# Project 5: National Integration Portal

# Workshop 3 -
# Review of
# Work Packages and Project Roadmap

SDU
eScience

# Participants from HPC centers

| Affiliation | Name | Position | Affiliation | Name | Position |
|---|---|---|---|---|---|
| SDU | Claudio Pica | Professor, Director of the SDU eScience Center | DTU | Michael Rasmussen | Section leader (FIT), IT-services |
| SDU | Dan Sebastian Thrane | Team leader Cloud services, SDU eScience Center | DTU | Martin Haubjerg Rosgaard | IT-Service |
| SDU | Emiliano Molinaro | Team leader Research Support, SDU eScience | DTU | Nikola Vasiljevic | Special Consultant for Digitalization |
| SDU | Johanne Lyhne Hansen | Secretary, SDU eScience Center | DTU | Ole Holm Nielsen | Senior HPC Officer |
| SDU | Martin Rasmus Lundquist Hansen | Software Developer, SDU eScience | DTU/DeiC | Eske Hjalmer Bergishagen Christiansen | IT-service |
| AU | Kristoffer Nielbo | Associate professor | DTU | René Løwe Jacobsen | HPC technician |
| AU | Jakob Styrup Bang | IT-Arkitektur | DTU | Erland Hockheim | AIT-Computerome |
| AU | Dan Ariel Søndergaard | System Administrator | DTU | Dario Ruben Carballido | System Administrator |
| AU | Samuele Soraggi | Department of Chemistry | AAU | Bo Bai | Senior Consultant |
| AU | Niels Carl Hansen | System Administrator | AAU | Frederik Højlund | Web Developer |
| AU - Royal Library | Per Møldrup-Dalum | Specialist consultant | AAU | Anton Drastrup-Fjorbak | System Administrator, |
| AU | Samuele Soraggi | Administrative Staff | AAU | Rasmus D. Jensen | Team Lead Research IT |
| KU | Jonas Rank Møller | Group leader, KU-IT | | | |
| KU | Hans Henrik Happe | System Administrator | | | |

# Agenda

09:00 - 09:20   Presentation of WP, roadmap and milestones
09:20 - 09:50   Discussions

09:50 - 10:00  Short break

10:00 - 10:15 Involvement of HPC centers and LUMI/Puhuri
10:15 - 10:45 Discussions

10:45 - 11:00 Conclusions and next steps

# WP, Roadmap and milestones

| | | Year 1 / 2021 | | | | | | | | | | | | Year 2 / 2022 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| **Status Reports** | | | | | | | R1 | | | | | | R2 | | | | | R3 | | | | | | | |
| **WP1** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project management for PI/users | | | | | | | | M1 | | | | | | | | | | | | | | | | | |
| Resource management | | | | | | | | M2 | | | | | | | | | | | | | | | | | |
| Overview of HPC services / reporting | | | | | | | | | | | | | | | | M3 | | | | | | | | | |
| Redesigned application section | | | | | | | | | | | | | | | | | | M4 | | | | | | | |
| **WP2** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design of API and first implentation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration with Sophia, Type3 | | | | | | | | | | M5 | | | | | | | | | | | | | | | |
| Revision of API | | | | | | | | | | | | | | | | | | | | | | | | | |
| Revised integration layer | | | | | | | | | | | | | | M6 | | | | | | | | | | | |
| Integration with Computerome 2; GenomeDK; Type4 | | | | | | | | | | | | | | | | | | | | | | | | | M7 |
| Integration with Puhuri/LUMI | | | | | | | | | | | | | | | | | | M8 | | | | | | | |
| **WP3** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data transfers among HPC centers | | | | | | | | | | | | | | | | | | | | | | | | | M9 |

# WP, Roadmap and milestones

| Milestone | Deliverable | Deadline |
|---|---|---|
| M1 | new GUI for project management | 01/09/2021 |
| M2 | new GUI for resource management | 01/09/2021 |
| M3 | new GUI for HPC centers reporting and overview | 01/04/2022 |
| M4 | new application section | 01/06/2022 |
| | | |
| M5 | First version of UCloud integration module | 01/11/2021 |
| M6 | Second version of UCloud integration module | 01/03/2022 |
| M7 | Integration of DeiC National HPC systems | 31/12/2022 |
| M8 | Integration with Puhuri/LUMI | 01/07/2022 |
| | | |
| M9 | Integration of data transfer system among HPC centers | 31/12/2022 |
| | | |

| Status Reports | Description | Deadline |
|---|---|---|
| R1 | Mid-term report on M1, M2 and M5 | 01/07/2021 |
| R2 | Mid-term report on M3, M4 and M6 | 01/01/2022 |
| R3 | Mid-term report on M7, M8 and M9 | 01/07/2022 |

# Round table discussions

- DeiC HPC Type1: AAU/Claaudia ; Royal Library
- DeiC HPC Type2: AU/GenomeDK ; DTU/Computerome2
- DeiC HPC Type3: SDU
- DeiC HPC Type4: KU
- DeiC HPC Type5: LUMI/Puhuri - DeiC

- HPC TekRef

# Involvement of DeiC HPC centers

- Early involvement in in WP2/design phase (January 2021)
- Co-design of 'integration module'
- Testing/deployment of integration module in 2 phases:
  - Consortium members: Type 1, Type 2 Sophia, Type 3
  - All DeiC HPC centers: Type 2 Computerome2 & GenomeDK, Type 4
- Local integration and configuration: ~3PM ?

# Involvement of DeiC HPC centers

- Integration Module plug-ins:

  **Storage:** Posix FS, block-storage, (later object storage)
  **Jobs:** Slurm, Moab, OpenStack
  **User:** NIS, LDAP, AD, PAM

| DeiC HPC | Provider | user management | storage systems | job management | project management | Responsible person |
|---|---|---|---|---|---|---|
| Type 1 | AAU | AD | CEPH | OpenStack | OpenStack | R. D. Jensen |
| | SDU | UCloud | CephFS/GPFS | UCloud | UCloud | C. Pica |
| Type 2 | Genome DK | NIS/local unix users | BeeGFS | slurm | slurm + custom scripts | D. A. Søndergaard |
| | Computerome 2 | local users / LDAP / 2FA | OneFS | Moab | Moab accounting manager | E. Hochheim (?) |
| | Sophia | AD | BeeGFS/CEPH | slurm | slurm + custom scripts | M. Rasmussen |
| Type 3 | SDU | IPA | GPFS | slurm | slurm + custom scripts | C. Pica |
| Type 4 | KU | TBD | TBD | TBD | TBD | H. H. Happe |
| | | | | | | |
| Notes: | | | | | | |
| Other relevant storage: | | S3 object storage | | | | |

# Involvement of LUMI/Puhuri

- Early involvement in in WP2/design phase (January 2021)
- Co-design of 'integration module' with DeiC staff involved and Puhuri core team
- Puhuri interaction via the Puhuri API (currently under development, based on Waldur mastermind)

- Coordination with LUMI for national resource allocation (allocation cycles and policies)

# Round table discussions

- DeiC HPC Type1: AAU/Claaudia ; Royal Library
- DeiC HPC Type2: AU/GenomeDK ; DTU/Comuterome2
- DeiC HPC Type3: SDU
- DeiC HPC Type4: KU
- DeiC HPC Type5: LUMI/Puhuri – DeiC

- HPC TekRef

# Summary and Conclusions

# End of Workshop