

Requirements

Transparency - the ability of the system to mask its complexity behind a simple interface

Possible transparencies

- Location - cannot tell where resources are located
 - Migration - resources may move without the user knowing
 - Replication - cannot tell how many copies of resource exist
 - Concurrency - cannot tell how many users there are
 - Parallelism - may speed up large jobs by splitting them into smaller pieces
 - Fault Tolerance - system may hide various things that go wrong
- ➔ Transparency and collaboration require some way for different processors to communicate with one another

Clients and Servers

The prevalent model for structuring distributed computation is the client/server paradigm

- ➔ A **server** is a program (or collection of programs) that provide a service (file server, name service, etc.)
 - The server may exist on one or more nodes
 - Often the node is called the server, too, which is confusing
- ➔ A **client** is a program that uses the service
 - A client first binds to the server (locates it and establishes a connection to it)
 - A client then sends requests, with data, to perform actions, and the servers sends responses, also with data