NGI H2020 Profile

**NGI\_BG**

09-05-2014

# Target user communities

* *Provide information here about the* ***top three*** *target international user communities (Research Infrastructures of the ESFRI roadmap, other international research collaborations and projects) that are part of your NGI strategic user engagement roadmap*
* *Provide information about how resources (data, storage,…) will be made available in your NGI to the community and according to which policy*

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| --- | --- |
|  | Research Community/Project description (list in order of descending priority) |
| Community 1 | Earth and Space Science |
| Community 2 | Bioinformatics and biodiversity |
| Community 3 | Processing of large Image and text datasets |
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# Resource provisioning for target communities

* *For each of the* ***top three*** *communities provide information on the resources that nationally will be available and the related policies and cost model, as applicable*

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|  | **Compute and storage capacity currently available (or available in the future) to deal with the data growth** | **Access policy** | **Available funding or funding models (present and future)** | **What existing resources the e-infrastructures can offer, their current usage, the limitations and plans to deal with the data deluge** |
| **Community 1** | * **16 NVIDIA Tesla M2090** 6 GB + 48 core Intel Xeon E5679 @ 2.53GHz with 4 GB of RAM per core; * **576 cores** Intel Xeon X5560 @ 2.8GHz with 1.5 GB of RAM per core; * **Non-blocking** Infini Band interconnect; * **200 cores** Intel Xeon E5430 @ 2.66GHz with 2 GB of RAM per core; * **140 TB of storage,** through Lustre FS, EMI dCache, EMI DPM * HP ProLiant SL270s Gen8 SE Server with 8 Intel Xeon Phi 5110p, coprocessors | Based on scientific merit: quota – CPU/GPU and storage | National projects, structural funds based on National Roadmap for Research Infrastructures | One HPC Grid cluster + 3 grid clusters  Total :  6 TFlops CPU  20 TFops GPU  140 TB  Plan: Applications under way for substantial expansion under EU operational program for BG, proposal for 250 Tflop facility with 0.5 PB storage. |
| **Community 2** | Based on scientific merit: quota – CPU/GPU and storage |  |  |
| **Community 3** | Based on scientific merit: quota – CPU/GPU and storage |  |  |
| **Other communities** |  |  |  |

# User support skills

* *List and describe here your skills and user support competence that could be made available through a EGI Competence Centre with your participation as applicable*

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| --- | --- |
|  | User support skills and related technical and disciplinary areas |
| Training and education | Regular trainings for grid and cloud users, advanced and introductory, courses for Ph.D. students. |
| Technical skills | Virtualization, installation, application porting, testing and debugging, testing new services, provision of advanced GPGPU and Xeon Phi grid resources |
| Discipline/user-specific skills | Earth and Space Science: (Air pollution and climate change modelling using WRF, CMAQ, SMOKE)  Bioinformatics: Gromacs, NAMD, GAMMESS  Stochastic modelling and processing of scientific data. |
| Other | Experience with software libraries: ATLAS, LAPACK, Linpack, ScaLAPACK, FFTW, SPRNG , etc., application software: AMBER, Charm++, NWChem, mpiBLAST , portal software - PGRADE and similar,  Experience with data analytics packages like Hadoop, Spark, Storm, etc. |

# Software development skills and experience

* *If interested in participating to software development/integration activities, list here the software development skills available in the organizations from your NGI and the experience*

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| Skill | Description |
| Skill 1 | Parallel Computing: MPI, OpenMP, hybrid OpenMP/MPI programming, GPU computing - development and debugging of programs using CUDA, OpenCL |
| Skill 2 | Experience in development/integration of services related to accounting/resource management, using Java and Python |
| Skill 3 | Experience with enabling Grid authentication for services (VOMS). |
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