DCCP-NAT

draft-phelan-dccp-natencap-00.txt

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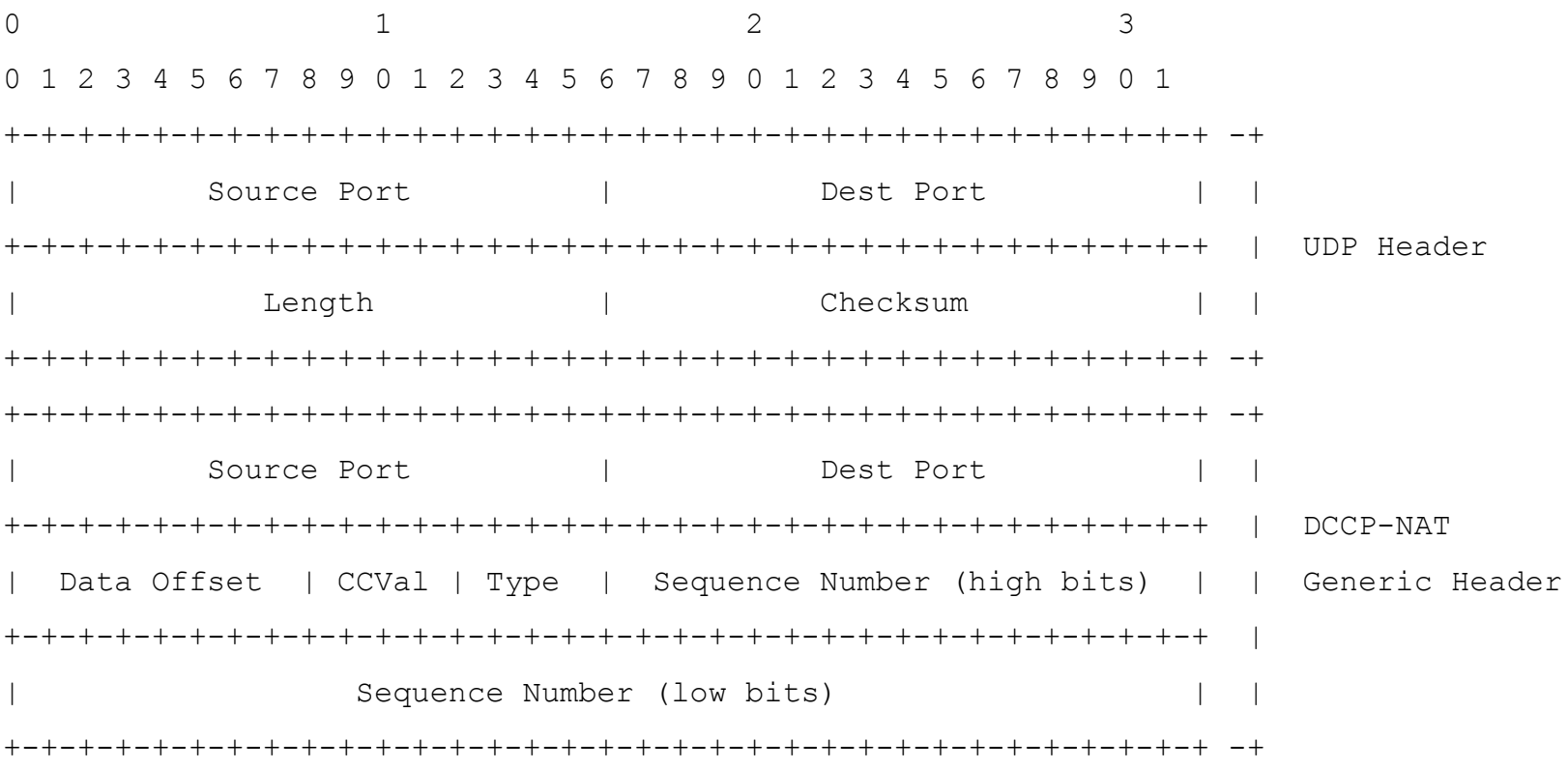
DCCP-NAT Basics

- Motivation
  - Provide DCCP encapsulation mode that will work with present-day NAT and NAPT devices
- Basic approach:
  - IP header (v4 or v6) followed by
  - UDP header
    - Ports in UDP header indicate the DCCP service, not the DCCP apps
  - Followed by modified DCCP generic header
    - Redundancies with UDP header removed
    - Ports in this header indicate DCCP apps
    - Only extended sequence numbers
  - UDP + DCCP-NAT header 4 bytes longer than DCCP-RAW with extended sequence numbers
    - 8 bytes longer than DCCP-RAW with short sequence numbers

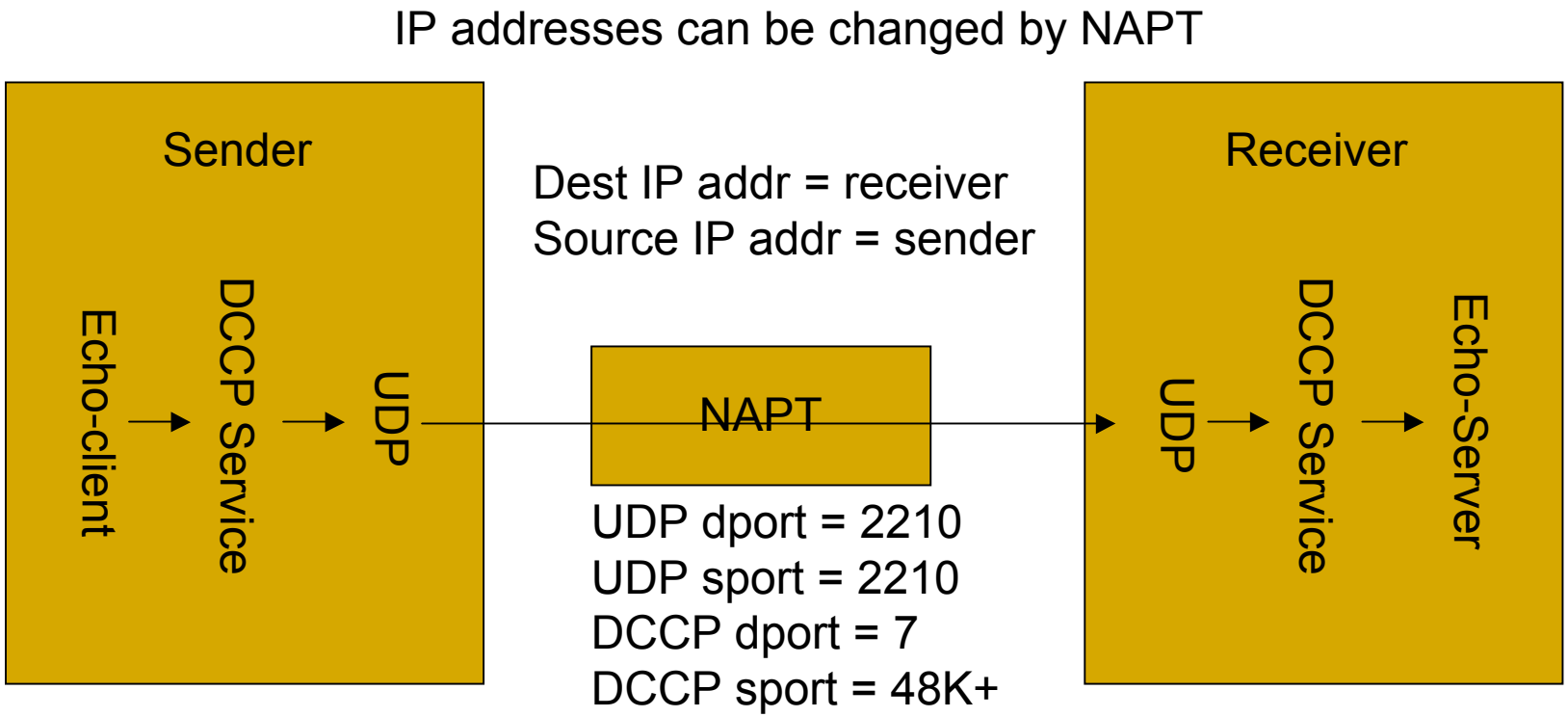
DCCP-NAT Header



DCCP-NAT Operation

- Sender sets UDP destination port to port of DCCP service at destination
- Sets UDP source port to port of DCCP service at source
- Sets DCCP destination port to port of connection at destination
- Sets DCCP source port to port of connection at source
- The UDP listener sends received packets to the DCCP service
- The DCCP listener sends received user data to user

DCCP-NAT Flow



Next Steps

- List discussion suggested changes for next version
- Add support for partial checksums
- Add support for automatic encap fallback
  - Try RAW first, fall back to NAT if no response (or vice versa)
    - Without long timeout
  - Not sure how really needed this is
    - We don't have IPv6 to IPv4 auto-fallback, leave that up to the apps
  - Probably does no harm though – we'll see
- Add discussion of DNS/SDP signaling of rendezvous info
  - Must not require the use of DNS or SDP

More Next Steps

- New version sometime soon
- DCCP-TP implements -00, upgrade that
- See how discussion goes