Abstract

Doing computation on the collection of computer resources from multiple locations to reach a common goal is known as grid computing. Task scheduling is a very important problem in complex grid environments. Prior, there are numerous number of algorithms were proposed to do effective task scheduling. Among them the min-min algorithm is simple and well-known scheduling algorithm. Even it works efficiently, some drawbacks in this with respect to load balancing and in resource utilization. To overcome these drawbacks, a new Two Level Load Balanced (TLLB) grid scheduler algorithm is proposed. In First Level min-min algorithm is used to create ITQ and in Second Level a new Transformation technique is used to reschedule. The performance analyses show that the proposed algorithm improves the performance in both make span and effective utilization of resources.

References

- Siriluck Lorpunmanee, Mohd Noor Sap, Abdul Hanan Abdullah, and Chai

- Dong. F, Luo. J, Gao. L and Ge. L, \textquoteleft\textquoteleft;A Grid Task Scheduling Algorithm Based on QoS Priority Grouping\textquoteright;\textquoteright;, In the Proceedings of the Fifth International Conference on Grid and Cooperative Computing (GCC\textapos;06), IEEE, 2006.
- Elminani. K, and Naghibzadeh. M, \textquoteleft\textquoteleft;A Min-min Max-min Selective Algorithm for Grid Task Scheduling\textquoteright;\textquoteright;, The Third IEEE/IFIP International Conference on Internet, Uzbekistan, 2007.
- Ranganathan, K. and Foster, I. , \textquoteleft\textquoteleft;Decoupling Computation and Data Scheduling in Distributed Data Intensive Applications\textquoteright;\textquoteright;, Proceedings of the 11th IEEE Symposium on High Performance Distributed Computing (HPDC 11), Edinburgh, Scotland, July 2002.
- T. Hagerup, \textquoteleft\textquoteleft;Allocating Independent Tasks to Parallel Processors: An Experimental Study\textquoteright;\textquoteright;, Journal of Parallel and Distributed Computing, 47, 1997, pp. 185-197.
- A. Abraham, R. Buyya, B. Nath, \textquoteleft\textquoteleft;Nature\textapos;s heuristics for scheduling jobs on computational grids\textquoteright;\textquoteright;, The 8th IEEE International Conference on Advanced Computing and Communications, 2000.

**Index Terms**

Computer Science  
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**Keywords**

Grid computing  
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Load balancing  
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