



**I E T F**

# 5G Session Continuity Support in MPTCP

**draft-defoy-mptcp-5g-session-continuity-support-00**

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# Recent Changes

- This draft is an evolution of draft-defoy-mptcp-considerations-for-5g
  - Its scope is reduced to 5G session continuity support only.
  - It was revised based on feedback from discussions at IETF 102.
    - What is the impact on the MPTCP protocol?
    - Ideas for alternative solutions
- Summary of changes:
  - Only kept 5G session continuity-related text
  - Local impacts are still identified (e.g. continuity of backup priority) – no major changes
  - However, the draft is now more clearly describing end-to-end issues
    - Potential issues are identified (not breaking, but have potential impact on performances)
    - 3 alternative approaches are now considered
  - These end-to-end issues should apply when MPTCP is used between a 5G device and an MPTCP server or proxy

# Potential Issues

- In 5G, session continuity is not hidden from the MPTCP stack in some cases:
  - When both mobility support and maintaining low latency are needed, 5G uses a distributed mobility solution (in MBB or BBM mode).
  - In these cases a given connection will appear as a succession of IP addresses when the device changes anchor.

The issues identified are:

- With Make-before-break:
  - The old subflow may be interrupted abruptly when the network reclaims the resources related to the old IP address, resulting in losing and re-sending in-flight traffic, which can impact performances
- With Break-before-make:
  - MPTCP may switch back-and-forth between backup and active subflows, instead of waiting for the BBM transition to complete. This may be an unwanted behavior.

# Alternative Approaches

- Keep using MPTCP unmodified
  - Since these appear to be non-breaking issues.
- Use a client-driven behavior
  - A few minimal changes to the MPTCP protocol can enable the mobile client to drive the remote peer behavior (e.g. the client could gracefully close a subflow and specify a timer for the backup).
- Communicate session continuity information to the remote peer when adding an IP address (session continuity IP address type + original IP address index)
  - Let the remote peer know as much as the client.

# Next Steps

- This draft summarized what has been discussed so far:
  - Please feel free to provide more feedback.
- Future work could include the following:
  - If the MPTCP WG decides to describe components such as path management, this draft can provide input to cover support of IP session continuity.
  - As 5G networks become available to experiment with MPTCP and session continuity, it will become possible to validate and complete our analysis and proposed solutions.