IM protocol-draft V 0.2

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Description: Message protocol.

Msg : Message

Seg: Segment

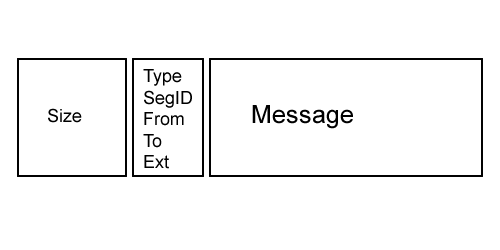
Len: Length

**Chapter One**

1. Msg protocol

Head content:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Max Len | Description |
| Size | quint32 | 2^32 | Whole message length |
| Type | quint8 | 2^8 | Message Type |
| SegID | quint8 | 2^8 | Segment ID |
| From | Quint32 | 2^32 | Send IP address |
| To | Quint32 | 2^32 | Receiver IP address |
| Message |  |  | Pure Message input by user/server |



1. Size (total size in byte)
2. Type :

完善这个，登录，下线等

|  |  |  |
| --- | --- | --- |
| 0x00 | Default value |  |
| 0x01  序号1,2,3,4…依次编排 | Syn message, sent by server and client automaitcly to check connection status. |  |
| 0x02 | Login message, sent by client and the server sent 0x03 as response. |  |
| 0x03 | Sent by server to tell client that connection accpected and server is ready for next message. |  |
| 0x04 | Sent by server to tell client that connection build failed. Failed reason should be written in Message segment. |  |
| 0x05 | User message. |  |
| 0x06 | Request server users list. Send by client. | Request both user list and group list. |
| 0x07 | Response 0x06 request, message contain user list or group list. |  |
| 0x08 | Client prepares to log out. |  |
| 0x07 | Reserve for next version. |  |
| 0x07 | Reserve for next version. |  |
| 0xXX | Reserve for next version. |  |

不考虑多个类型合并

C． SegID

标识每一段Message segment 。

minimum：0x00

maximum：0x0F

1. From

From means Sender IP address.

1. To

Receiver IP address.

1. Ext

Contain more extra control command.

1. Message

Message size = Size – sizeof(type + SegID + From + To + Ext)

Example:

void MainWindow::sendData()

{

QByteArray block;

QDataStream out(&block, QIODevice::WriteOnly);

out.setVersion(QDataStream::Qt\_4\_6);

quint32 blockSize = 0;

quint8 blockType = 0;

quint8 segID = 0;

quint32 segLen = 0;

quint8 segNext = 0xFF;

QString content = msgEdit->toPlainText();

segLen = content.size() + sizeof(segLen) + sizeof(segID);

out<<blockSize<<blockType<<segID<<segLen<<segNext<<content;

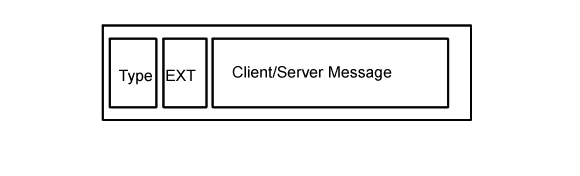
out.device()->seek(0);

out<<quint32(block.size() - sizeof(quint32));

tcpSocket->write(block);

}

1. Message



Type: 8 bite

EXT: 32 bite

Length: Message segment length (size in byte)

Type:

|  |  |  |
| --- | --- | --- |
| 0x00 | Default value |  |
| 0x01 | P2P Message | Person to person message. Include simple text message and multi-media message. |
| 0x02 | P2M | One to multi message. |
| 0x03 | SCM | Server control message. |
| 0x04 | Client request list ID | Contain last list ID received. |
| 0x05 | Server response list request. | Contain list information, such as users and group list numbers. |
| 0x06 | Server list message | Contain current list ID, and following list ID. |
| 0x07 | Login information | Such as user name, password and special settings. |
| 0xXX | Reserve for next version |  |

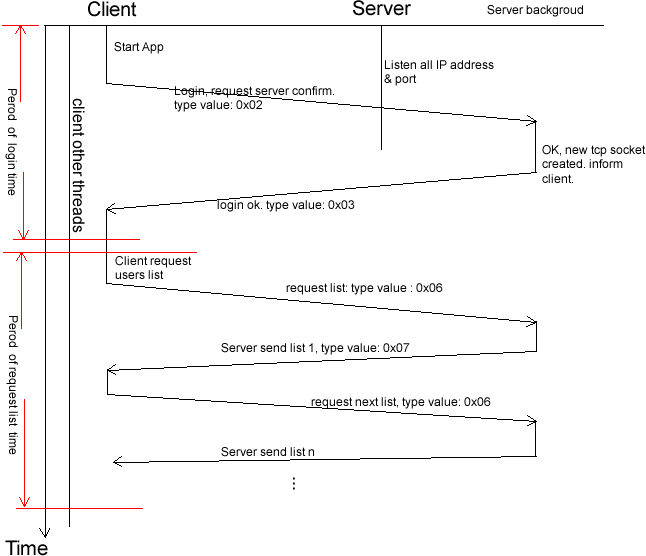
Extension: Reserve for next version.

1. May used as link priority.
2. May used as connection method. ( A. One time connection; B. Temporary/short connection; C. Long time connection )
3. May used as contain more control/other information

关于Ext最初考虑用来 给未来扩展做接口。昨天（0629）会议讨论到需要应用层抽象UDP长连接，connection method为其留了一个接口。

什么场景下用到这些？

**Chapter Two**

1. Login time table: 

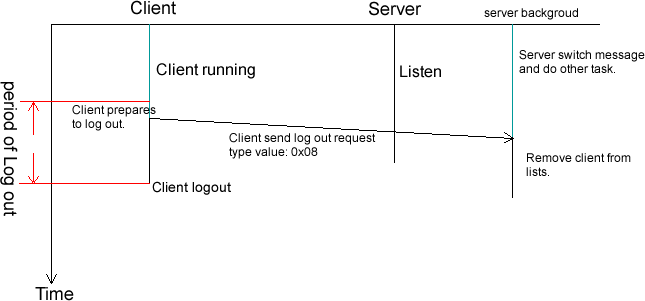
Client 登录流程：

通信方式： TCP/UDP。

登录步骤：

1. Client发送登录请求。

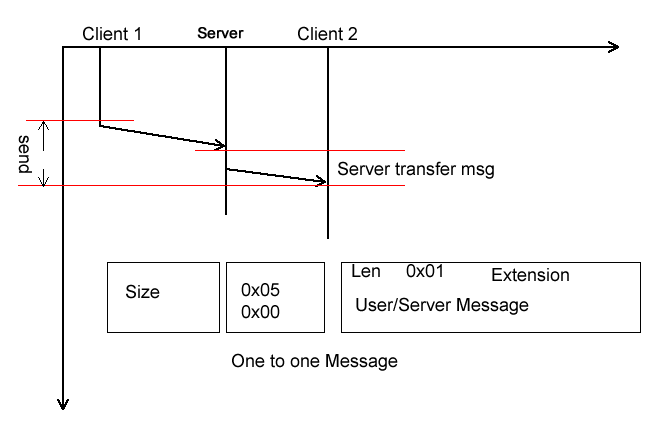
2. Logout time table



Port convention:

Client: TCP: 3111 UDP: 2085

Server: TCP: Listen All UDP: 2084

Client send p2p message by TCP.

**Chapter Three**

**IM—Logical layer**

