

Internet applications assignment 3

Distribute File System

My file system implements the following features

- Client library + sample application
- Directory Service
- Lock System
- Replication
- Local Caching
- Event System.

Client Library:

To demonstrate my system working I have designed a simple application that allows multiple users to edit a text document and get live-updates.

Directory Service:

Maintains a mapping of ids, paths and hashes of all files in the network, doesn't assert that file names or hashes are unique, however ids must be unique to target a specific file.

Lock System:

Lock an identifier, release when done or it expires after 30 seconds

Replication:

Replicate to N nodes, fastest N nodes get the go ahead to request a copy

Caching

Caching is based on expression of interest, when a client requests a file, all nodes along the path store a cached copy of the file.

Event System:

For every action in the network a message is sent across to all nodes via websockets, I've dubbed this 'router' in my implementation, all services utilize it