Abstract

Efficiency of multiple string searching has become more relevant with the large and redundant amount of data. The size of storage devices has increased in terms of Terabytes and modern processors are capable to perform parallel computation with multi-core architecture. Beowulf cluster architecture is considered for parallel computations, in which 40 nodes and two quad core processor servers perform multiple pattern searching operations with different algorithms. Multiple pattern searching is essential for intrusion detection systems (IDS), which has the
ability to search through packets and identify content that matches known attacks. Latest advancements in DNA sequencing, web search engines, database operations, signal processing, error detection, speech and pattern recognition areas require multiple patterns searching problem to process terabytes of data. Space and time efficient string matching algorithms are therefore important for this purpose.

Reference

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Index Terms

Computer Science

Algorithms

Key words

Beowulf cluster
Multiple string matching algorithm
MPI Programming