SCTP NAT Transverse Considerations
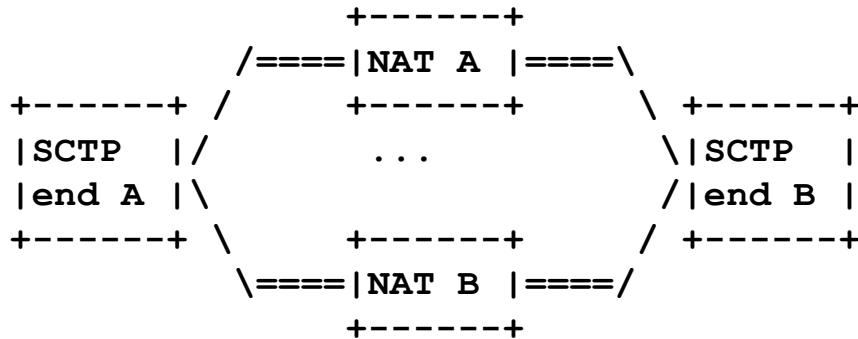
<draft-xie-tsvwg-sctp-nat-00.txt >

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Differences from TCP NAT Traversal

■ Some internal fields (a.k.a., control chunks) may carry IP addresses, e.g., INIT, INIT-ACK, ASCONF.

■ Both endpoints in an SCTP association can be multi-homed, hence the possibility of multi-point traverse:

```
                         +------+
                   /====|NAT A  |====\
       +------+   /      +------+      \ +------+
       |SCTP  |/          ...          \|SCTP  |
       |end A |\                       /|end B |
       +------+ \       +------+      / +------+
                 \====|NAT B  |====/
                        +------+
```

Some solutions…

- <u>Case 1 - both endpoints are singly-homed</u>: very similar to the TCP case, but the NAT needs:
  1. recognize the protocol number for SCTP
  2. locate and change the transport ports if needed (the location of the transport port numbers are the same as TCP)

  This works as long as SCTP endpoints do not include the IP address in their INIT/INIT-ACK again.

- <u>Case 2 - one or both endpoints is multi-homed but no multi-point traverse</u>:
  1. recognize the protocol number for SCTP
  2. locate and change the transport ports if needed (the location of the transport port numbers are the same as TCP)
  3. understand SCTP INIT, INIT-ACK, ASCONF chunks and translate IP addresses carried in the chunks

Some solutions… (cont.)

- <u>Case 3 - multi-homed endpoints and multi-point traverse</u>: a tough case, key is to allow all NATs recognize the SCTP association and perform consistent translation. Two possible solutions,
    1. manually configure synchronized static translation table for all NAT involved?
    2. device some kind of dynamic mechanism (e.g., inter-NAT protocol) to synchronize translation table among the NATs?

- looking for more input

- a work group item?

- Welcome review and comments