

10th International Conference "Distributed Computing and Grid Technologies in Science and Education" (GRID'2023)



Contribution ID: 243

Type: **not specified**

Co-opetition in BOINC community

Friday 7 July 2023 11:00 (15 minutes)

Volunteer computing (VC) is a strong way to harness distributed computing resources to perform large-scale scientific tasks. Its success directly depends on the number of participants, PC (some other devices) and time of their work. So project managers/organizers in search of a mechanism to encourage participation in VC-projects use conditional points accrual mechanism. The number of these points («credits») depends on the provided capacities, the time of participation in projects, and other characteristics of the activity of volunteers and their teams. The availability of constant statistics for all projects, in addition to tracking various ratings, provokes various virtual competitions ("challenges") between participants and teams. And many of the projects create an environment for the competitors by volume computations are done, both individually and in the team event. Thus modus operandi of VC –is spirit of competition.

If volunteers are members of a team, they are simultaneously competing with the other teams on the project on the more immediate goal of racking up the most contributions and coming out on the top of the table of statistics documenting contributions.

This form of cooperation and competition individually and in combination (in teams) demonstrates a new type of online scientific collaborative network –co-opetition. This term was proposed by Brandenburger A. M. and Nalebuff B. J. in 1996 year to describe a new phenomenon of cooperative competition of firms. Co-opetition is a kind of interaction of firms when companies interact with partial congruence of interests. As Dagnino G. and Padula Giovanna noted, they cooperate with each other to reach a higher value creation if compared to the value created without interaction and struggle to achieve competitive advantage. Often co-opetition takes place when companies that are in the same market work together in the exploration of knowledge and research of new products. Holohan A. and Garg A. used this term metaphorically in their paper to describe a collaboration of volunteers in VC-projects to affect a performance of computing. To prove the possibility of describing the collaboration of volunteers using this term, Holohan A., Garg A. relied a number of theoretical concepts and the results of their sociological surveys. However, they do not describe either the process of co-competition in VC-projects and neither its results that enhances the computing.

I think that nowadays we can use this term not only in a metaphorical or theoretical sense, but also as an actual mechanism for managing volunteer computing. In this paper we investigate Russian community of VC and discuss the suggestion that phenomenon of online co-opetition can capture people's motivation better than only intrinsic motives.

Summary

The paper investigates the phenomenon of online co-opetition in Russian BOINC community

Author: Dr ТИЩЕНКО, Виктор (ФИЦ "Информатика и управление" РАН)

Presenter: Dr ТИЩЕНКО, Виктор (ФИЦ "Информатика и управление" РАН)

Session Classification: Distributed Computing Systems

