Abstract

This paper presents a memory leak prediction algorithm for the cluster computing applications. This proposed algorithm uses process characteristics to calculate the exact memory requirement and uniquely identifies maximum memory utilization of an application before the application starts its execution. During the application execution phase, memory leaks in the application processes in the cluster is identified by existing Dynamic Memory Monitoring Agent (DMMA) gives information to the end users to make corrective actions and removes memory leak processes from the affected nodes. This unified approach increases the reliability and fault tolerant in the cluster computing.

Reference

- US-CERT vulnerability notes database http://www.kb.cert.org/vuls
A New Approach of Prediction of Memory Leak in the Cluster Computing Applications

- “Gray Watson, Debug Malloc Library”, Published by Gray Watson, Version 5.4.2; October 2004.

- HPC Management Software “Reducing the Complexity of HPC Cluster and Grid Resources”.

Index Terms

Computer Science  Cluster Computing

Key words

Cluster Computing

Memory Leak

Fault Tolerance

Maximum memory utilization
Process characteristics