Agenda

• Description of the DCSR
• Infrastructure in place
• Requesting access – Demo
• FBM Research data migration and archival
• Timeline - future projects
Division Calcul et Soutien à la Recherche

• IT Department (Ci) : reorganised in 2018-2019

• Structure – 1 Groupe de gestion, 4 Divisions:
  1. Infrastructure & Operations (DI)
  2. Business solutions and integration (DSM)
  3. Services, Support & Helpdesk (DSSH)
  4. Computation and Research Support (DCSR)

• DCSR - Objectives:
  – Manage in a smooth way the transition Vital-IT – UNIL
  – Provide a centralised infrastructure
  – Encourage a common approach for Research Data Governance and data lifecycle management (cf directive 4.5)
Services provided by the new unit

**Infrastructure**

- **Storage**
  - Sensitive and non-sensitive data
- **Compute**
  - HPC on sensitive and non-sensitive data – 3 clusters in term
  - CPU/GPU
  - VDI on sensitive and non-sensitive data
- The PI is invoiced for the usage

**Consulting and support**

- Transverse to all faculties:
  - HPC (CPU/GPU)
  - Advanced/predictive analytics machine/deep learning, big data
  - Full stack development: web and DB support
- Build a team with a set of competencies that can serve the whole university.
Structure et governance

Scientific Advisory board

Executive Comittee

Mgr

Sysadmins
3.5-4.5 EPT

Conseil
5 EPT

Faculties

HPC

HPC

Data Scientist

Full stack dev

SW specialist

• Defines the strategy
• Evangelise the services
• Arbitrage ressource usage

• Implementation of the services
• Alignment with the other research platforms (cost model, invoicing)
• Link to the rectorate
Infrastructure currently in place

- Compute infrastructure (3 clusters in the mid-term)
  - Ca. 2200 cores, memory < 100Gb
  - In term 4’000 cores
  - A set of fat nodes a 512GB et 1024Gb. First fat nodes available early Sept.19
  - GPU to be added

- Data storage infrastructure
  - Non-sensitive. Available.
  - Sensitive/Personal. Planned, ETA H1-20

- Compute usage is managed through a scheduler (Slurm)

- Guiding principle: interoperability with neighbouring infrastructures
Getting access to the infrastructure – Storage & Compute

• Research data only (≠ publications, thesis, inventory, administrative documents, etc.)
• Organized by PI and by research projects
• Requests must be carried out by the PI
• All requests are project-based and must be tied to a DMP => change in paradigm
  – Once a request has been granted, the PI manages the access to the resources for his team
• Usage is invoiced to the PI. (see Operational and unit cost on Ci web)
  – Only U1 costs are charged. U2 and U3 costs are covered by UNIL. The 1st TB of space (per PI) is free.
• PI submit their requests through a dedicated app (see Service List on Ci web)
• Any user is expected to take a short training to get familiar with the environment, the do’s and dont’s
• **NB: Research data currently stored on CI infrastructure will be gradually moved to the new storage infrastructure**
Demo

• Services Catalogue:
  – https://www.unil.ch/ci/home/menuinst/catalogue-de-services.html

• Costs for the compute and storage infrastructure:

• Requesting access : Ressource request application:
  – https://conference.unil.ch/research-resource-requests/

• Training:
  – Next training: 20 Sept (9am-5pm). Inscription via the DCSR website, or here
Migration of existing FBM data

• Currently >600Tb in //nas.unil.ch/FBM/DEP/GROUPS/RESEARCH/

• This data must be migrated to the new infrastructure (cf. Directive 4.5)

• The new infrastructure is functionally equivalent to the existing one.

• A few pre-requisite before the move:
  – Hot data: organised by project in its current location (FBM IT will assist)
  – Redundant/spurious data: identified/removed
  – ‘Cold’ data: described and archived

• The physical move will be done by the Ci once the housecleaning has been done

• Important:
  – The work involved is significant. PI/Research have to be committed to this effort
  – The FBM IT team will contact you and assist you along the process.
# Migration process

From

//nas.unil.ch/FBM/DEP/GROUPS/RESEARCH/

to

//nas.unil.ch/RECHERCHE/FAC/FBM/DEP/PI/Project

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NB: Please wait for the information of your IT manager before you start organizing your data
Archiving data

- Archival costs are covered by Unil
- Data must be described and organised before being archived.
- UNIRIS has assembled a set of guidelines and will assist in this effort.
- The DCSR infrastructure will provide a mechanism and process to streamline the archival process.
- The archival data will be stored on tape, but will be accessible in read-only mode by either the PI only, or to the public depending on the type of archive (private vs. OpenData)