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The Czech National Grid Infrastructure

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The Czech National Grid Infrastructure is operated by MetaCentrum, a CESNET department responsible for coordinating and managing activities related to distributed computing. CESNET as the Czech National Research and Education Network (NREN) provides many e-infrastructure services, which are used by 94% of the scientific and research community in the Czech Republic. Computing and storage resources owned by different organizations are connected by fast enough network to provide transparent access to all resources. We describe in more detail the computing infrastructure, which is based on several different technologies and covers grid, cloud and map-reduce environment. While the largest part of CPUs is still accessible via distributed torque servers, providing environment for long batch jobs, part of infrastructure is available via standard EGI tools in EGI, subset of NGI resources is provided into EGI FedCloud environment with cloud interface and there is also Hadoop cluster provided by the same e-infrastructure. A broad spectrum of computing servers is offered; users can choose from standard 2 CPU servers to large SMP machines with up to 6 TB of RAM or servers with GPU cards. Different groups have different priorities on various resources, resource owners can even have an exclusive access. The software is distributed via AFS. Storage servers offering up to tens of terabytes of disk space to individual users are connected via NFS4 on top of GPFS and access to long term HSM storage with peta-byte capacity is also provided. Overview of available resources and recent statistics of usage will be given.

Secondary Keyword (Optional)

Distributed workload management

Primary Keyword (Mandatory)

Computing facilities

Tertiary Keyword (Optional)

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