Time-Cost Effective Factor of a Midimew Connected Mesh Network

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Abstract

Hierarchical Interconnection Network (HIN) is indispensable for the practical implementation of future generation massively parallel computer systems which consists of hundred thousands nodes or even millions of nodes. Because it yields good performance with low cost due to reduction of communication links and by exploring the locality in the communication & traffic patterns. A Midimew connected Mesh Network (MMN) is an HIN comprised of numerous basic modules, where the basic modules are 2D-mesh networks and they are hierarchically interconnected using midimew network to construct the higher level networks. In this paper, we present the architecture of a MMN and evaluate the time-cost effective factor of MMN, TESH, mesh, and torus networks. It is found that the proposed MMN yields slightly high time-cost effectiveness factor with small diameter and average distance as compared to other networks. Overall, performance with respect to time-cost effectiveness factor with small diameter and average distance suggests that the proposed MMN will be a indispensable choice for the next generation massively parallel computer systems.

Keywords

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