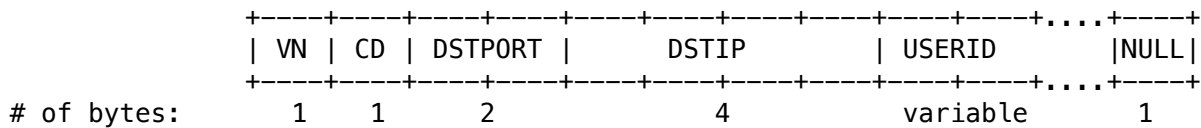SOCKS 4A: A Simple Extension to SOCKS 4 Protocol

                        Ying-Da Lee
             yingda@best.com or yingda@esd.sgi.com

Please read SOCKS4.protocol first for an description of the version 4
protocol. This extension is intended to allow the use of SOCKS on hosts
which are not capable of resolving all domain names.

In version 4, the client sends the following packet to the SOCKS server
to request a CONNECT or a BIND operation:

```
              +----+----+----+----+----+----+----+----+----+----+....+----+
              | VN | CD | DSTPORT |      DSTIP        | USERID       |NULL|
              +----+----+----+----+----+----+----+----+----+----+....+----+
 # of bytes:    1    1       2             4            variable       1
```

VN is the SOCKS protocol version number and should be 4. CD is the
SOCKS command code and should be 1 for CONNECT or 2 for BIND. NULL
is a byte of all zero bits.

For version 4A, if the client cannot resolve the destination host's
domain name to find its IP address, it should set the first three bytes
of DSTIP to NULL and the last byte to a non-zero value. (This corresponds
to IP address 0.0.0.x, with x nonzero. As decreed by IANA -- The
Internet Assigned Numbers Authority -- such an address is inadmissible
as a destination IP address and thus should never occur if the client
can resolve the domain name.) Following the NULL byte terminating
USERID, the client must sends the destination domain name and termiantes
it with another NULL byte. This is used for both CONNECT and BIND requests.

A server using protocol 4A must check the DSTIP in the request packet.
If it represent address 0.0.0.x with nonzero x, the server must read
in the domain name that the client sends in the packet. The server
should resolve the domain name and make connection to the destination
host if it can.

SOCKSified sockd may pass domain names that it cannot resolve to
the next-hop SOCKS server.