When a client connects to a NetTest server, it must be authenticated to make sure it is actually a NetTest game client, and in order to set up its unreliable channel.

The client initially establishes a TCP connection with the server, upon which its **client->connected** field is set to true – the client is connected, but not yet signed on. Upon the server accepting this connection, the server sends the **msg\_auth\_challenge** to the client that is connecting, and a single byte representing the current protocol version (defined as a C protocol version, current just **0x1**). The client responds with **msg\_auth\_response**, and the protocol version it expects to use. If these do not match, the client is kicked.

The next message sent from the server to client is msg\_auth\_clientinfo\_request, with no parameters. The client then responds with **msg\_auth\_clientinfo\_response**, a username, and the port number used for the unreliable band communication. If the port is not within the Internet Assigned Numbers Authority (IANA) transient port range of 49152 to 65535, the client is kicked. If the username has no length, the client is kicked. If the port and username are valid, the client is allowed to connect, its unreliable band is set up, its **client->signed\_on** field is set to true (the server assigns it the first client slot that does not have **client->signed\_on** set to true – if there are no slots satisfying this criteria, the client is gracefully disconnected with **msg\_disconnect** ), and then it is added to the server and can receive normal network messages.

The client additionally has a maximum time of the **NET\_CLIENT\_AUTH\_TIMEOUT** define (currently set to 5,000 milliseconds, or five seconds) to complete authentication. If this does not happen, the server kicks the client with “Connection timed out”. Timeout will also occur if a single packet takes longer than **NET\_CLIENT\_PACKET\_TIMEOUT** milliseconds, and all clients will be automatically disconnected at server exit.