PCP Flowdata Option

draft-wing-pcp-flowdata-00

August 2013, IETF 87 Meeting

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Problem Statement

Access networks often have insufficient bandwidth that prevent critical, latency sensitive applications from functioning as well as desired impacting user experience.

Existing Solutions

- DPI by Service Providers
  - Subscribers cannot request on-demand network services.
  - Cost.
- DSCP
  - DSCP values not preserved or honored
  - OS might not allow setting DSCP
- RSVP, NSIS
  - OS support, NAT traversal, larger scope

PCP FLOWDATA OPTION

- Signal the application's network requirements to the access network
  - So certain network flows receive different service than other network flows
- Signal access network’s ability to accommodate the flow

Reasons to choose PCP

- Useful at the application level
  - without kernel support
- Flow information can be recursively propagated using PCP proxy
  - Differentiation in both local and immediately adjacent access networks
- Host informed of changed network conditions

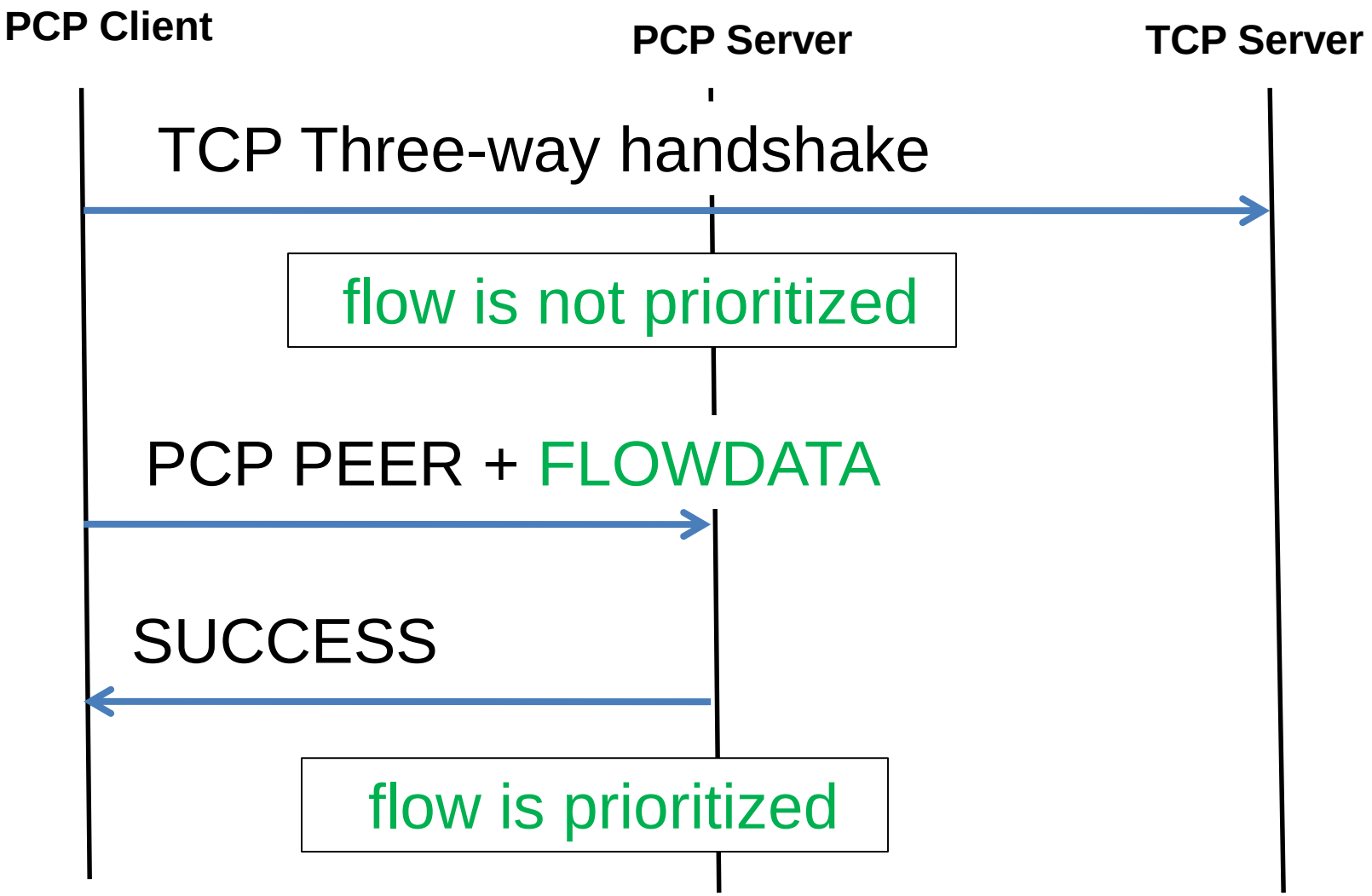
Reasons to choose PCP

- Differentiation can be authorized
  - draft-wing-pcp-third-party-authz
  - draft-ietf-pcp-auth
- Immediate incremental value

FLOWDATA Design Advantages

- Describe flows in both directions
- Abstracts layer 2 specifics
  - Layer 2 concerns itself with CoS, A/V Bridging
- Robust metadata support
- Useful for both high and low-priority flows. For example Non-latency-sensitive applications (Bittorrent, backup, etc.) can request low-priority.

PCP Client connects first



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Questions?

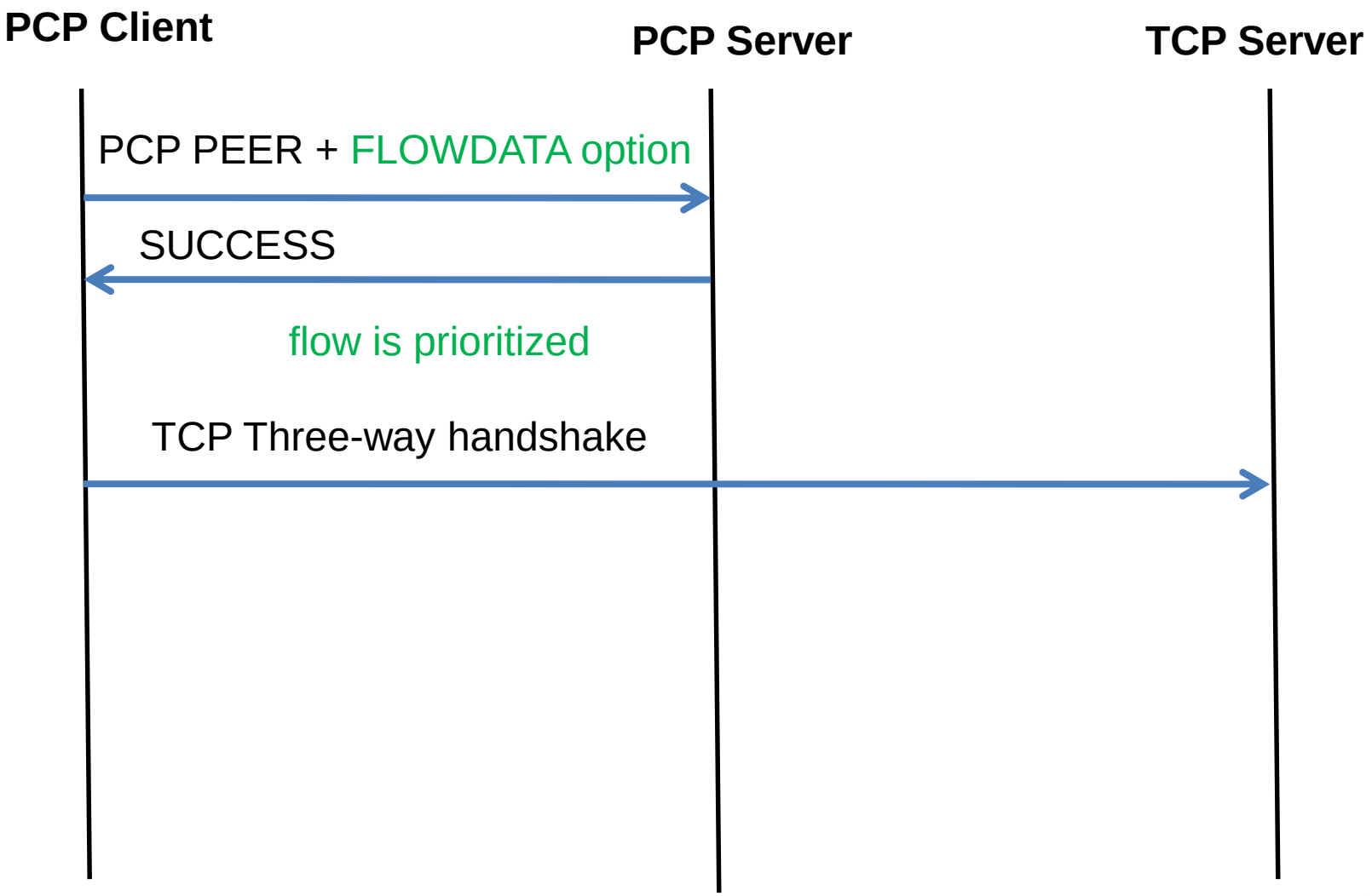
Backup

Background

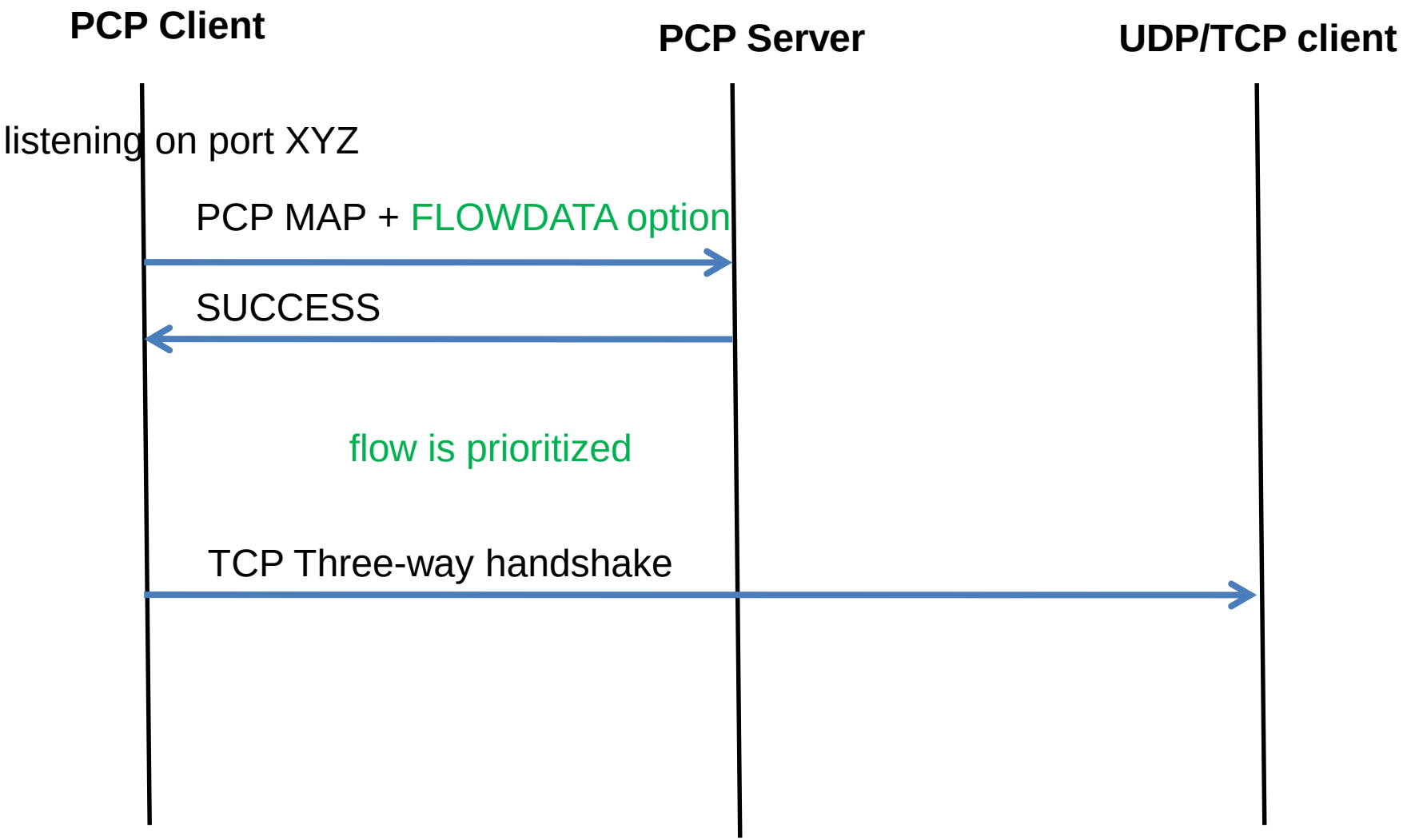
FCC report indicates that VoIP, Streaming Video quality may suffer during times when household bandwidth is shared by other services. Similar problems encountered by Mobile, Enterprises, Hot Spot Networks.

http://www.fcc.gov/measuring-broadband-america/2013/February

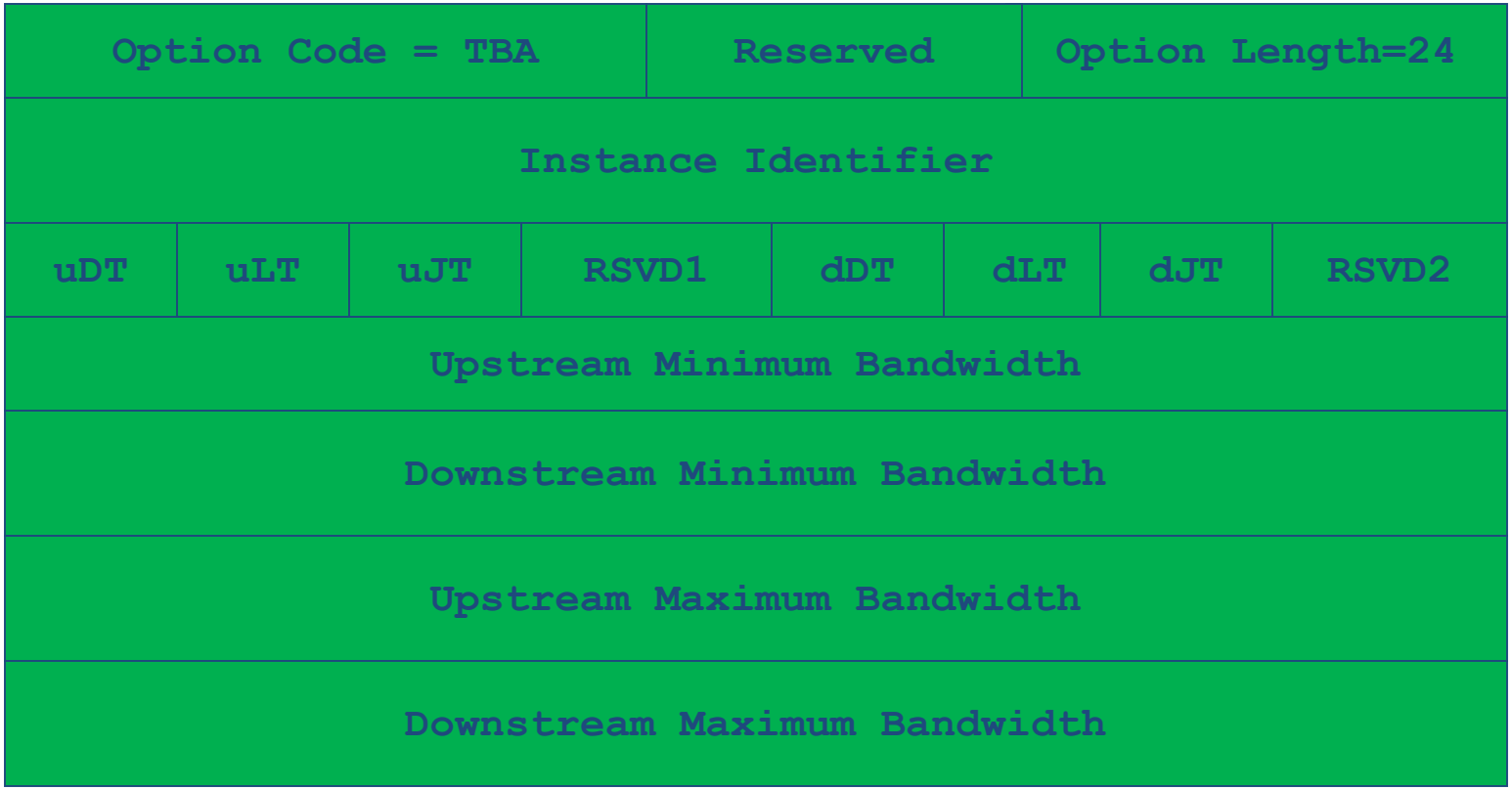
PCP Client sets flow characteristics first



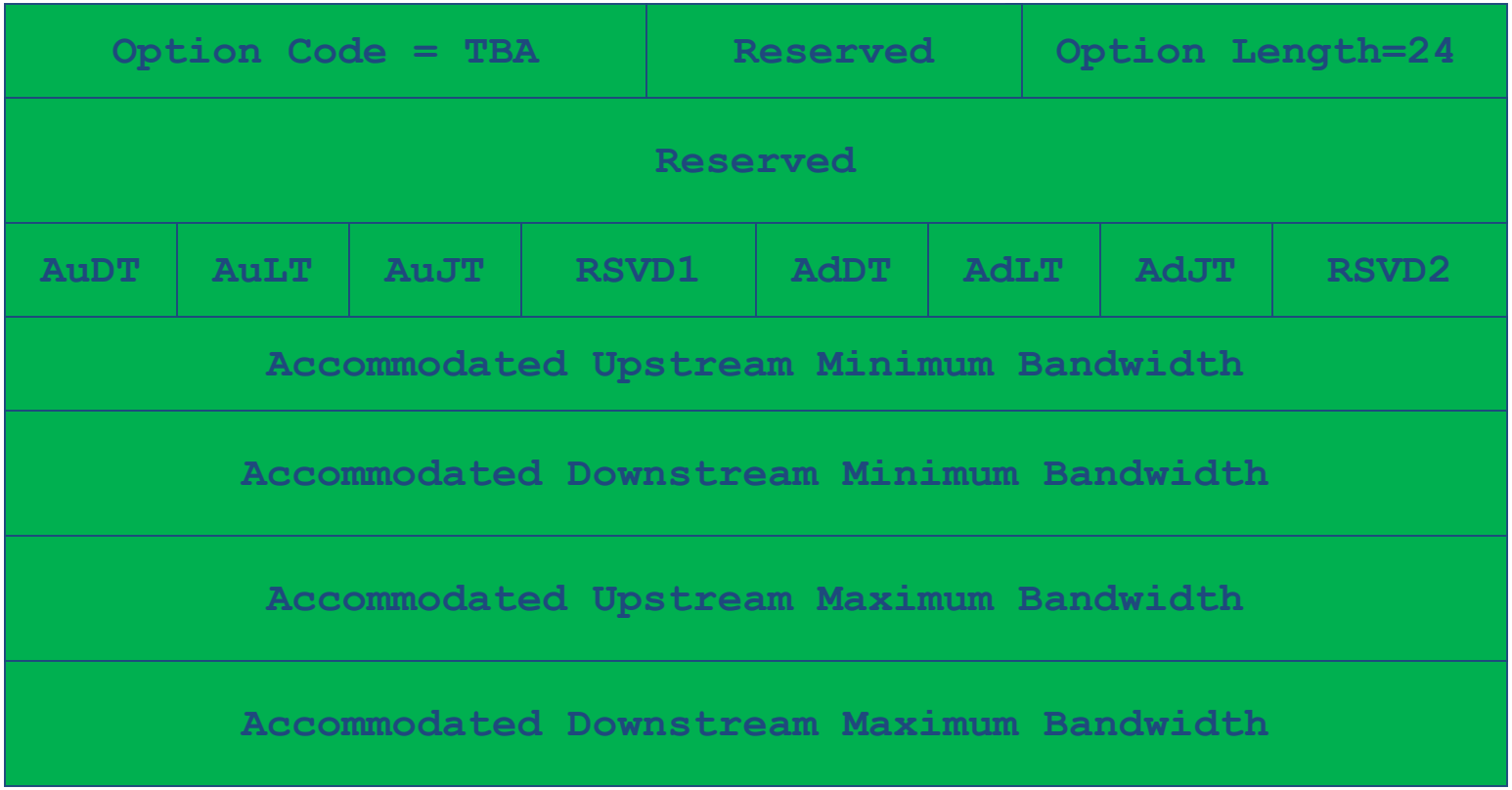
PCP Client acting as Server



FLOWDATA Option: Request



FLOWDATA option: Response



Instance Identifier