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Midimew-Connected Gaussian Network (Conference Paper)

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Abstract

Midimew-Connected Gaussian Network (MGN) is a hierarchical interconnection **network** which is able to interconnect millions of nodes in the **network** to achieve high performance and cost-effective design for massively parallel computing system (MPC). MGN consists of multiple basic modules with Wrap-around links (**MIDIMEW**) to form the higher level **network**, where the basic module of MGN is dense **Gaussian network** with additional links in its edge nodes. This paper focuses on the architecture design of MGN, and computes the performance parameters such as degree, arc connectivity, bisection width and wiring complexity. The results show that the MGN design has better performance than other **network** topologies such as hierarchical **Gaussian network** (HGN). © 2015 IEEE.

Author keywords

Hierarchical Interconnection **Network**; Massively Parallel Computer; **Midimew-Connected Gaussian Network** (MGN); **Network** Performance

Indexed keywords

Engineering controlled terms: Cost effectiveness; **Gaussian** distribution; **Network** performance

Arc-connectivity; Architecture designs; Cost effective design; **Gaussian** networks; Massively parallel computers; Massively parallel computing; **Network** topology; Performance parameters

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