



EOSC for projects

Using EOSC digital services to consolidate project digital infrastructures at Observatoire de Paris

Observatoire de Paris & EOSC

- A few projects linked to EOSC:
 - **ESCAPE** (European Science Cluster of Astronomy & Particle physics ESFRI research infrastructure);
 - **VAMDC** (Virtual Atomic and Molecular Data Centre), using EUDAT services;
 - **Europlanet-2024-RI**, with its VESPA-Cloud prototype, supported by EOSC-Hub;
 - **NenuFAR**, using cold storage (on tapes) via EUDAT/B2SAFE.
- Implication into EOSC is considered as a strategic asset for the upcoming large scale projects of the institute and the astrophysics science community, as well as for the large digital infrastructures.
- Observatoire de Paris is a **member of the EOSC Association**.

Generic EOSC resources

in a nut-shell

- EOSC Marketplace: <https://marketplace.eosc-portal.eu>
=> access/order services
- Generic services:
 - compute (EGI - cloud compute, Jupyter Notebook...)
 - storage (EUDAT - B2drop/B2Share)
 - preservation/publication/DOI (B2Share, Zenodo...)
- Service orders may require configuration.
Some service providers require direct discussion for this configuration.
- Authorisation and Authentication:
Using a provider's AAI (e.g., EUDAT-B2Access, EGI-Checkin, GÉANT-eduTEAMS...)

Example 1 – AAI

Authorisation and Authentication

- Service = manageable registry of users with roles.
 - register users in a « virtual organisation »
 - users are invited (e-mail) and use their preferred identity provider to login (Edugain, ORCID, Github...)
 - users are assigned to « groups »

- Application can be configured to use AAI (e.g., with OpenID)
 - authentication is delegated to AAI
 - authorisation (e.g., roles) can be mapped from AAI groups

successes	difficulties
<ul style="list-style-type: none"> - easy to use (administration) - easy to set up (custom application side) - good support from GÉANT/eduTEAMS 	<ul style="list-style-type: none"> - incompatible metadata from IdP (was solved)

AAI for Europlanet-VESPA

Using eduTeams

- Europlanet/VESPA: Data discovery network for solar and planetary sciences.
- Need for AAI to grant access to code repository, services, configuration interfaces.

The screenshot shows the eduTEAMS web interface for the organization "Virtual European Solar and Planetary Access". The user is logged in as Baptiste Cecconi, a VO/GROUP MANAGER. The interface includes a navigation menu on the left with options like "Select VO", "Members", "Groups", "Resources", and "Applications". The main content area features a "Quick tools" section with buttons for "Add member...", "Create service member...", "Invite member...", "Add manager...", "Create group...", and "Add member to resource...". Each button has a corresponding description of its function. The footer contains copyright information and a "Settings" link.

AAI for Europlanet-VESPA




Using eduTeams

The screenshot shows a web browser window at the URL `voparis-gitlab.obspm.fr`. The page title is "GitLab" and it describes it as "A complete DevOps platform". The page is for the "Observatoire de Paris" instance. A sign-in modal is open, showing options to sign in with "Obspm" or "eduTEAMS". The "Remember me" checkbox is unchecked. In the background, the login form has fields for "Observatoire de Paris Username", "Password", and a "Sign in" button. The browser's address bar and navigation menu are visible at the top.

AAI in EOSC Ordering

- search « AAI » in « Operations & Infrastructure Management Services » / « Security & Identity »

- Other 2
- Engineering & Technology 1
 - Electrical, Electronic & Information Engineering 1
 - Chemical Engineering 0
 - Civil Engineering 0
 - Environmental Biotechnology 0
 - Environmental Engineering 0
 - Industrial Biotechnology 0
 - Materials Engineering 0
 - Mechanical Engineering 0
 - Medical Engineering 0
 - Nanotechnology 0
 - Other Engineering & Technology Sciences 0
- Agricultural Sciences 0
 - Agricultural Biotechnology 0
 - Agriculture, Forestry & Fisheries 0
 - Animal & Dairy Sciences 0
 - Other Agricultural Sciences 0
 - Veterinary Sciences 0
- Humanities 0
 - Arts 0
 - History & Archaeology 0
 - Languages & Literature 0
 - Other Humanities 0
 - Philosophy, Ethics & Religion 0

<p>B2ACCESS B2ACCESS</p> <p>Identity & authorisation</p> <p>Organisation: EUDAT Provided by: Jülich Supercomputing Centre Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison <input type="checkbox"/> Add to favourites</p>	<p>ORDER REQUIRED</p> 
<p>EGI Check-In EGI Check-In</p> <p>Access and use EGI services in a uniform and easy way</p> <p>Organisation: EGI Foundation Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison <input type="checkbox"/> Add to favourites</p>	<p>ORDER REQUIRED</p> 
<p>THE RESOURCE HAS 1 OFFER THAT MATCHES YOUR SEARCH CRITERIA</p> <p>As community AAI</p>	
<p>eduTEAMS eduTEAMS</p> <p>Making managing virtual teams easy</p> <p>Organisation: GÉANT Association Scientific domain: Generic</p> <p><input type="checkbox"/> Add to comparison <input type="checkbox"/> Add to favourites</p>	<p>OPEN ACCESS</p> 



Provide feedback

Example 2 – VM Compute

Using EGI-Cloud-Compute resources

- EOSC-Hub Early Adopter Program: extensive support from EGI. Service continued after end of EOSC-Hub project (small resource)
- Access managed by eduTEAMS AAI.
- Users in « admins:cloud » group have access to the *EGI-cloud-compute* configuration interface.
- Token based access
- How-to by VESPA admins:
Create an openstack ubuntu machine on EOSC with ports 80 and 8080 open

successes	difficulties
<ul style="list-style-type: none"> - good support from EOSC-Hub (EGI) - mapping eduTEAMS AAI with EGI-Checkin AAI - long term support (small ressource) 	<ul style="list-style-type: none"> - not so stable in time on provider side

VM Compute for Europlanet-VESPA

Using EGI-Cloud-Compute resources

- Europlanet/VESPA: Data discovery network for solar and planetary sciences.
- Need for cloud compute service to host server with interoperable data distribution framework for small teams.
- Small VM, with web server, and dedicated public IP.

The screenshot shows the EGI Cloud Compute resource page on the EOSC Marketplace. The page is titled "EGI Cloud Compute" and features a search bar with the text "EGI Cloud Compute". The main content area includes a description of the service, its organization (EGI Foundation), and a list of providers. A prominent blue button labeled "Access the resource" is visible, with a note below it stating "ORDER REQUIRED". The page also includes a sidebar with social media icons, a "Provide feedback" button, and a "SCIENTIFIC CATEGORISATION" section with a "Generic" category selected. The footer contains a "Report a technical problem" link.

marketplace.eosc-portal.eu

VESPA forums Mission IPDA JUICE CDDP radio Adress'RLR Cassini STEREO OnlineOCR Revues Banques Webmail bibli English YT->MP4 DOI

EGI Cloud Compute - EOSC Marketplace

Contact us Portal Home Catalogue & Marketplace Providers Dashboard Providers Documentation Baptiste Cecconi Logout

EUROPEAN OPEN SCIENCE CLOUD

EGI Cloud Compute All resou... My EOSC Marketplace

Resources > Access physical & infrastructures > Compute > Virtual Machine Management > EGI Cloud Compute

EGI Cloud Compute

EGI Cloud Compute

Run virtual machines on-demand with complete control over computing resources

Organisation: **EGI Foundation**

Provided by: **CESNET, Institute of Physics of Cantabria (IFCA), Institute of Information and Communication Technologies, Deutsches Elektronen-Synchrotron, Turkish Academic Network and Information Center, National Distributed Computing Infrastructure, ACC Cyfronet AGH-UST, The SCIGNE Platform, 100 Percent IT, Institute of Informatics - Slovak Academy of Sciences, Institute of Accelerating Systems and Applications, Fraunhofer SCAI, Fundacion Centro Tecnologico de Supercomputacion de Galicia, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Italian National Institute of Nuclear Physics**

☆☆☆☆☆ (0.0 / 5) 0 reviews Add to comparison Add to favourites

→ Webpage → Helpdesk → Helpdesk e-mail → Manual Ask a question about this resource?

→ Training information

ABOUT DETAILS REVIEWS (0)

Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers. With Cloud Compute you can: Execute compute- and data-intensive workloads (both batch and interactive). Host long-running services (e.g. web servers, databases or applications servers). Create disposable testing and development environments on virtual machines and scale your infrastructure needs. Select virtual machine configurations (CPU, memory, disk) and application environments to fit your requirements. Manage your Cloud Compute resources in a flexible way with integrated monitoring and accounting capabilities.

SCIENTIFIC CATEGORISATION

Generic

• Generic
- Generic

Afficher un menu

Report a technical problem

Example 3 – Cold Storage

Using EUDAT/B2SAFE

- EOSC-DICE project call:
 - EC funding
 - support to community
- Dedicated discussion to select solution.
- 3 PB of cold storage (tapes) located in MPCDF (Max Planck Computing and Data Facility)
- Data transfer using IRODS
- Current stage:
discussion on sustainability and continuation of service provision

successes	difficulties
<ul style="list-style-type: none"> - good support from EUDAT (MPCDF) 	<ul style="list-style-type: none"> - IRODS configuration (firewalls) - long term support (after end of project)

Cold Storage for NenuFAR

3 PB of storage on tapes using IRODS

The screenshot shows a web browser window at marketplace.eosc-portal.eu. The page displays the B2SAFE resource details. At the top, there is a navigation menu with various categories like VESPA, forums, Mission, etc. The main content area features the B2SAFE logo, a search bar with 'B2SAFE' entered, and a navigation breadcrumb: Resources > Processing & Analysis > Data Management > Preservation > B2SAFE. The resource card for B2SAFE includes a description: 'Keep research data safe via data management policies', the organization 'EUDAT', and a list of providers including Cineca, SURF, The Cyprus Institute, Barcelona Supercomputing Center, Jülich Supercomputing Centre, CSC, IT Center for Science, and VSB-TUO. It also shows a '0.0/5' rating with 0 reviews and an 'Access the resource' button with a note 'ORDER REQUIRED'. Below the card, there are links for 'Webpage', 'Helpdesk', 'Helpdesk e-mail', 'Manual', and 'Training information'. The page also has a 'Provide feedback' button on the right and a 'Report a technical problem' button at the bottom right.

EOSC & Science of the Universe

- Before EOSC: many open science alliances (IVOA, SPASE/IHDEA, RDA, OGC/DataTerra).
Open-Science & FAIR is well understood and implemented

- With EOSC:
 - Earth Sciences: **EPOS**
 - Collaboration EUDAT/B2FIND + IVOA
 - Astrophysics & Particle Physics: **ESCAPE**



- Projects **using EOSC without a direct EOSC funding**: Europlanet/VESPA, VAMDC...

Opportunities

- DICE-EOSC: <https://www.dice-eosc.eu/call-service-requests>
- EGI-ACE: <https://www.egi.eu/egi-ace-open-call/>
- EOSC-Pillar: <https://www.eosc-pillar.eu/news/resources-offered-thematic-services-integrate-eosc-national-catalogues>
- EOSC-Future: <https://eoscfuture-grants.eu>
- OpenAIRE-Nexus, DARE (Earth Science / EPOS)...
- FAIR-IMPACT (<https://fair-impact.eu/events/synchronisation-force-events/synchronisation-force-1st-workshop-november-2022>)