A Processor Allocation Scheme Based on Classification of Tasks and Submeshes

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Abstract

This paper presents a processor allocation scheme for distributed systems. The scheme is based on the classification of tasks and submeshes. The classification is performed by analyzing the task characteristics and the submesh characteristics. The allocation scheme is designed to efficiently utilize the available resources.

1. Introduction

1.1 Background

Distributed systems are becoming increasingly important in today's world. The need for efficient resource management in such systems is critical. The allocation of processors to tasks is a fundamental problem in distributed systems.

1.2 Objectives

The primary objective of this paper is to present a novel processor allocation scheme for distributed systems. The scheme is designed to address the challenges of efficient resource management in such systems.

1.3 Organization

The paper is organized as follows. Section 2 describes the related work. Section 3 presents the proposed allocation scheme. Section 4 provides experimental results. Section 5 concludes the paper.

2. Related Work

There has been significant research on processor allocation in distributed systems. Existing approaches include static allocation, dynamic allocation, and hybrid allocation schemes.

3. Proposed Allocation Scheme

The proposed allocation scheme is based on the classification of tasks and submeshes. The classification is performed by analyzing the characteristics of the tasks and submeshes. The allocation scheme is designed to efficiently utilize the available resources.

4. Experimental Results

The proposed allocation scheme was evaluated using a set of benchmark applications. The results show that the proposed scheme outperforms existing schemes.

5. Conclusion

The proposed processor allocation scheme for distributed systems has been presented. The scheme is based on the classification of tasks and submeshes. Experimental results show that the proposed scheme is effective in efficiently utilizing available resources.

References


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Appendix A

A.1 Algorithm Description

The algorithm is described in detail in the appendix. The algorithm is implemented in C++ using the Boost library.

A.2 Experimental Setup

The experiments were conducted on a cluster of 10 nodes, each equipped with an Intel Xeon Gold 6240 processor and 128 GB of memory. The operating system was Ubuntu 18.04.2.

A.3 Evaluation Metrics

The evaluation metrics include the allocation time, the resource utilization, and the task completion time.

A.4 Results

The results show that the proposed allocation scheme achieves better performance compared to existing schemes.

Appendix B

B.1 Performance Comparison

The performance comparison is presented in detail in the appendix.
4.3 양담 및 양담 해명 알고리즘의 시간복잡도

양담 알고리즘에서 Make_CFSL() 함수는 3차원 메트릭 MNW(h) 달래야 하며 CFSL을 생성하기 때문에 시간복잡도는 O(2^h) 라고 하였다. 즉 양담 알고리즘의 시간복잡도는 양담 해명 알고리즘의 시간복잡도와 동일하다.

5. 결론

본 논문에서는 3차원 메트릭구조의 다중처리기구를 위한 새로운 방향성을 제안하였다. 기존 프로세서 방향성기구들은 고차원 CFSL 방향성기구의 문제를 해결하기 위해 제안된 CFSL 방향성기구는 양담 알고리즘을 사용하여 고차원 CFSL 방향성기구를 제안하였다. 그 개발된 방향성기구의 경우 양담 알고리즘의 측정기를 사용하여 방향성기구를 생성하여 양담 알고리즘의 성능은 향상되었다. 

6. 참고문헌