



## CLUSTER COMPUTING OF DATA MINING

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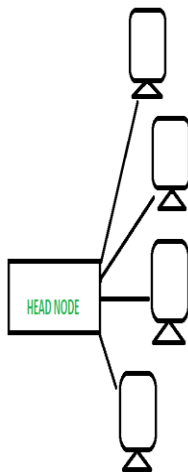
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### ABSTRACT:

Clusters are usually deployed to improve speed and reliability over that provided by a single computer, while typically being much more cost-effective than single computers of comparable speed or reliability. Clusters have evolved to support applications ranging from e-commerce, to high performance database applications.



### KEYWRDS:

Cluster computing

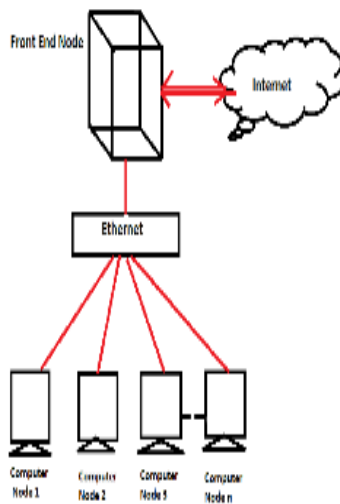
Computer Network reliability,

Distributed computing, Application Software

Local Area networks, Computer networks,

## INTRODUCTION

Cluster computing is an element in mainstream computing. In recent years, in computers have emerged as the leaders in high performance computing. Clustered computer is specifically design to take a large program and set of data and subdivide them into component parts, thereby allowing the individual node of the cluster to process their individual chunks of the program. Cluster computing is the growing field to link together. Cluster programmers requires the environment so that they can allow them to take a advantages to the cluster performance capabilities easily. Demand of them. Therefore, high-performance computing infrastructure becomes a critical resource for research and developments well as for different applications.



Cluster computing the journal of networks, Software Tool and Application will provide a forum for presentation the latest research and technology that unify the field of parallel processing, distributed computation systems and high-performance computer networks. The current advances in computing, networking technology and software have spurred a lot of research interest and cluster and internet computing, as demonstrate in cloud and Grid computing, and distributed high performance data centres.

In the last few years, we have seen an increased interest in developing applications, software tools, communications protocols and high-performance data centre, Grid and cloud computing size to capitalize on these advances and initiatives. Publication about these developments currently appear in several journals that either focus on the communications field, or on parallel and distributed computing with a strong emphasis on the parallel algorithms. Cluster computing journal will uniquely address the latest results in integrating these three fields to support the development of high performance parallel distributed computing system and their applications. The journal will be an important source of information for the growing number of researches, developers and users of High Performance Parallel and Distributed Computing environments. In these environments, parallel and distributed computing techniques are applied to the solution of large scale scientific and engineering applications running on clusters, cloud computing and distributed data centres.

## CLUSTER COMPUTING ARCHITECTURE:

- It is designed with an array of interconnected individual computers and the computer systems operating collectively as a single standalone system.
- It is a group of workstation or computers working together as a single, integrated computing resource connected via high speed interconnects.
- Two or more nodes are connected on a single line or every node might be connected individually through a LAN connection

## TYPES OF CLUSTER COMPUTING

1. Load balancing clusters
2. High availability clusters
3. High-performance clusters

### LOAD BALANCING CLUSTERS

As the network load increases, to extract the maximum out of every system at optimal performance, it is necessary to balance the load within the cluster by routing the request equally between the nodes.

To increase the network capability and performance, load balancing cluster are used. In this type, the nodes are cohesive with all the instance and the listen to each request.

### HIGH AVAILABILITY CLUSTERS:

The possibility of system crashing and going down under extreme tasks is high. So, high availability is required to achieve stable computing services. E-commers industries, and so on.

Also known as failover cluster's they ensure that the application or systems that is present in the cluster has no downtime. To achieve it, redundant nodes and cluster are used. Even in case of system failures, if an entire cluster is down, the backup cluster come into the picture.

### HIGH PERFORMANCE CLUSTER

They use supercomputers along with computer cluster to solve complex and advanced computational problems. They are predominantly used to compute climate model.

### ADVANTAGES:

It helps in reducing cost.

It improves network technology.

### CONCLUSION:

Cluster computing offer a comparatively cheap alternative to large server or mainframe computer solutions. New trends in hardware and software technologies are likely to make cluster more promising. Cluster computing is cost-effective, expandable, and

ensure the high availability of resources. Which make its easier for the users to create its based on the system's needs

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