

My First Cloud Sharing Service

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1 Purpose of the Application

This application implements a distributed system for backing up a company's files, respecting the company's hierarchy. It also enables to access some functionality in the outside the organization.

2 Main Features

- File backup (and respective enhancement)
- File restore (and respective enhancement)
- Deletion of file from the service (and respective enhancement)

The enhancement to this service is slightly modified, as the election of an master-peer and the implementation of the *WAKEDUP* command enables us to only send one *DELETE* command when peers "wake-up".

- Changing the amount of space available for peer's chunks (and respective enhancement)
- Synchronization between peers
- Election of master peer

This peer is considered to own the valid database at any moment. Is also responsible for initializations of other peers. Is elected automatically after some idle time.

- Access levels

This introduces hierarchy to the database, in a bubble-like fashion.

- Authentication through password

This enables a user to login as a user with a given access level. In sequence to this, the master peer assigns a certificate to the logged-in peer, which he uses to encrypt his messages.

- Encryption (when desired)
- Write ahead (of action)

On start-up, the application checks the database for actions not finished, and acts accordingly to finish them.

- On wake up database update
(through calling a function on the master peer through RMI, which returns the database)
- Name resolution in order to the access level

3 Web Services

3.1 Provided Services

- Backup file (If Time Permits)
This enables an authenticated user to backup a file outside the company's LAN.
- Restore file (If Time Permits)
This enables an authenticated user to restore a file outside the company's LAN.

4 Target Platforms

- Java standalone application for PC/UNIX
- Java standalone application for Android (if time permits)

5 Additional Services and Improvements (if time permits)

- Server for access outside of Company through TCP API (just a bridge)
- Mobile application to get and backup files through Android

6 Project's Perspective

Given that the group is only formed by three elements, and having in mind the amount of work needed to accomplish the above objectives, we aim to achieve the grade of 20.