Modeling a dynamically scalable grid, based on mobile devices

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Grid computing can be defined as a collaboration of computational devices from multiple administrative dòmains to reach a common goal to solve a single task. In the last few years, growing availability of networked mobile devices has created a vast collective pool of unexploited computing resources. Therefore general computational grid methodology can be applied to the domain of mobile devices to offer more processing power using the existing hardware infrastructure.

This study was aimed at building the working prototype of a mobile grid with application framework, for solving high performance computational problems. It was then tested and analyzed using domain decomposition related mathematical scenarios. The results revealed that the mobile grid and application framework are suitable for solving high performance computational problems which can be executed in parallel with less inter-process communication and also that the framework improves infrastructure utilization of the mobile devices.

References

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