Multipath TCP Address Advertisement

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Address advertisement in MPTCP: lessons learned

- Sometimes the address of the initial subflow should not be used to create subflows

- Some addresses do not have the same importance (priority)

- An interface can have several addresses (dual-stack, IPv6, ...)

- Creating subflows has a cost and it is useful to minimize the number of subflows that are established
Load-balancers and MPTCP

- SYN+MP_CAPABLE
- SYN+ACK+MP_CAPABLE
- SYN+MP_JOIN

How to link to corresponding server?
Example

C->L : SYN+MP_CAPABLE

L->C SYN+ACK+MP_CAPABLE(nojoin)

L->C ADD_ADDR(5.6.7.9)

C->S2 SYN+MP_JOIN

S2->C SYN+ACK+MP_JOIN
Address advertisement reliability

C->L : SYN+MP_CAPABLE

L->C SYN+ACK+MP_CAPABLE(nojoin)

L->C ADD_ADDR(E=0, 5.6.7.9)

L->C ADD_ADDR(E=1, 5.6.7.9)
Make after before or after break

MPTCP supports make before break and make after break but does not enable hosts to indicate a preference.

Motivations requesting make after break

- Reducing the number of subflows on servers
- Energy utilisation and radio resources on smartphones
Priorities

The scheduler could schedule according to specific priorities.
Path Diversity

An interface can have multiple addresses (dual-stack, IPv6,...)
Conclusion

We propose to integrate the modifications from the draft into RFC6824bis.
Thanks!

Questions?