

# Multipath TCP (MPTCP) Path Selection using Port Control Protocol (PCP)

**draft-wing-mptcp-pcp-00**

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# Problem Statement

- Determine access link maximum capability without sending data

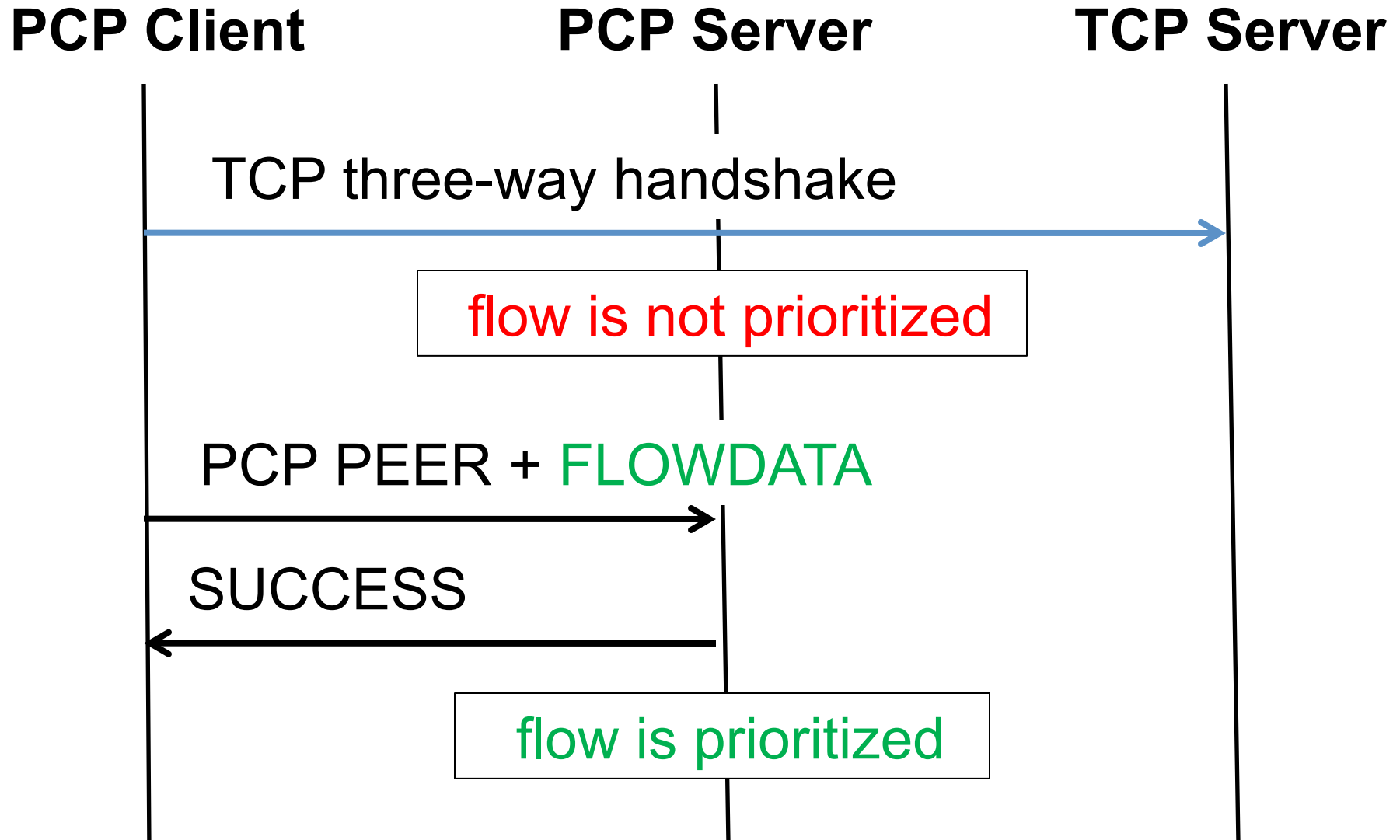
# MPTCP API Requirements (RFC 6897)

- REQ 8: An application should be able to inform the MPTCP implementation about its high-level performance requirements, e.g., in the form of a profile
- REQ 9: An application should be able to indicate communication characteristics, e.g., the expected amount of data to be sent, the expected duration of the connection, or the expected rate at which data is provided

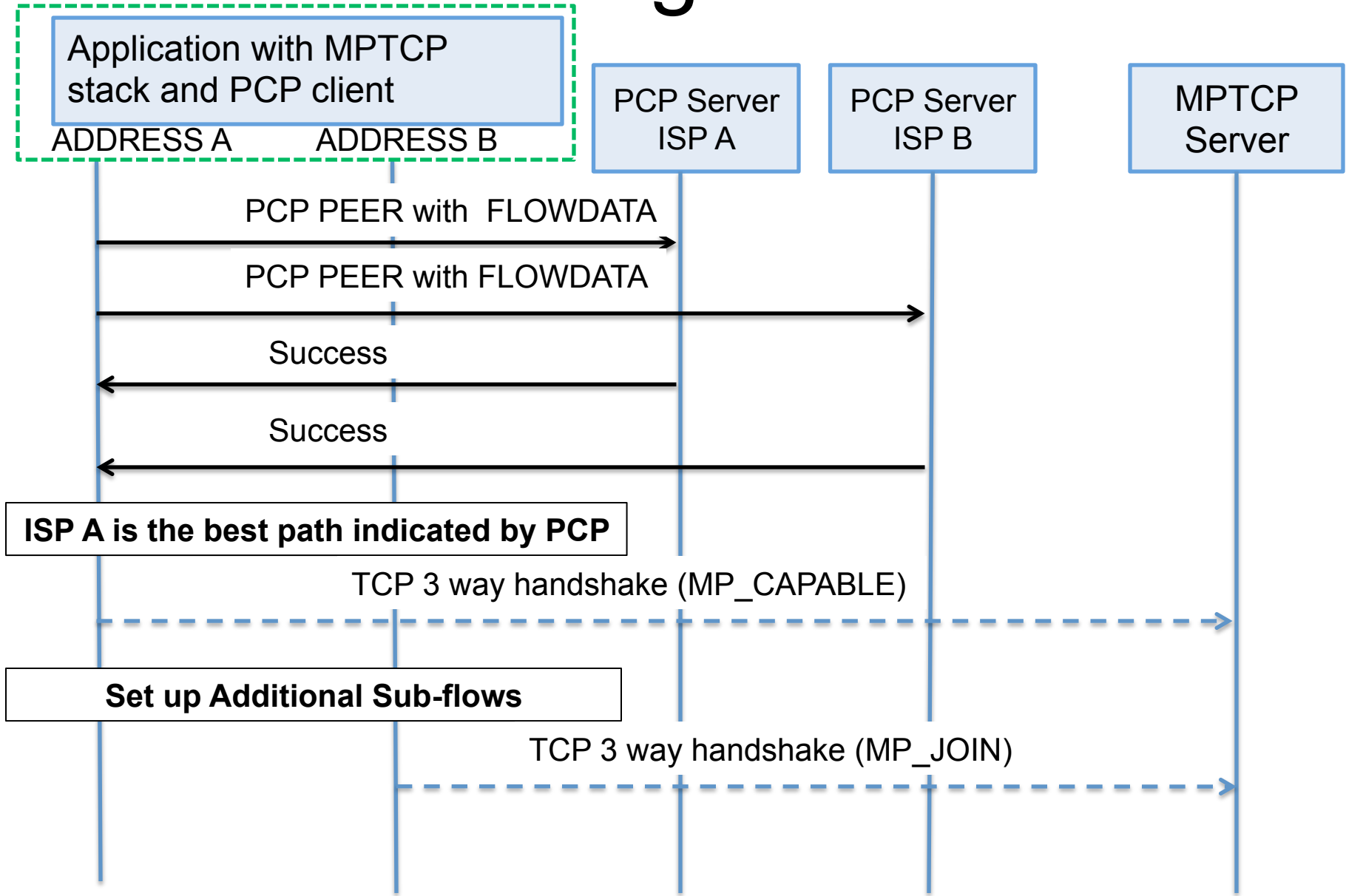
# Port Control Protocol

- Hosts use Port Control Protocol (PCP, RFC6887) to describe a flow to the network
  - Initial purpose: NAT and firewall devices.
  - Now: signal flow characteristics (bandwidth, importance), get feedback from network

# PCP Flowdata Example

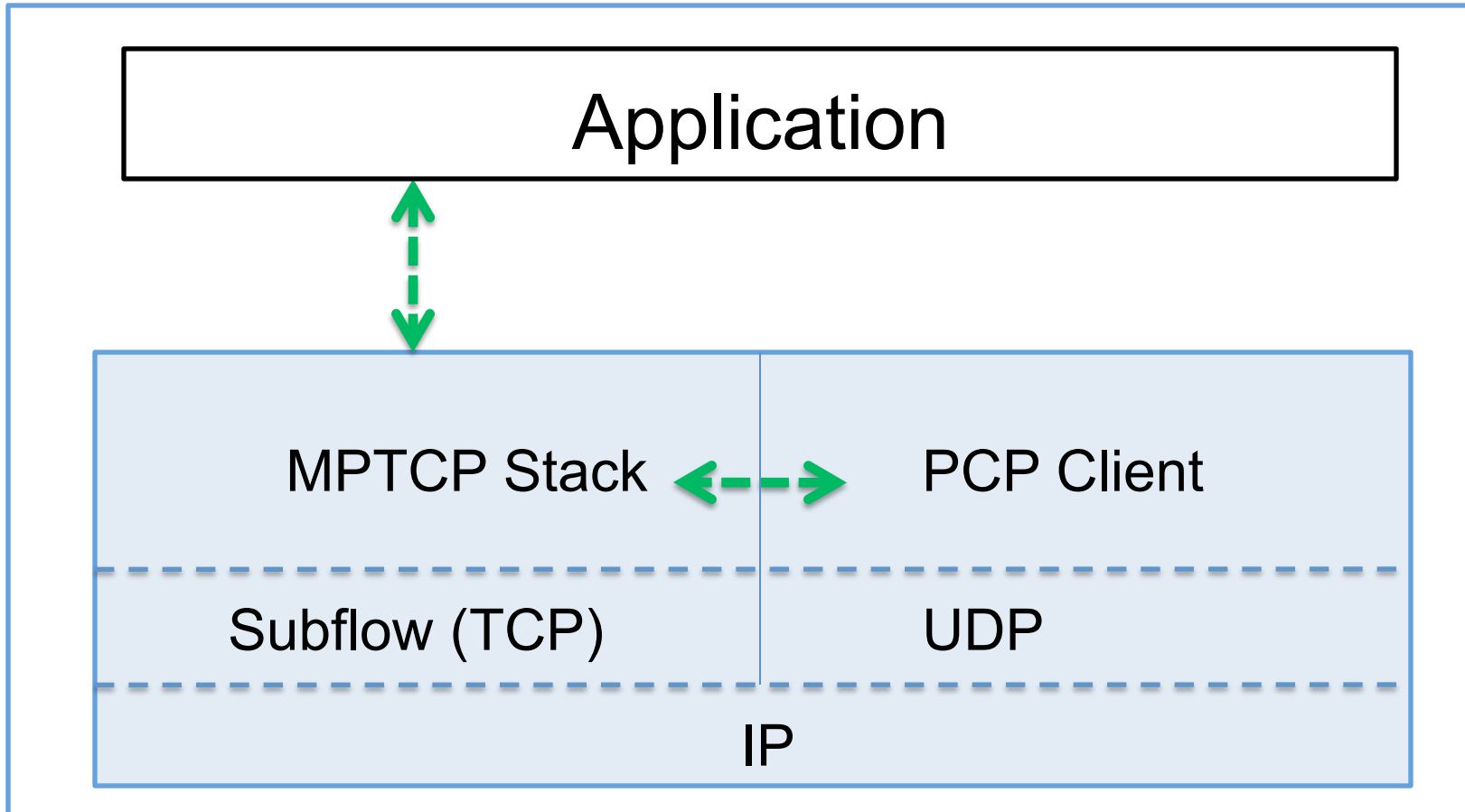


# Message Flow



# MPTCP stack using PCP

Host



# Advantages of MPTCP + PCP

- Network information available before sending data
- Reduces thrashing
  - Avoid requesting 1Gbps flow over 100kbps link
- Network can inform of changed characteristics
- Information useful to tune MP\_PRIO values
- Use PCP with ADD\_ADDR (if ADD\_ADDR survives!)



# draft-wing-mptcp-pcp

## ➤ Questions