

Centre de Calcul
de l'Institut National de Physique Nucléaire
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EGI-ACE : DIRAC

Atelier technique EOSC-France

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➤ Introduction

- CC-IN2P3, EGI-ACE and DIRAC

➤ Activities during EGI-ACE

- EGI-WM migration from CYFRONET (Krakow) to CC-IN2P3 (Lyon)
- Developments
- EGI ecosystem

➤ What comes next

- Procurements

➤ Academic data centre in Lyon, France

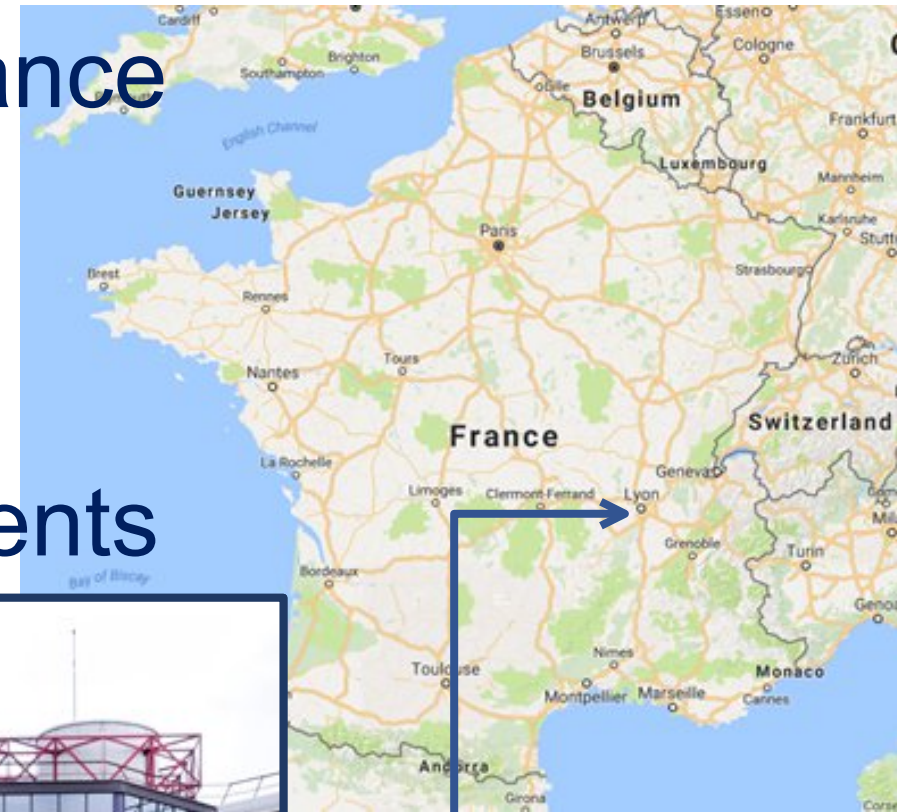
- Compute (59 kslot)
- Storage (Disk 65 PB, MSS 100 PB)
- IT services

➤ LHC Tier-1 + many other experiments

- Mainly HEP but not only

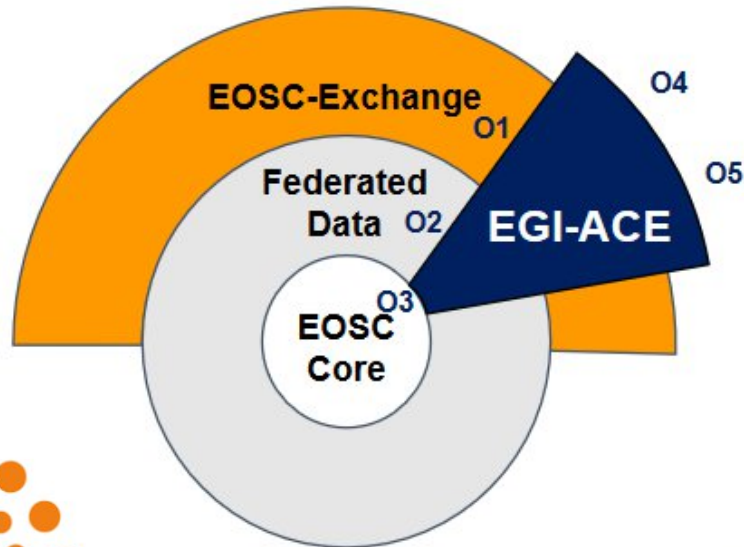
➤ EOSC services hosting

- Operations portal
- EGI WM (since April 2021)



EGI-ACE at a glance

Implement the **Compute Platform of the European Open Science Cloud** and contribute to the **EOSC Data Commons** by delivering integrated computing, platforms, data spaces and tools as an integrated solution.



Duration: 30 months since 01/2021

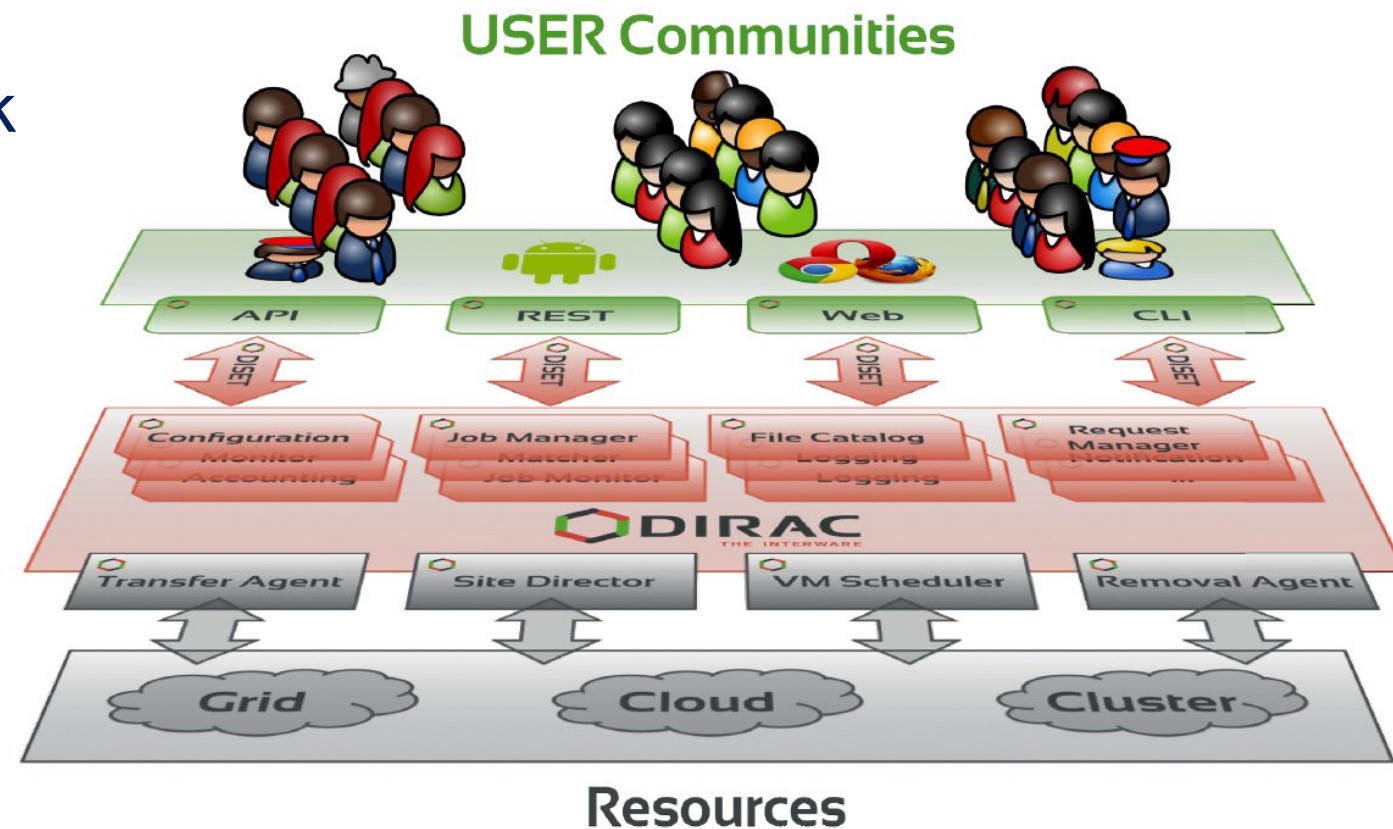
- Objective 1. Deliver the European Open Science Cloud Compute Platform and expand the supply-side
- Objective 2: Contribute to the implementation of the EU Data Strategy and the EOSC Data Commons to support the Green Deal, Health and Fundamental Research
- Objective 3: Integrate the EOSC Compute Platform with the EOSC Portal and the EOSC Core
- Objective 4: Contribute to the realization of a global Open Science Cloud
- Objective 5: Expand the demand-side of EOSC across sectors and disciplines

➤ One of the services in EOSC Marketplace



<https://marketplace.eosc-portal.eu/services/egi-workload-manager>

- Based on the DIRAC Interware distributed computing framework <http://diracgrid.org>
- User jobs running on EGI resources
- Development team in CPPM
- Infrastructure management in CC-IN2P3



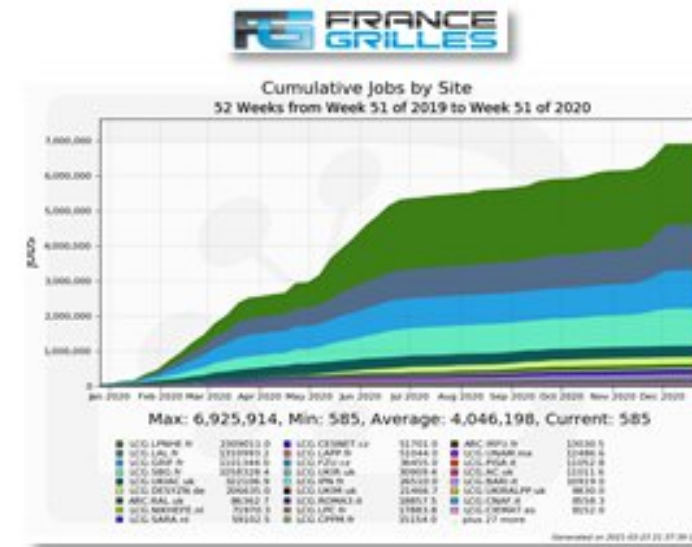
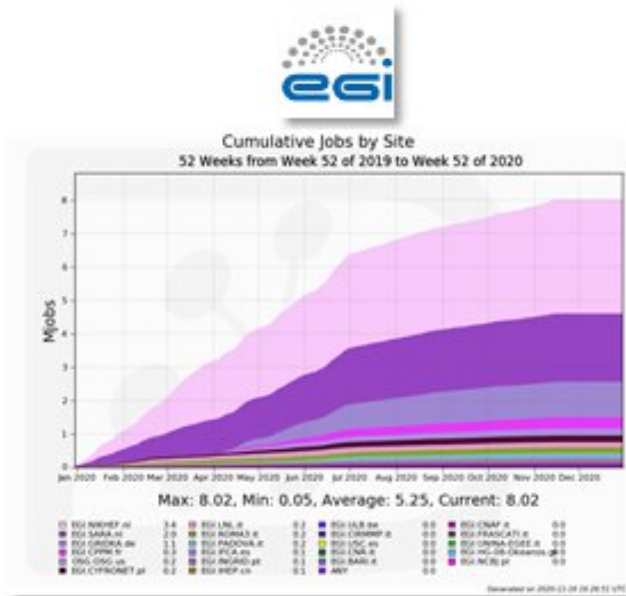
Activities during EGI-ACE

➤ EGI WM hosted by CYFRONET

- 5 medium size VM servers
- 3 TB storage
- MySQL database service
- ~8 million user jobs in 2020

➤ WM service provided for FG by CC-IN2P3

- 7 medium size VM servers
- 2 TB storage
- MySQL database service
- ~7 million user jobs in 2020



- **From January (EGI-ACE kick-off) to March 2021:**
 - VM infrastructure preparation
 - Copy of the EGI configuration
 - Work on sites parametrization (check, compare, clean-up)
 - Databases copy
 - File catalog
 - VO groups registry
 - Accounting
- **Migration day:**
 - Stop job submission and drain
 - Host certificates updated with new DNS aliases
 - Restart the service

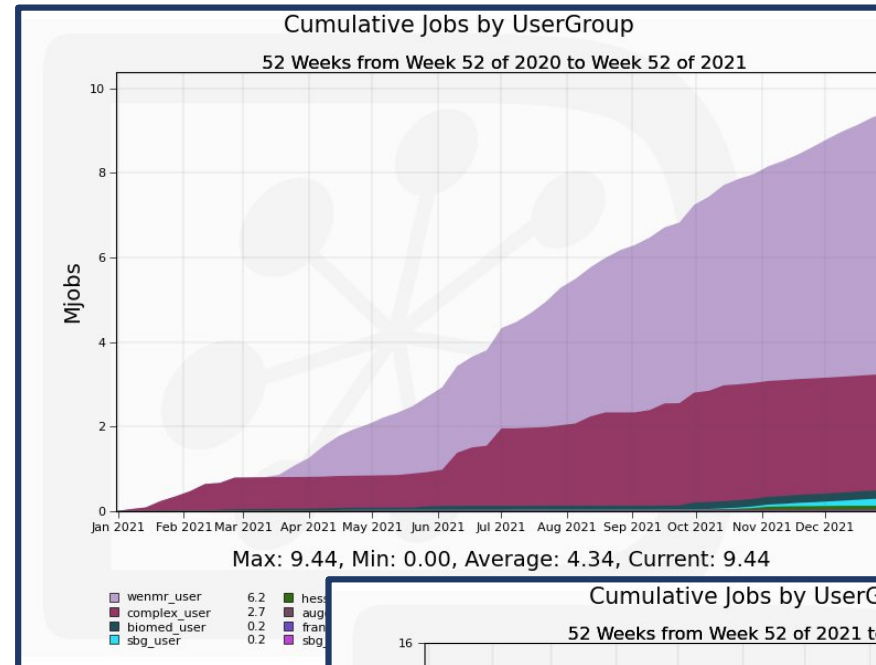


➤ Migration result:

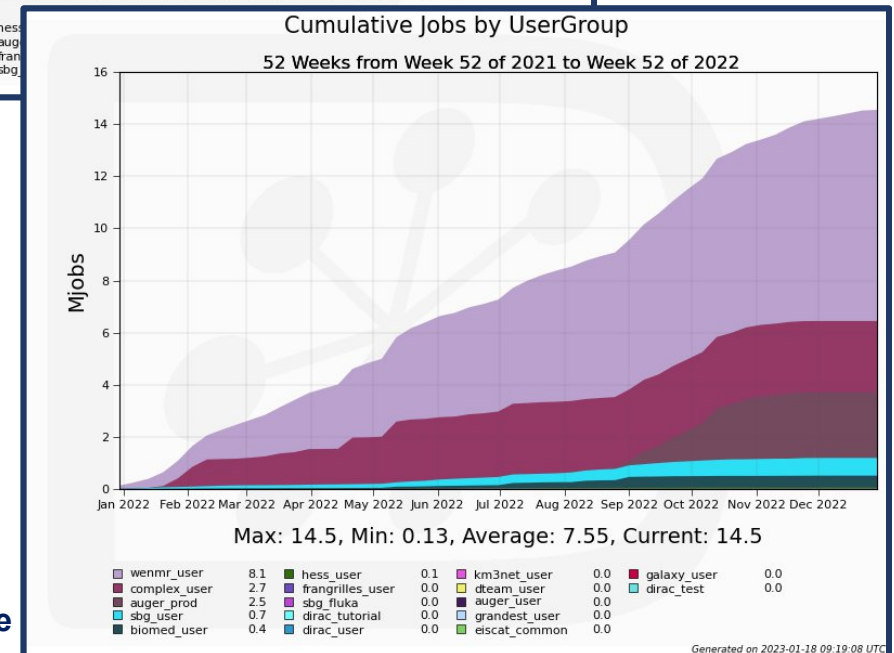
- EGI / FG shared infrastructure:
 - 11 VM servers
 - 8 TB storage
 - MySQL database service
 - Elasticsearch service

➤ Combined service:

- 44 registered VOs (18 active)
- ~700 registered users
- Dedicated EGI / FG web portals:
 - <https://dirac.egi.eu/DIRAC/>
 - <https://ccdirac05.in2p3.fr/DIRAC/>



- Jobs:
 - ~9M (2021)
 - ~14M (2022)



- **Check-In based AAI**
 - Working on token implementation
- **Cloud computing (EGI cloud providers)**
 - Partly in production
- **Jupyter Notebooks with DIRAC client**
 - From CVMFS
- **More features to be added**
 - HPC access (Galaxy workflow integration)
 - Token based CE (HTCondor, ARC) and CE access



➤ Documents

- Privacy policy, AUP, DPA
- Availability and Continuity plan (risks assessment)
- VA reporting (6 months updates)
- Capacity plan (yearly update)

➤ Change Management procedures

- Purpose:
 - manage higher risk changes in a planned and predictable manner
- Classify High risk / Low risk deployment changes
- Normal / Standard / Emergency types





What comes next

➤ Dates

- Published on December 19th
- January 23rd: deadline for additional information request
- January 31st: deadline for submission of Expression of Interest

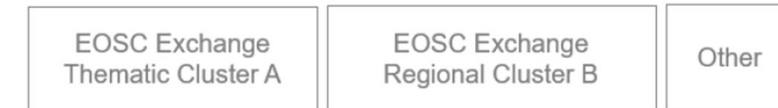
➤ DIRAC in Lot1

- Managed Services for the Development, Integration, Deployment and Operations of the Federated EOSC Core Platform

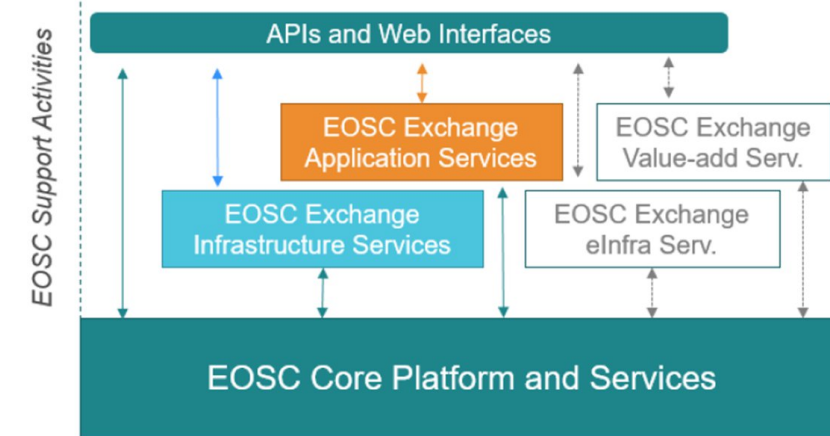
➤ Heavy constraints under discussion

- Availability 99.5% outside planned downtimes
 - Less than 2 days
- Certifications
 - ISO 9001 (Quality Management Systems)
 - ISO/IEC 27001 (Information Security Management Systems)

EOSC Exchange Thematic/Regional Services



EOSC Exchange Horizontal Services



EOSC Interoperability Framework

Procurement Lot Structure

- Lot 3** Managed Collaborative Data Platform, Interactive Data Analytics Platform and Visualization Services for the EOSC Exchange (Application Services)
- Lot 2** Managed Container Platform and Virtual Machine Services for the EOSC Exchange (Infrastructure Services)
- Lot 1** Managed Services for the Development, Integration, Deployment and Operations of the Federated EOSC Core

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