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New Trends in Desktop Grid Computing

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Desktop Grids (DGs) is a relatively new technology for assembling resources of PCs from over the world for solving hard computational problems. Volunteers donate the idle resources of their personal computers ("clients") by connecting them to a project server that manages the computational process. Potentially DGs can collect a huge computational power however its efficient utilization faces lots of significant challenges, e.g. heterogeneity and unreliability of computational resources, limited network bandwidth, limited connectivity among nodes. Overcoming these shortcomings have led to a noticeable progress in DG technologies resulted in several new technologies. The talk covers some of these toolsets:

- virtualization to cope with binary incompatibility of client PCs;
- mobile devices support;
- building combined distributed infrastructures based on DGs, service grids and clouds.

We outline most widespread tools for addressing these issues and exemplify these technologies by best practices of international and Russian desktop grid projects.

Primary author: Dr POSYPKIN, Mikhail (ITTP RAS)

Presenter: Dr POSYPKIN, Mikhail (ITTP RAS)

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