

Network Working Group  
Update : 1

L. Charamond  
M. Portefaix  
Gustave Eiffel University – IGM  
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## **THE CHATOS PROTOCOL**

### **Version 1.0**

//TODO description ChatOS

## ChatOS Packets

ChatOS can receive 5 types of packets which are the followings :

opcode	operation
1	Connection request (CR)
2	Request personnal message (RPM)
3	Send personnal message (SPM)
4	Send message for all (SMA)
5	TCP private connexion (PC)
6	Error code (ERROR)

The opcode is the header of each sende packets.

## ChatOS packets description

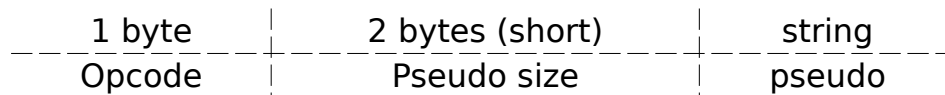


Figure 1: CR packet

The CR packet (opcode = 1) have the Figure1 format. The pseudo is encoded in UTF-8. The pseudo need to not be used by a current user, you will get an error and you will not be able to connect to ChatOS if you try to connect with a used pseudo.

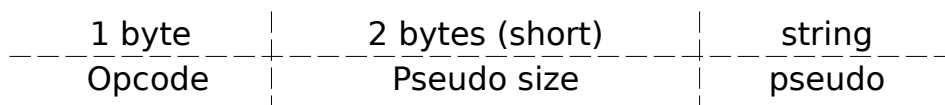


Figure 2: RPM packet

The RPM packet (opcode = 2) have the Figure2 format. The pseudo is encoded in UTF-8. The server will answer if it is possible to send a message or not.

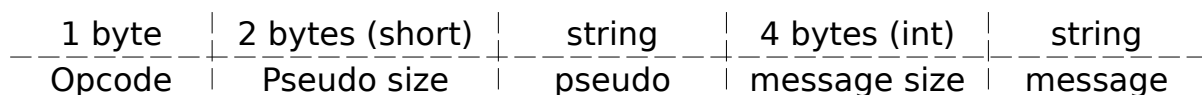
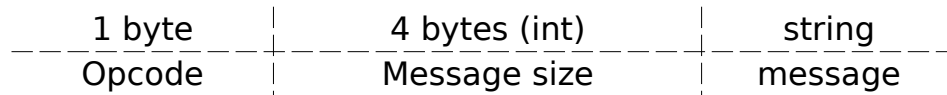


Figure 3: SPM packet

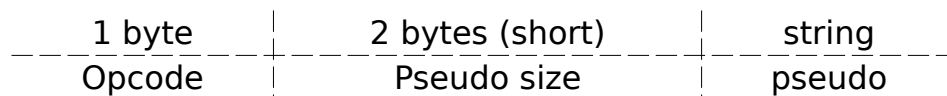
The SPM packet (opcode = 3) have the Figure3 format. The pseudo and the message is encoded in UTF-8. This request assume that the RPM packet has been send and followed by a favorable answer. The need to send before a RPM packet is necessary to lightened the network because we don't want to send a message when the recipient does not exist (or have a problem).

## ChatOS Protocol



*Figure 4: SMA packet*

The SMA packet (opcode = 4) have the Figure4 format. The message is encoded in UTF-8.



*Figure 5: PC packet*

The PC packet (opcode = 5) have the Figure5 format. The pseudo is encoded in UTF-8. The pseudo need to not be used by a current user, you will get an error and you will not be able to connect to ChatOS if you try to connect with a used pseudo.



*Figure 6: ERROR packet*

The CR packet (opcode = 6) have the Figure6 format. The error codes are describe later.

## ChatOS Formats

Connexion : a client A send a 'CR' to the server and wait a 'ERROR'.

Personnal message : a client A send a 'RPM' to the server, he wait a 'ERROR', then he send a 'SPM', the server send a 'SPM' to the objectiv client and finally wait to receive a 'ERROR' to relay it to A.

Message to all : a client A send a 'SMA' to the server, the server send 'SPM' to all known clients (except A) and wait 'ERROR' from all objectiv to send back 'ERROR' to A

Private TCP connexion : a client A send a 'PC' packet to the server, he wait a 'ERROR' then he send a 'PC' to the objectiv client and wait to finally receive a 'ERROR' to relay it to A.

## Error codes

Value	Meaning
0	OK
1	Pseudo already taken
2	Server out of capacity
4	Unreachable client
5	Connexion refused