

* Distributed System (DS) - Assignment Number - 4.

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* What are the two basic file system used in distributed systems? Compare these two file systems.

→ ① Two distributed systems that have been in widespread used for a decade or more:

I> Sun Network File System (NFS)

II> Andrew File System (AFS)

② Comparing between NFS and AFS

- AFS has stateful servers whereas NFS has stateless servers.

- AFS provides both:

1. Location Independence (the physical storage location of the file can be changed without having to change the path of the file etc.

2. Location transparency (the file name does not hint as its physical storage location). But as was seen in the last lecture, NFS provides only location transparency.

- Callback: Stateful servers in AFS allows the server to inform all

client with open files about any updates made to that file by another client.

★ Explain different methods for name resolution with suitable example.

→ DNS is designed as a fault client server application. A host that needs to map an address to a name or a name to an address calls a DNS client named a resolver.

1] Recursive Resolution:

- A client request complete translation.
- If the server is authority for the domain name, it checks its database and responds.
- If the server is not authority, it sends the request to another server and waits for the response.

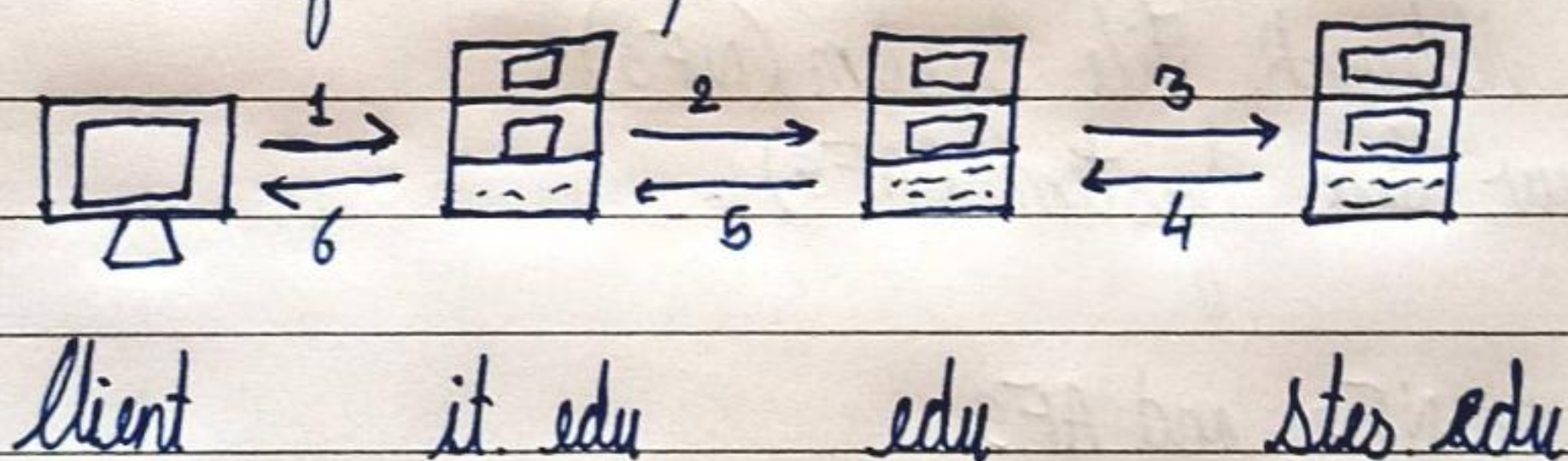
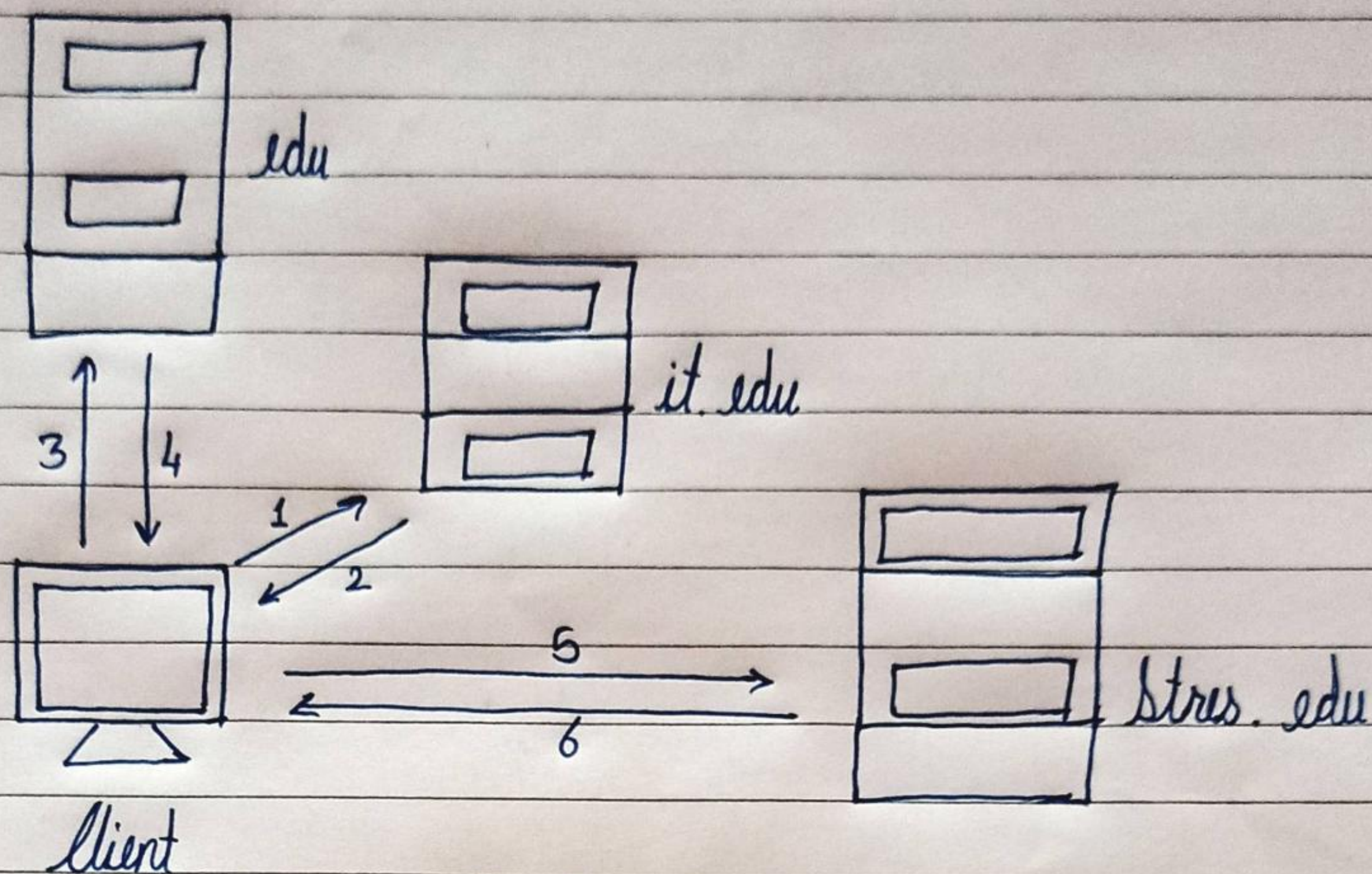


fig. → example of recursive resolution

2] Iterative Resolution:

- Only single resolution is made and returned.
- Client must now explicitly contact different name server and further resolution needed.
- If the server is an authority for name, it sends the answer. If it is not, it returns the IP address of the server that it thinks can resolve the query.



Iterative Resolution

3) Reverse Name Resolution:

- Reverse name resolution is an important task of DNS on the Internet or the translation of IP addresses back to domain names.
- Reverse name resolution fields use the PTR resource record, which points to the correct position in the normal DNS space.
- To obtain IP address of a named server each host has a client protocol known as name resolver.
- Resolver then creates a resolution request message in standard message format of domain name server protocol.