A SOLUTION TO THE RACE CONDITION IN THE ICP

In NWG/RFC #143 a race condition in the ICP was described and a
solution was suggested. The problem arises because the Host-Host
protocol does not specify what the NCP should do when it gets more
than one request of STR (or RTS) to the same socket. As a result
this decision depends on the particular implementation: some may
queue these requests (SDC for example), some will refuse a request if
the socket is already connected (UCLA for example), etc.

The solution is not to change the Host-Host protocol, but find a
third level ICP which does not depend on this issue. Such a solution
is the following: the INITs from server to user and user to server
((S5), (S6), (U5), (U6) on page 3 in RFC #143) should use another
socket -- say U+2 and U+3. The sequences in RFC #143 would be:

```
    Server                          User
    ------                          ----
    (S1) LISTEN(L,32)               (U1) INIT(U,L,32)
    (S2) [wait for match]           (U2)
    (S3) SEND(L,S)                  (U3) RECEIVE(U,S)
    (S4) CLOSE(L)                   (U4) CLOSE(U)
    (S5) INIT(S,U+3,Bu)             (U5) INIT(U+3,S,Bu)
    (S6) INIT(S+1,U+2,Bs)           (U6) INIT(U+2,S+1,Bs)
```

This solution will solve the problems pointed out in RFC #143 without
any assumptions made about the NCP implementation. The solution in RFC
#143 assumes that the NCP can notify a process when a command (e.g.,
close) comes in, which is implementation dependent.

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