عنوان مقاله:

an Adaptive Routing Strategy to Reduce Energy Consumption in Network on Chip

محل انتشار:

تعداد صفحات اصل مقاله: 15

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خلاصه مقاله:

Networks on chip (NoCs) are an idea for implementing multiprocessor systems that have been able to handle the communication between processing cores, inspired by computer networks. Efficient nonstop routing is one of the most significant applications of NOC. In this study, the performance improvement of Networks on Chip (NoC) is investigated by introducing an optimal selection strategy. One of the most important features of NoC is an efficient and continuous routing. The effect of any routing algorithm depends on the chosen strategy. Accordingly, in the proposed approach, packet traffic is first examined using an analyzer and then based on the number of steps, it is determined whether packets are local or not. Finally, packets are sent through the best output channel using the Regional Congestion Awareness (RCA) selection strategy for local traffic and Neighbors-on-Path (NoP) for non-local traffic. Using a simulation, it is shown that the proposed approach significantly increased the performance. Experiments show that in compared to BufferLevel and Random strategies, this method remarkably reduces the average delay and energy consumption.

کلمات کلیدی:

Network on chip, Adaptive routing, Energy consumption reduction

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