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Volume 10, Issue 4, 2017, Pages 394-399**Cost effective factor of a midimew connected mesh network** (Article)Rahman, M.M.H.<sup>a</sup>, Mohd Nor, R.<sup>a</sup>, Akhand, M.A.H.<sup>b</sup>, Sembok, T.M.T.<sup>c</sup> <sup>a</sup>KICT, International Islamic University Malaysia (IIUM), Kuala Lumpur, Malaysia<sup>b</sup>Khulna University of Engineering and Technology (KUET), Khulna, Bangladesh<sup>c</sup>Cyber Security Center, National Defense University Malaysia, Kuala Lumpur, Malaysia

## Abstract

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Background and Objective: Hierarchical Interconnection Network (HIN) is very much essential for the practical implementation of future generation Massively Parallel Computers (MPC) systems which consists of millions of nodes. It yields better performance with low cost due to reduction of wires and by exploring the locality in the communication and traffic patterns. The main objective of this paper is to analyze the static cost effective factor of Midimew connected Mesh Network (MMN). Materials and Methods: A Midimew connected Mesh Network (MMN) is a HIN comprised of numerous basic modules, where the basic modules are 2D-mesh networks and they are hierarchically interconnected using midimew network to assemble the higher level networks. Results: This study, present the architecture of a MMN and evaluate the cost effective factor of MMN, TESH (Tori-connected Mesh), mesh and torus networks. The results shows that the cost effective factor of MMN was trivially higher than that of mesh and torus network. Conclusion: It was revealed that the proposed MMN yields a little bit high cost effectiveness factor with small diameter and average distance. Overall, performance with respect to cost effective factor with small diameter and average distance suggests that the MMN will be a promising choice for next generation MPC systems. © 2017 M.M. HafizurRahman et al.

## Author keywords

[Hierarchical interconnection network](#) [Massively parallel computers](#) [Mesh network](#)

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## References (21)

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1 Adhikari, N., Tripathy, C.R.  
The folded crossed cube: A new interconnection network for parallel systems  
(2010) *Int. J. Comput. Applic.*, 4, pp. 43-50. Cited 12 times.

2 Faisal, F.A., Rahman, M.M.H., Inoguchi, Y.  
A new power efficient high performance interconnection network for many-core processors  
(2017) *Journal of Parallel and Distributed Computing*, 101, pp. 92-102.  
<http://www.elsevier.com/locate/publications/store/6/2/2/8/9/5/index.htm>  
doi: 10.1016/j.jpdc.2016.11.007

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(2016) *Proceedings - 6th International Conference on Computer and Communication Engineering: Innovative Technologies to Serve Humanity, ICCCE 2016*

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