DIRAC: Bringing distributed computing power to scientific applications

Speaker:	Andrei Tsaregorodtsev (CPPM/CNRS)
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Abstract:

The LHC experiments faced the problem of the treatment of unprecedentedly high volumes of data coming from the LHC Collider at CERN. The solution was found in creation of a computing grids uniting multiple computing centers in the world into one coherent infrastructure. The grid needs special software to operate. The DIRAC Interware project provided the necessary software for the LHCb experiment. Later on, DIRAC was converted into an open-source project providing necessary tools for building distributed computing systems of general interest and of arbitrary scale. It is now used by multiple scientific communities in High Energy Physics and Astrophysics domains. The DIRAC services are also provided by several grid infrastructures to serve multiple smaller user communities. In the presentation, we will describe the general architecture and capabilities of the DIRAC distributed computing system and describe functionalities and advantages that it can bring to scientific researchers.

About the speaker:

Andrei Tsaregorodtsev, PhD, Senior Research Engineer at CPPM Particle Physics Laboratory of CNRS in Marseille, France. Andrei was involved with several High Energy Physics experiments as physicist and computing engineer. He has initiated the DIRAC project as a distributed computing system solution for the LHCb experiment at the LHC Collider at CERN. In 2017 Andrei initiated the creation of the DIRAC Consortium to develop and promote the DIRAC Interware solutions. Now he is the Coordinator of the DIRAC Consortium. He is also the coordinator of the Workload Management service of the European Grid Infrastructure (EGI).