

Abstract – english version

ZlomekFS is a distributed filesystem which is able to share data among nodes. These nodes can cooperate in various modes. Modes differ in caching of local data at the client side and in the way how data is synchronized between the client and the server. This synchronization has been implemented by an unsecured and untrusted network connection until now. The current implementation uses FUSE interface for the communication between the kernel of the filesystem and the user. The synchronization is triggered when the user performs a specific operation above the filesystem.

For well functionality in modern network environment it is necessary to both communicating partners to be sure about the identity of the second end of a communicating channel. This thesis implements trustworthy connection between the server and the client part of filesystem. In addition, it separates machine and user type of client.

Next important part of the thesis is correct data synchronization and precise definition of sharing semantics.