DCCP CCID 3-Thin

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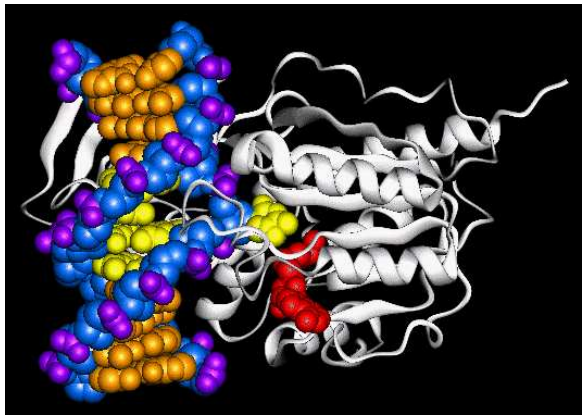
Problem

- DCCP is a moderately complex protocol

  Heh



- We believe this complexity is necessary and appropriate for host stacks

  But what about small devices? VoIP phones?

- Propose a simplification of DCCP + CCID 3 that works within the existing framework

CCID 3-Thin: a CCID 3 use profile

- Negotiate CCID 3
- Simultaneously supply CCID 3-Thin option
  - Use Mandatory so connection will be reset if 3-Thin not understood
- 3-Thin restricts the actions a host may take
  - Packet types
  - Options
  - Option order
  - Etc.

Thin client initiates connection

```
+--------+--------+--------+--------+
|00100001|00000100|00000001|00000011|
|Change L| Len=4  |  CCID  |  TFRC  |
+--------+--------+--------+--------+
|00100011|00000100|00000001|00000011|
|Change R| Len=4  |  CCID  |  TFRC  |
+--------+--------+--------+--------+
|00000001|11000001|00000010|00000000|
|Mand'ory| 3-Thin | Len=2  |Padding |
+--------+--------+--------+--------+
```

- Other cases in draft

3-Thin restrictions (1)

- Both half-connections use CCID 3
- All feature values fixed
- ECN incapable
- No Ack Vectors
- Not Mobility Capable
- Loss Window 1000
- ID Regime 0
- Use Loss Event Rate
- Not Use Loss Intervals

3-Thin restrictions (2)

- Fix Ack options

  Elapsed Time, Receive Rate, Loss Event Rate

- No DataAck, CloseReq
- No Data Dropped

  Treat as network losses instead

- No Slow Receiver, Init Cookie, Timestamp, . . .
- No extended sequence numbers

Discussion

- Allow DataAck?
- Allow ECN?

  Would require some form of the Loss Intervals option, for nonce verification

  Just the most recent loss interval?
- Allow Sync?