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From DIRAC towards an Open Source Distributed Data Processing Solution

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The Open DISData Initiative is focusing on today's challenges of e-Science in a collaborative effort shared among different scientific communities, relevant technology providers and major e-Infrastructure providers. The target will be to evolve from existing partial solutions towards a common platform for distributed computing able to integrate already existing grid, cloud and other local computing and storage resources. This common platform will be guided by the needs of the scientist and their research. By joining this effort, and using this common platform to implement their own solutions, scientists will ensure at the same time robustness, interoperability and reusability as well as an important economy of scales. Sustainability will be achieved by selling customized solutions based on the common platform and its support to interested scientific and industrial clients.

In order to achieve this target we propose to build from existing solutions and to work in two directions addressing in parallel the big science and the long tail of science challenges. The first challenge refers to a relatively small number of well-organized large communities with very large data access and processing requirements. The second one refers to a large number of small loosely organized communities with an almost infinite variety of different applications and use cases.

Although started from the DIRAC technology, great care has been taken to cover all other relevant areas like: Workload and Data management (dCache.org and ARC) and advanced user interfaces including Portals and Identity management (InSilicoLab, SCI-BUS and Catania Science Gateway). Major e-Infrastructure projects and providers like EUDAT, EGI, NDGF, NeCTAR, OSG or EDGI are strongly supporting this Initiative. At the same time, some IT related private companies like Bull, Dell and ETL are willing to participate in different areas of the Initiative contributing with their industrial and marketing experience.

The long-term goal of the Open DISData Initiative is to build a self-sustained Collaboration, keeping the common platform up to date with new requirements and technologies, and offering a high quality but affordable support model, with continuous security training and audit, and following industrial quality standards and procedures where appropriate.

Summary

The sustainability of relevant software developments for scientific computing is a challenge. Many Research projects will have lifetimes of tens of years, ensuring appropriate support and further development of the necessary software is not a negligible effort that it is often not even considered. This initiative will try to promote mechanism to make "used" software sustainable.

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