35th Symposium on The Search for Extraterrestrial Intelligence (SETI) – The Next Steps (A4.) SETI I - Technical Aspects (1.)

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SETI@GRID: EXPLOITING COMPUTATIONAL GRIDS TO BOOST SETI DATA ANALYSIS

Abstract

Computing grids are nowadays ever more attracting the interest of scientific communities. What they are promising is the impressive processing power offered by the huge amount of shared resources backing the grid system infrastructure compared to whatever performing computing cluster a single organization can provide. Beside the SETI@HOME project (that by the way can be considered milestone grid computing application by itself), SETI@GRID will operate on an academical grid infrastructure (not being demanded on the participation of the single volunteer) within a cross-platform environment allowing the execution of parallel jobs (MPI). Not only grid computing will contribute to process larger amounts of astronomical data using traditional techniques (such as the FT), but it can represent the opportunity to eventually unfold the application of advanced signal analysis algorithms, such as second order or higher, the Radon Transform or KLT. This paper will address and evaluate several aspects about the possibility of targeting such a data intensive application as the SETI data analysis is within a distributed grid environment.