MP-DCCP progress

draft-ietf-tsvwg-multipath-dccp-02

LIFE IS FOR SHARING.

General updates

WG adoption received in August ’21

Focus now on the maturity towards WGLC, ideally aligned with the timeline in 3GPP Rel. 18

MP-DCCP part of the 3GPP Rel. 18 ATSSS enhancement discussion for Study Item approval

Testbed and implementations discussion started with industry partners

Preparation of next Open Source version publication for Nov/Dec ’21 ongoing (alignment with draft, performance)

Draft development at Github with currently 8 contributors; Established process with Issue tracker and PRs used for reviews and updates.

Draft updates since last IETF

So far in -01 we made a lot of editorial changes, but also substantial ones.

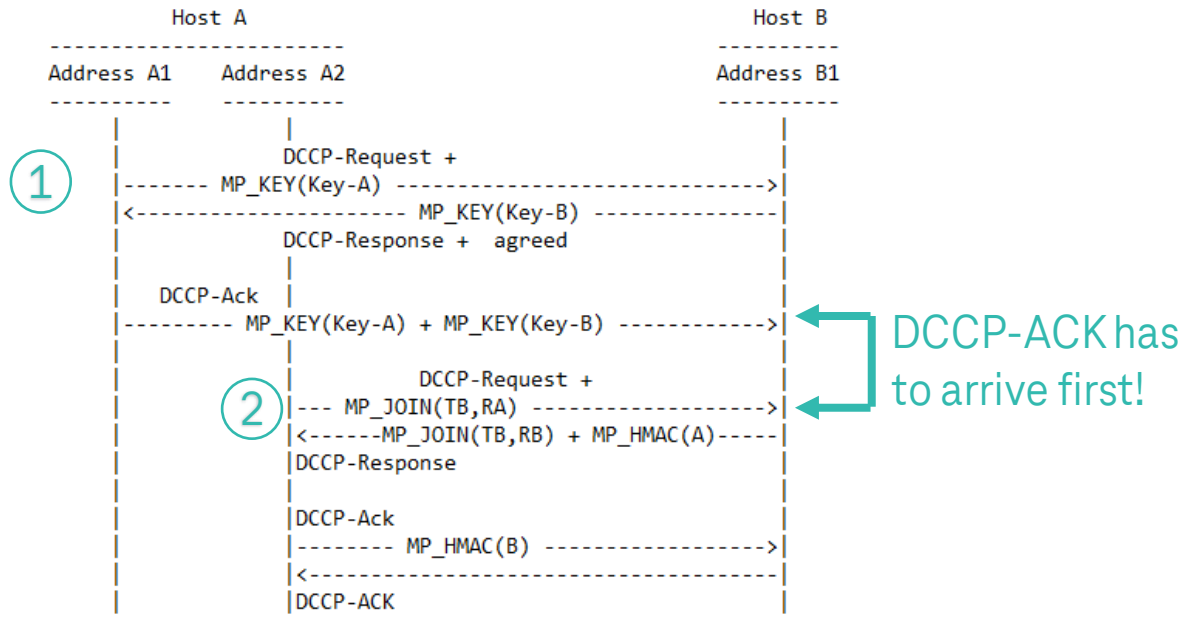
- Define reliable exchange of multipath options PR#33
- Consistent description of multipath reordering PR#32
- Added a "Fallback" section describing strategies if Multipath negotiation fails PR#35
- Reduce number of author to be compliant with the RFC Editor Style guide
- Editorial: PR#37, #PR31, #PR17

Changes -02

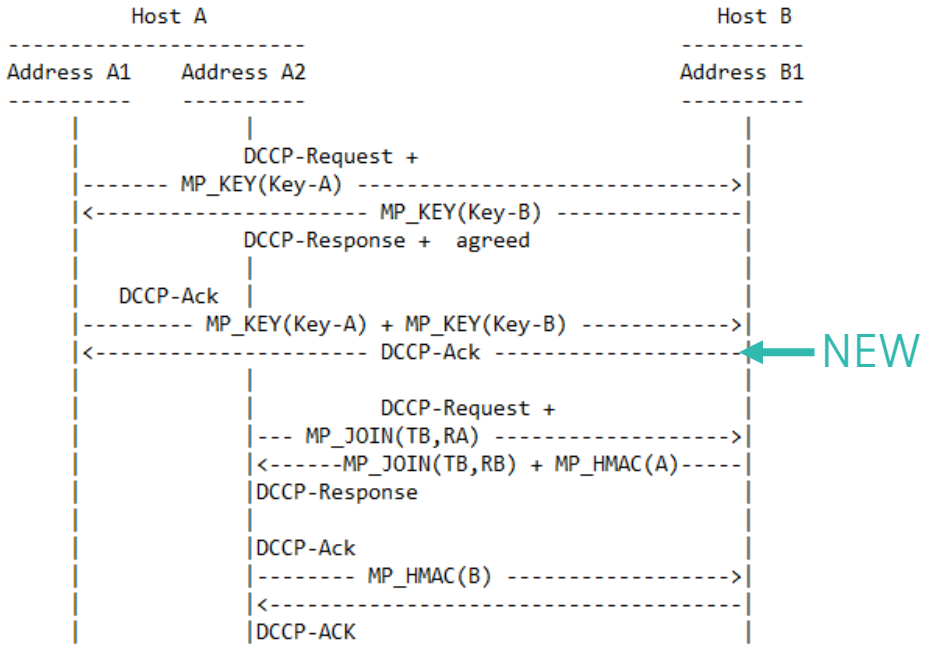
- Add details for handshake and authentication PR#40
- Re-definiton of MP_PRIO for fine granular steering of path priorities, backup and disabled paths PR#34
- Improve operational section PR#39

Handshaking procedure issue

Initial approach 3-way



Current approach 4-way (resembles MPTCP)



1 Initial 3-way handshake establishes MP connection and allows 2 subsequent flow establishment.

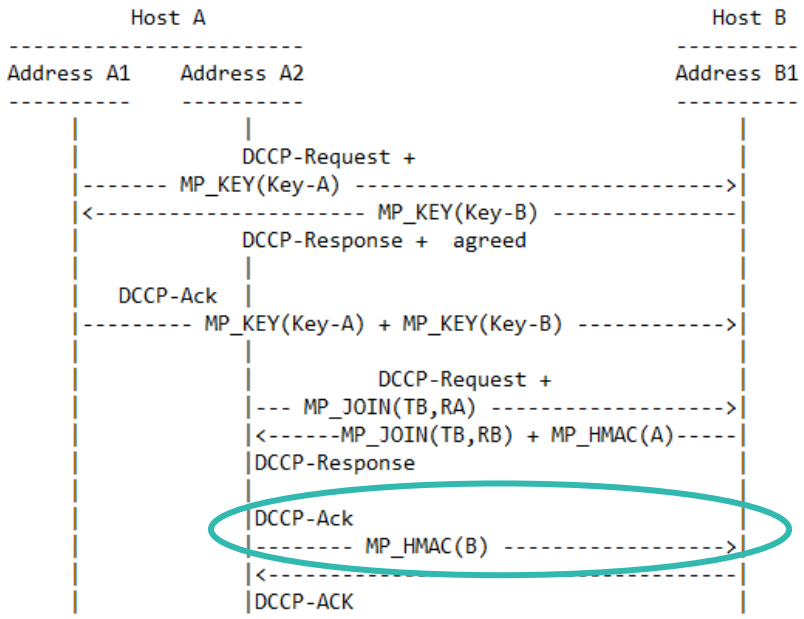
Problem: MP-JOIN overtakes final DCCP–ACK
→ DCCP-Reset on subsequent flow

Solution: Initial setup based on 4-way handshake as trigger for subsequent flow establishment.

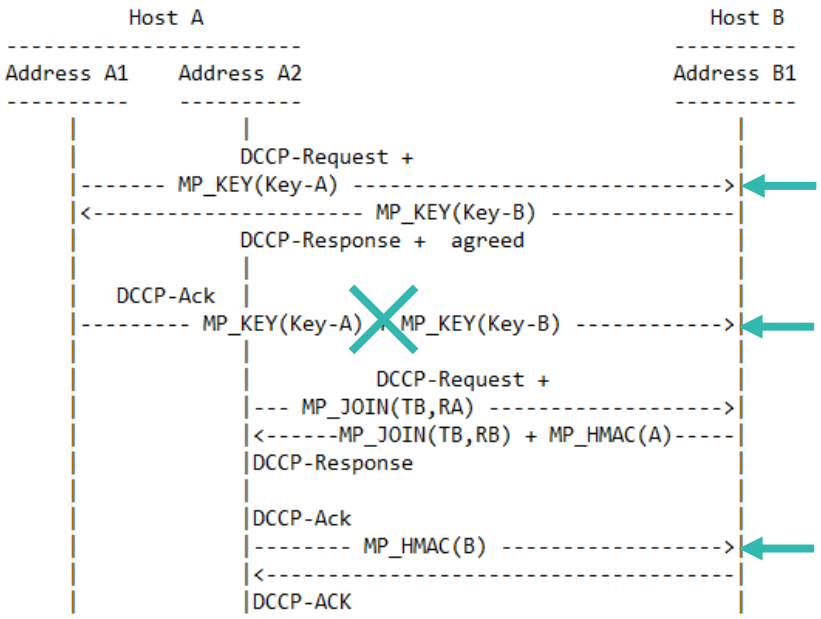
Problem: Additional delay and dependency introduced

Handshaking procedure optimization proposal

Keep initial 3-way but change implementation



Latency optimal & reduced dependency on initial flow



Check for initial flow establishment first with reception of the subsequent flow DCCP-ACK. Gives more time to the initial flow!

Problem: Applicable only if $RTT_{initial\ flow} < 1.5\ RTT_{second\ flow}$

MP-JOIN has no dependency on initial flow DCCP-ACK!

Question: Does this raise issues, e.g. **DoS** sensitivity due to early creation of MP structures in Host B or **security** concerns?

We need your feedback, please send it to

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or

https://github.com/markusa/ietf-multipath-dccp