



VESPA

Virtual European Solar and Planetary Access

VESPA-Cloud

Update #2

Virtual European Solar and Planetary Access
Europlanet-20204-RI

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

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

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

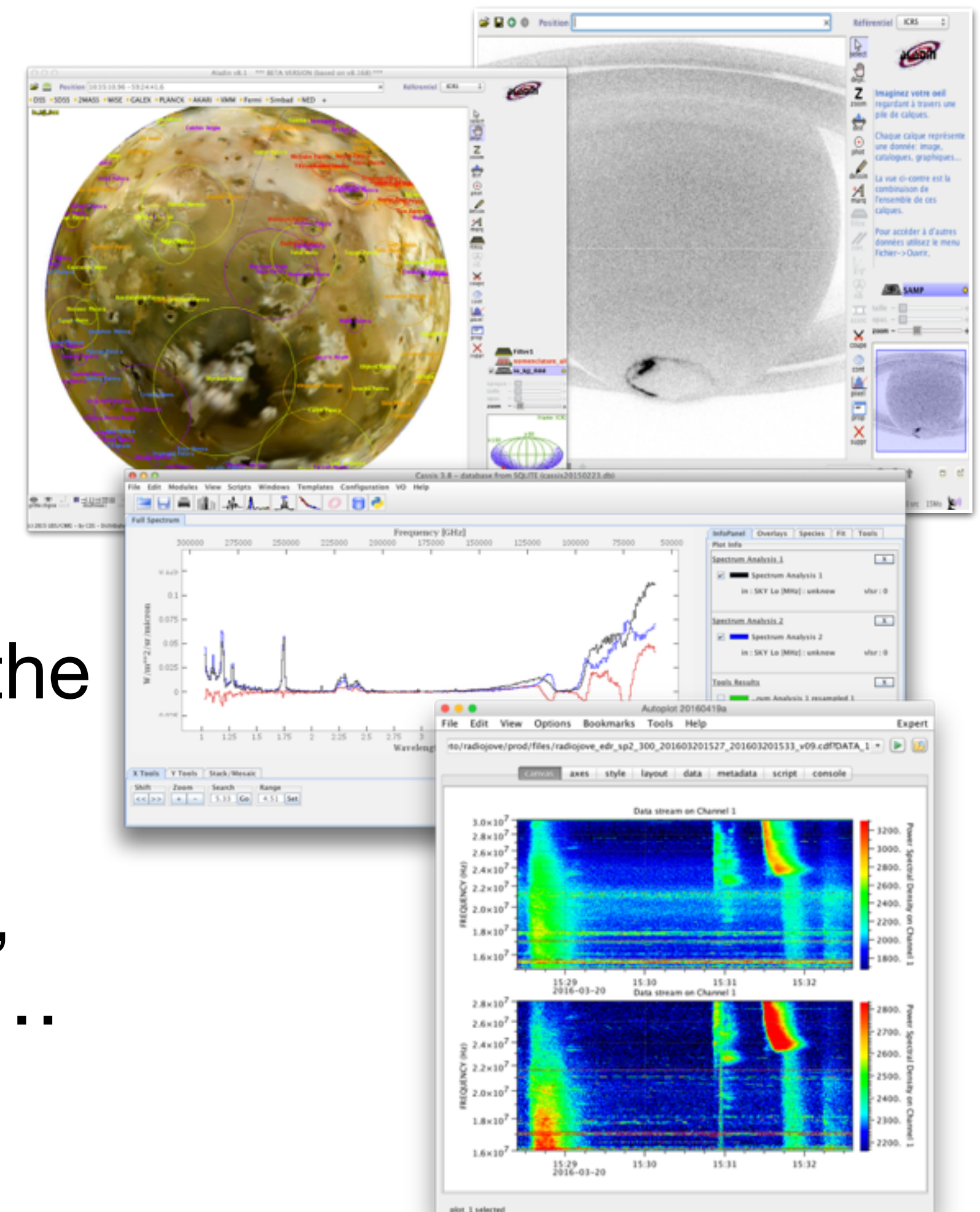
October 1st, 2020

VESPA-Cloud

Virtual European Solar and Planetary Access

A distributed Virtual Observatory for Solar System Sciences

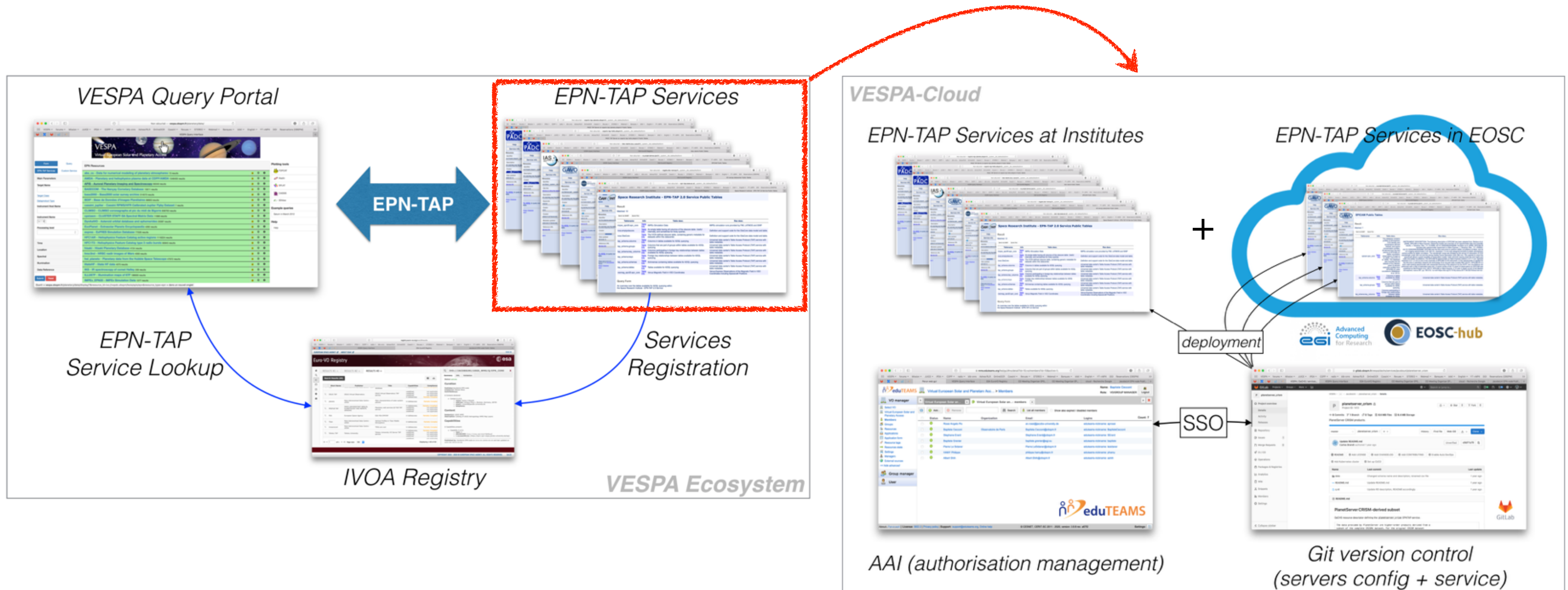
- **Sharing metadata for science data products** using relational databases and a standard metadata (*target, observer, location, spectral range, time range, physical parameter, product type...*)
- Distributed virtual research environment:
 - *Astronomy* interoperability framework (IVOA) and the tools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



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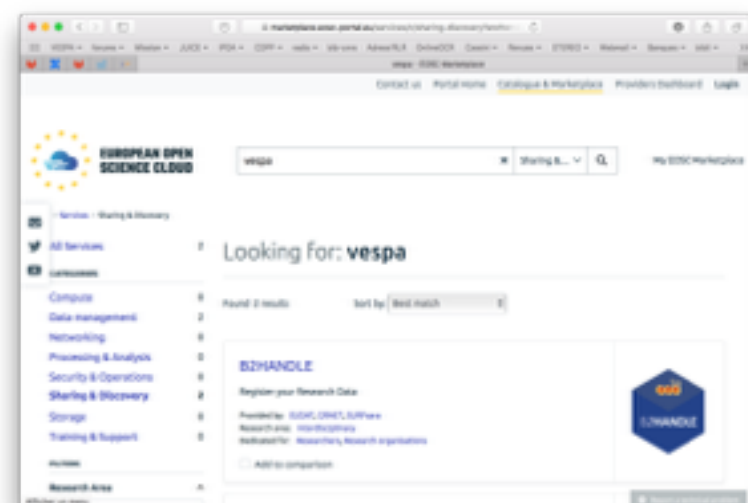
VESPA-Cloud

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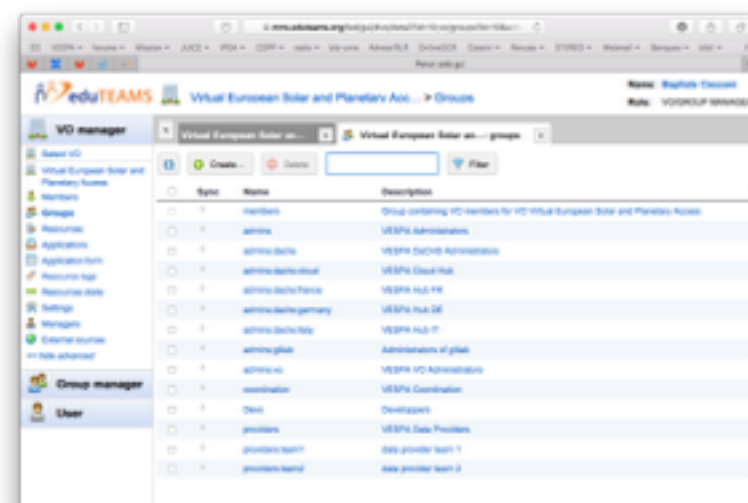
Service configuration and metadata management

- *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...)

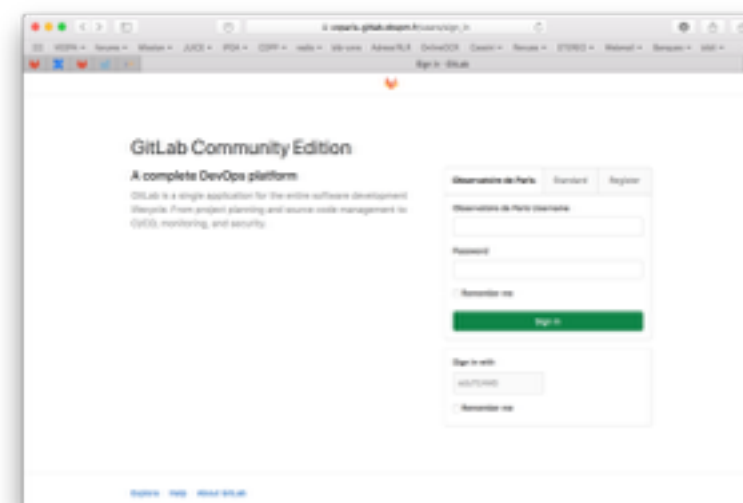
Marketplace



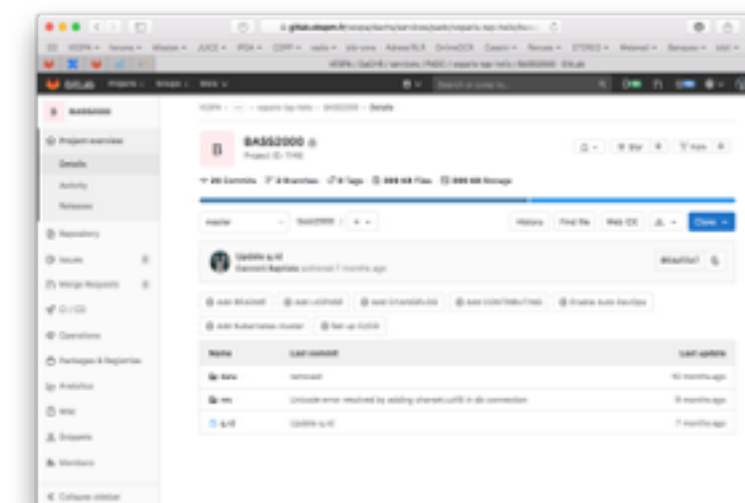
eduTEAMS



GitLab



GitLab




DaCHS



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VESPA-Cloud

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- **VESPA VO Community AAI with eduTEAMS**
 - implemented and configured.
 - mapped to 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:** ongoing.
- Minor issues:
 - Login and account management on with EOSC-Portal: solved
 - Discussion with marketplace provider: not easy and process not clear (no email copy, answers not forwarded correctly...)

VESPA-Cloud Sustainability plans

- **VESPA-Cloud infrastructure:**

- AAI (eduTEAMS)
- Storage spaces (EUDAT, EGI)
- DaCHS Services (EGI - IN2P3+CESNET)
- Community + Marketplace

- **What happens at the end of Early Adopter Programme?**

- **Services:** VESPA team will continue maintenance of deployed services, and deploy additional ones, within the allocated resources.

- **Support:** EOSC-Hub / EGI / EUDAT: who? how? €€€ ?

- **Extensions:** New (or extension of) infrastructure: who? how? €€€ ?

- **Under study:** The Europlanet-Society may contribute how? **inputs needed !** => Europlanet-RI-2024 Council next week

VESPA-Cloud

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Q1

1. Having **access to the VM** at the sites
2. Validating **access to storage** from VMs:
iRODS and Object Storage
3. Being able to **manually deploy the full stack** on a VM:
deployment of containers from git-managed repository

Q2

4. **Automate VM deployment and management** (cloud-init) + puppet or equivalent
5. Allow the **VESPA Hub teams to deploy services** by themselves:
Observatoire de Paris (Paris, France), INAF/OATS (Trieste, Italy), Heidelberg Univ. (Heidelberg, Germany)
6. Test **harvesting of metadata by B2FIND** (DaCHS exposing OAI-PMH endpoint)
7. Configure **eduTEAMS Community AAI Service**

Q3

8. **Document service deployment for data providers** external to VESPA community

9. Having a **VM template in appdb** to have VM available at all sites
10. Having access to **group management in eduTEAMS Community AAI**:
implement OAuth and group authorization in DaCHS

Q4

11. **Document the process** required to deploy the service following an EOSC order, providing their SSH keys
12. **Onboard the service** to have it recorded and orderable in the EOSC marketplace
13. **Study technical follow up**
 - Doing computing on demand on batch resources using UWS
 - Study how to deploy an ElasticSearch solution in EOSC
 - Explore integration with Zenodo
 - Explore usage of INDIGO PaaS
14. **Explore sustainability** options after EOSC-hub
 - Discuss economic models allowing to provide the services
 - Prepare agreements to continue to operate the services deployed during the EAP