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The performance evaluation of 3D torus using link-sharing method in NoC router (Conference Paper)

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Abstract

In spite of much advancement in network-on-chip (NoC), area overhead further need to be explored and improved. Thus, a high performance router using minimum hardware circuits will not only reduce cost but also minimize the layout area. In this paper, we have proposed a memory sharing method, where a memory is shared by several physical links by using a multi-port memory. To show the superiority of the proposed link sharing method over the traditional method, we have evaluated the communication performance of a 3D torus network and compare it with different block size. It is shown that the communication performance by link-sharing method outperformed the traditional method. © 2016 IEEE.

Author keywords

Interconnection Network; Multi-Port Memory; Network-on-Chip (NoC); Router

Indexed keywords

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