

Whispr – Communication Protocols

1 OVERVIEW

For the IM system there will be four main sections interacting with each other. There will be a Registry server of which only one instance will run at a time; Its sole purpose is to provide a means of tracking the individual message servers and provide the user a list of the active servers. The key server will keep track of logging users in and distributing public keys. The chat servers will be capable of multiple instances and handle the message passing between users by acting as a distribution center for the chat group. This server would keep clients up to date with the latest received messages, keep track of the active clients, and create a backup of messages for any new client connections. Lastly the client-side application will be responsible for encoding/decoding messages, encrypting/decrypting messages, choosing connection type (group message, or private message), and displaying relevant info to the user. As a result of the private messages implantation we are going for, the client will be completely independent of the message server during this type of communication. Instead the host will become the intermediary for the 2 clients and keep the other up to date.

Table 1 – Protocol List

Purpose	Initiator	Other Processes	Pattern
Start communication between client and Registry Server, get list of message servers online, keep alive	Client	Registry server	Request Reply, Heartbeat messages after initial contact
Start communication between client and Chat Server, get list of people currently connected to that Chat Server, keep alive	Client	Chat Server	Request reply, Heartbeat messages after initial contact
Connect Chat Server to Registry Server	Chat server	Registry server	Request acknowledge, Heartbeat messages after initial contact
Send message to message server	Client	Chat Server	Request Reply, Publish Subscribe
Request key from key server	Client	Key Server	Request Reply
Post key to key server	Client	Key Server	Request Acknowledge
Request online contacts list	Client	Registry Server	Request Reply
Disconnect Client / Message	Client/Chat Server	Registry/Chat Server	Request Acknowledge