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Goals of Distributed Systems

The four important goals that should be met for an efficient distributed system are as follows:

1. Connecting Users and Resources

- The main goal of a distributed system is to make it easy for users to access remote resources and to share them with others in a controlled way.
- It is cheaper to a printer be shared by several users than buying and maintaining printers for each user.
- Collaborating and exchanging information can be made easier by connecting users and resource.

2. Transparency

- It is important for a distributed system to hide the location of its process and resource. A distributed system that can portray itself as a single system is said to be transparent.
- The various transparencies need to be considered are access, location, migration, relocation, replication, concurrency, failure and persistence.
- Aiming for distributed transparency should be considered along with performance issues.

3. Openness

- Openness is an important goal of distributed system in which it offers services according to standard rules that describe the syntax and semantics of those services.
- Open distributed system must be flexible making it easy to configure and add new components without affecting existing components.
- An open distributed system must also be extensible.

4. Scalable

Scalability is one of the most important goals which are measured along three different dimensions.

- First, a system can be scalable with respect to its size which can add more user and resources to a system.
- Second, users and resources can be geographically apart.
- Third, it is possible to manage even if many administrative organizations are spanned.