VESPA gitlab server
- **Each provider team member:**
  - accept invitation (selecting their preferred IdP)
- **VESPA:**
  - approve applications and include new members in groups
- **Each provider team member:**
  - first connection to VESPA gitlab using eduTEAMS AAI (this creates local account)
- **VESPA:**
  - grant access to respective groups and projects to new gitlab users
- **Provider team + VESPA:**
  - develop service, and push/pull to/from gitlab repository
  - use gitlab issues to track and solve problems, as well as review the service
- **When service is ready, and review is completed: service accessible from VESPA query portal**

eduTEAMS AAI

SSO

Name	Last commit	Last update
data	Changed schema name and description; renamed csv file	1 year ago
README.md	Update README.md	1 year ago
q.rd	Update RD description, README accordingly	1 year ago

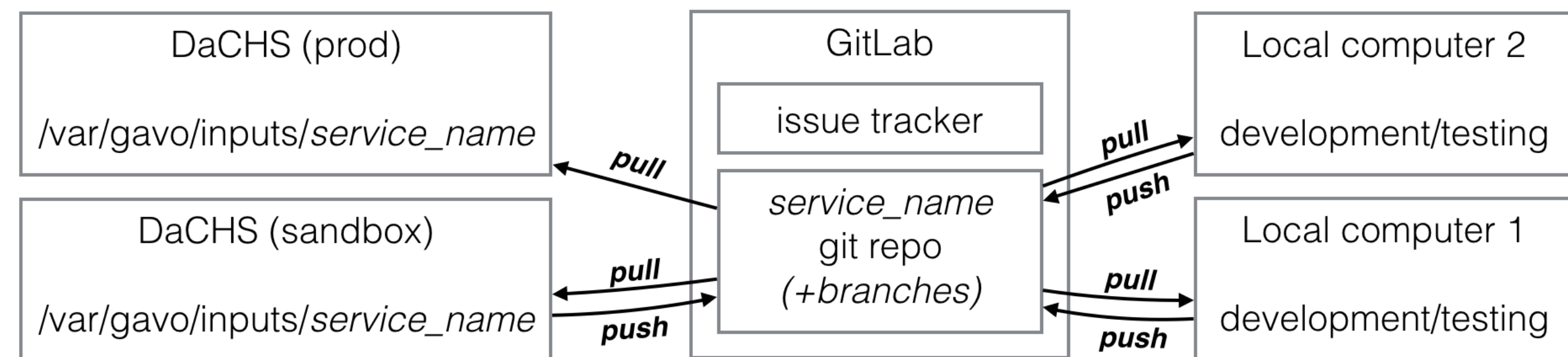
voparis-gitlab


# VESPA-Cloud

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## Git-managed repositories

- **VESPA services configuration + server configuration: managed with git.**  
**Gitlab repository :** <https://voparis-gitlab.obspm.fr/vespa>  
VESPA-wiki: VESPA-Hub Repository Architecture (<https://doi.org/10.25935/dgk9-g733>)
  - Only DaCHS servers up to now.
  - Server & services configurations stored in separated repositories (more flexible for maintenance, review and deployment)
- **Individual services repository:**  
VESPA-wiki: Individual Repository for VESPA services (<https://doi.org.10.25935/7JJ8-V683>)
  - *Development, updates, review*
  - *Generally only code of resource descriptors (q.rd files)*
  - *Challenge for data files: use git-lfs ? use B2SHARE and its API ?...*



The logo features the text "VESPA-Cloud" in a white, sans-serif font. Below it, the text "Virtual European Solar and Planetary Access" is written in a smaller, lighter font. The background is a dark blue space scene with various celestial bodies: a comet, Earth, Jupiter (with a white hand cursor pointing to it), Saturn, and a blue planet.

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## DaCHS on docker for VESPA

- **Demo repository:** <https://gitlab.obspm.fr/phamy/voparis-tap-planeto>  
(documentation still in French...)
- Deployment tested on CC-IN2P3 cloud-compute:  
<http://voparis-vespa-eosc.obspm.fr>
- **Material:**
  - git repository for DaCHS+AWStat configuration with Docker
  - docker-compose, dockerfile, and entrypoint script (includes *import service*)
- **Workflow:**
  - clone repository and update server configuration (*in conf/ directory*)
  - include services with git submodule (*in services/ directory*)
  - fetch latest version of services (*git submodule update --recursive --remote*)  
=> docker-compose up -d
- **Deployment:** anywhere you have access to (...including EOSC cloud-compute)

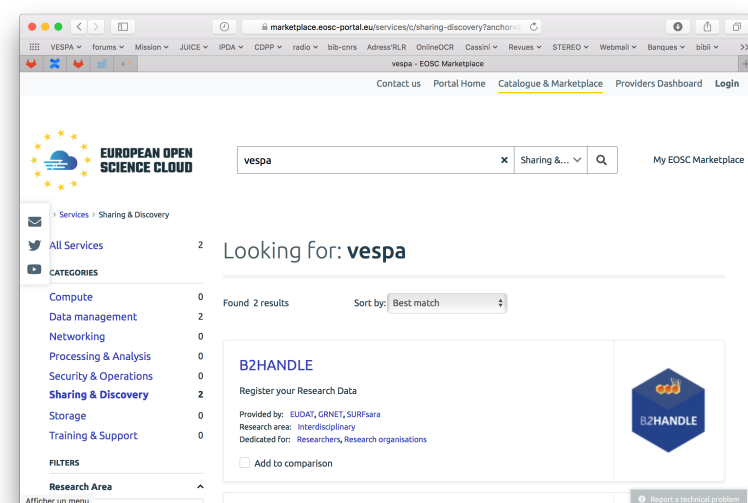
# VESPA-Cloud

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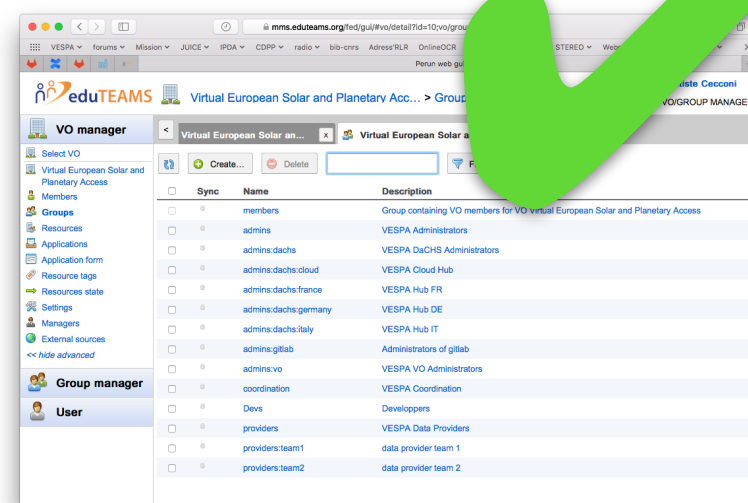
## Service configuration and metadata management

- *Provider* orders a VESPA-Cloud service
- *VESPA-Cloud* registers *Provider* in VESPA-Cloud VO (eduTEAMS)
- *Provider* is authenticated through eduTEAMS to access GitLab server
- *Provider* manages his service configuration and metadata in GitLab
- *VESPA-Cloud* deploys the service configuration on server instances (DaCHS on EGI, Storage on B2SAFE...)

Marketplace

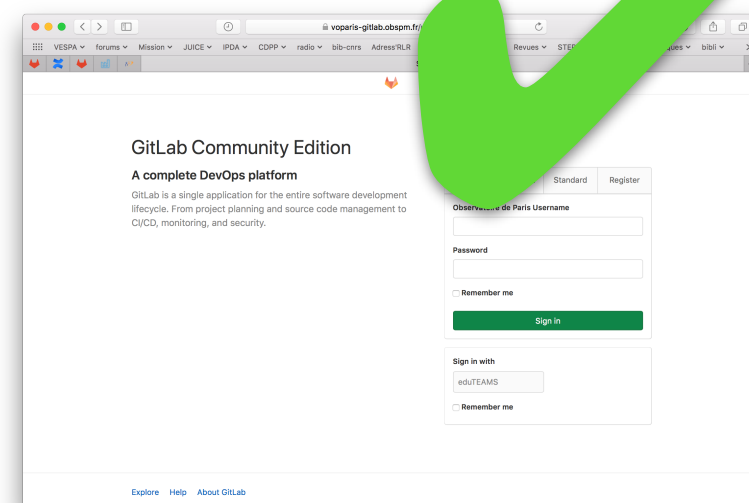


eduTEAMS



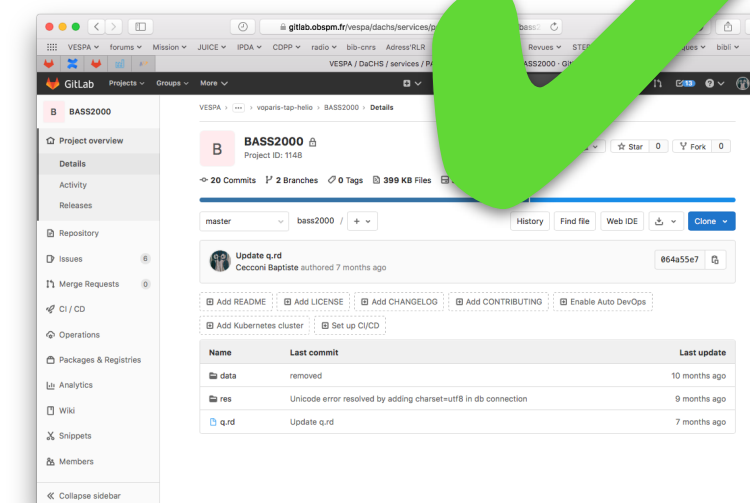
AAI

GitLab



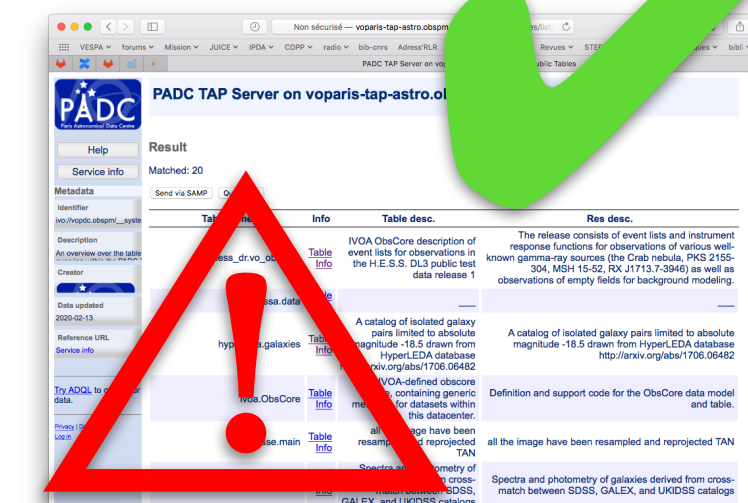
server config.

GitLab



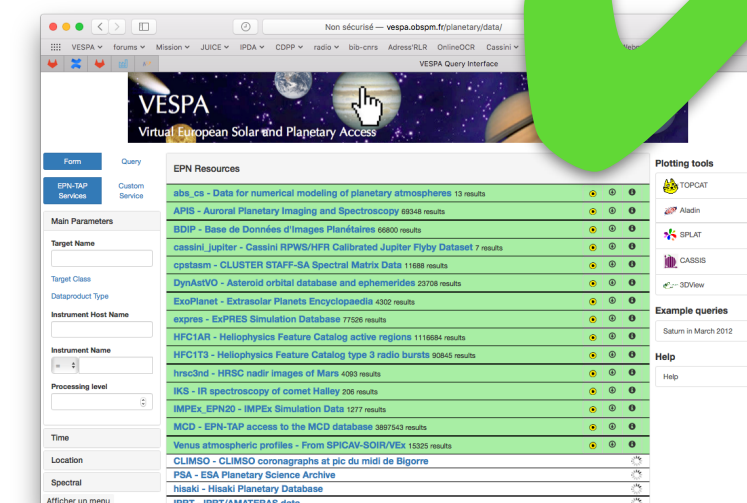
service config.

DaCHS




openstack deployment  
(not failsafe, redeploy script needed)

VESPA



accessible and findable



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- **VESPA VO Community AAI with eduTEAMS**
  - implemented and configured.
  - mapped to [vo.europlanet-vespa.eu](http://vo.europlanet-vespa.eu) at EGI-CheckIn AAI for VM deployment authorization
- **VM resources at CESNET and CC-IN2P3**
  - access granted and tested (with manual deployment)
  - SLA in place
- **Storage resources:** discussion initiated (EUDAT/B2SHARE + community).  
**Marketplace:** not started
- Issue:
  - need for automation for reloading VM resource.



## VESPA-Cloud Sustainability plans

- **VESPA-Cloud infrastructure:**
  - AAI (eduTEAMS)
  - Storage spaces (EUDAT, EGI)
  - DaCHS Services (EGI - IN2P3+CESNET)
  - Community + Marketplace
- **Ambitious initial programme of work.** Not all done, but promising prototype.
- **What happens now:**
  - **On VESPA side**, willing to continue prototyping of current architecture
  - **Continuation of SLA**
  - **EUDAT (B2SHARE)** preliminary tests, and applied for a new ***Europlanet*** community.
  - Use docker deployment for continuous integration and testing ?