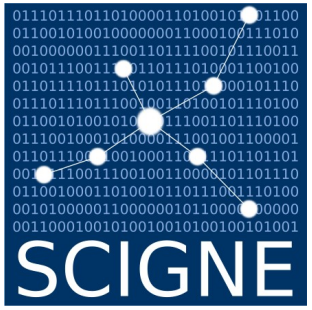
The SCIGNE Platform



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Masterclass Open Science & Scientific Publications

The SCIGNE Platform

In a few words

- SCIGNE – a platform offering compute and storage services hosted by IPHC
- Includes support to help researchers to manage and analyse large amounts of data
- Dedicated support in several scientific fields (physics, chemistry, biology and ecology)
- Launched in 2007 with the Grid Computing service for WLCG (ALICE and CMS)
- Completed since 2011 with the Cloud Computing service (server and kubernetes as a service), as well as the data management service (iRODS)
- Labelised by IN2P3 in 2017 and by the University of Strasbourg in 2020 (CORTECS)
- Scientific Commitee is shared with the HPC center of the University
- Involved in several national and international scientific projects

→ https://scigne.fr

The Team

A team with many skills

- 8 highly-skilled engineers
- 3,3 FTEs
- A new engineer is joining the team next October!
- Expertises:
  - Processing and analysis of large amounts of scientific data
  - Computation workflow management
  - Computation reproductility studies
  - Data and software management plans, making the data FAIR
  - Software development, source code opening
  - Building of container apps
  - GPU-enabled software development, artificial intelligence
  - IT security
  - Green computing
  - Network and infrastructure

High-Throughput Computing (HTC)

Resources

- 5000 cores and 4.0 PB de stockage
- ~ 45 000 HS06
- Direct access for local user to the batch scheduler (PBS, moving to SLURM)
- Service availability > 99 %
- Accessible through several VOs (~ user group per scientific domain)
- Interconnected with the WLCG and EGI e-Infrastructure at 20 Gb/s and with the OSIRIS network at 100 Gb/s

Projects

- Involved in IN2P3 projects (computeOps, DOMA, LCG France)
- Reproductible build of Physics software with GUIX and CernVMFS
- Co-management of the Biomed VO (shifts)
- Partner of BELLE 2, EGI, France Grilles and WLCG
- Leading the technical team of France Grilles, the French NGI

Server as a Service (Cloud Computing)

Resources

- Large VMs for hosting compute and virtual research environments (up to 128 cores and 1 TB RAM)
- > 1k cores, 6 TB RAM and 1024 TB disk storage
- > 7M CPU-Hours provided in 2022
- Dedicated and isolated network on a per-project basis
- GPU and Kubernetes as a Service
- Availability > 99 %

Projects

- Member of the EGI FedCloud Technical group
- Participating to the *HEPIX Benchmarking Group*
- Training on CEPH and OpenStack
- Partner of BELLE 2, EGI, France Grilles, IFB (ELIXIR), INRAE and WLCG
- H2020 EGI-ACE, FAIR-IMPACT and FAIR-EASE projects

Data Management

Resources

- 200 TB
- Availability > 99 %
- Based on the CEPH and iRODS technologies

Projects

- Involved in several projects to share our knowledge and skills on iRODS (Data Terra, MesoNET, etc)
- Partner of the FG-iRODS distributed infrastructure
- Looking at machine actionable DMP
- Organisation of training sessions
- On-going work for joining OIDC Connect based AAI

User services

Services for users

- Training (DIRAC, OpenStack, Docker, iRODS, ...)
- Help with using computing and storage infrastructures (launching production, fixing issues, ...)
- Writing reusable technical documentation (Open License)
- Advice on data management and organisation
- Involved in the local Atelier de la Donnée, as well as some national WG
- Custom software installation
- Software development and parallelisation
- Analysis and advice on architectural choices
- Server and service hosting

Current Users

Supported VOs

- Several EGI VOs (in the context of the EGI-ACE project)
- ALICE et CMS et BELLE (HEP)
- Biomed, Biosphere (IFB), ELIXIR and NBIS
- AGATA
- Complexe Systems
- France Grilles VOs
- Regional VOs (vo.grand-est.fr et vo.sbg.in2p3.fr)

Laboratories

- EOST
- IBMC
- IBMP
- ICANS
- iCube
- IPCMS / ICS
- GMGM
- Chemistry Institute
- APC
- CPPM
- LUPM
- IJCLab
- LPC
- LPNHE
- LPSC

Open Science

Open Science is part of our DNA

- Maintaining list of Free and Libre Open Source chemistry software since 2001
- Promoting Open and FAIR Data
- All documentation and training material are made freely available
- All software development are released under an Open Source license (GPL, Apache v2, BSD)
- Involved in the Open Science Steering Committee and the *Atelier de la Donnée* of the University of Strasbourg
- Involved in Open Science technical WG at the French and European level (France Grilles, EOSC, ...)

Want to give a try?

Contact us: scigne@iphc.cnrs.fr