Abstract

Parallel processing is an efficient form of information processing system, which emphasizes the exploitation of concurrent events in the computing process. To achieve parallel processing it’s required to develop more capable and cost-effective systems. In order to operate more efficiently a network is required to handle large amount of traffic. Multi-stage Interconnection Network plays a vital role on the performance of these multiprocessor systems. In this paper an attempt has been made to analyze the characteristics of a new class of irregular fault-tolerant multistage interconnection network named as irregular modified augmented baseline network (IMABN). IMABN can provide ‘Full access’ capability in presence of multiple faults. The reliability of interconnection networks and their ability to continue operating despite failures are major concerns in determining the overall system performance. In this paper reliability of the proposed IMABN have been calculated and compared in terms of the Upper and Lower
bounds of mean time to failure (MTTF). Reliability and Cost study shows that IMABNs achieve a significant improvement over Modified Augmented Baseline Network (MABN).

Reference


Index Terms

Computer Science

Networks

Key words

Multistage interconnection networks Cost Reliability Irregular
modified baseline network