

Forge Notification System Protocol Specification Version 1.0

- 1) Connection is achieved via a simple TCP Connection as implemented by the Java `java.net.Socket` / `java.net.ServerSocket` classes.
- 2) The Byte Stream of the Connection is split into Packets (not to confuse with TCP packets!). Multiple packets can be send without establishing a new Connection for each Packet.
- 3) There is no defined Packet order, each packet can be send at any time
- 4) The template for each Packet is as follows:
 - A short value, representing the total length of the packet in bytes, excluding this short value
 - 128 bytes, representing an RSA-1024-bit encrypted SHA1 hash of the packet contents (excluding the hash itself)
 - A String containing the protocol version (More on Data types below). Currently “1.0”
Packets must not be parsed and the Connection should be closed if the received Protocol version does not match the Protocol version that the receiving Program implements
 - A String defining the Type of the packet. The type is case insensitive.
Currently defined types:
 - REWARD represents a reward that should be given to a player
Contents are:
A String representing the username of the player the reward should be given to
A long value representing the UNIX timestamp of when the reward was earned in UTC
 - The actual Packet contents, depending on the packet type (see above)
 - A single byte. A value of 0 represents the connection should be closed after this packet. Any value different from 0 represents that the connection should be kept open to receive further packets. The value gives no indication on how many packets will arrive still.
- 5) Short transfer: A short value is transferred as 2 bytes ($a + b$), such that the short value can be reconstructed with $(a \ll 8) \mid (b \& 0xff)$
The short value is, unless otherwise noted, unsigned so that values from 0 through 65535 can be transferred
- 6) Long transfer: A long value is transferred as 8 bytes ($a - h$) such that the long value can be reconstructed with
 $((a \& 0xff) \ll 56) \mid$
 $((b \& 0xff) \ll 48) \mid$
 $((c \& 0xff) \ll 40) \mid$
 $((d \& 0xff) \ll 32) \mid$
 $((e \& 0xff) \ll 24) \mid$
 $((f \& 0xff) \ll 16) \mid$
 $((g \& 0xff) \ll 8) \mid$
 $((h \& 0xff))$
- 7) String transfer: A String is transferred as follows:
A short value that describes the total length of the UTF-8 representation of the String in bytes
The UTF-8 representation of the String as a number of bytes