Experience with high performance environment for collaborative work

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Globalization of human activity is the current development of our society. Information technologies play a key role in the process. Sciences development was always global and therefore it is not surprising that scientific community not only adopted new technologies at the early stages but also contribute in the process. New information technologies are able to integrate all computing facilities in the unique computing media, although distributed geographically and organizationally. One can use Grid technologies to realize this integration.

Most famous Grid project is associated mainly with the Large Hadron Collider project, CERN. Computing Grid is able to process and store huge amount of experimental data that no organization in the world can manage.

I. Foster and C. Kesselman proposed concept of Virtual Organization in the witty titled papers "The Anatomy of the Grid" and "Physiology of the Grid". They define Grid as a "coordinated, open, and standardized environment”, which allows flexible, safe, and robust sharing of resources within framework of virtual organization (VO). The concept gives possibility to realize the new degree of freedom for scientific community.

Scientific Center in Chernogolovka is a campus for dozen of institutions of Russian Academy of Sciences. We build environment, which allows realizing some Foster-Kesselman ideas. We use AccessGrid software for video-conferencing, Scalable Adaptive Graphics Environment (SAGE) for data presentation, and other public domain software for data storage and processing.

One of the first realizations, it is the Joint Jülich-Chernogolovka seminar on computer sciences, which may be treated as a seed for the virtual organization.