Buffer Management for MIP
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Problem - Packet Loss During Handoff

- MN moves to a new FA
- HA creates a new tunnel between HA-NFA
- Packets in transit to the previous FA are lost
Solution: Buffer and Forward Data

- Minimizes window of data loss
  » Previous FA buffers the packets and forwards to the MN

- Fewer retransmission for the upper layer protocols
  » Fewer, if any, packets lost
Mobile Assisted Handoff

- MN requests the PFA to buffer its data during handoff
- Data packets are forwarded to the MN as soon as the NFA is authenticated
PFAN Extension Handoff

- Buffer is allocated during Registration Request
- Zero (or near zero) packet loss
New Messages

- Buffer Control Request
  - Mandatory for MN and FA
  - Can be sent as independent message or as an extension to Registration Request and Binding Update messages

- Buffer Control Response
  - Optional for MN and FA

Only one new mandatory message is introduced
Buffer Mechanisms

- **Packet Filtering**
  - Packets can be filtered based on IP address and IP ID field

- **Buffer Specifications**
  - Lease time, size, length etc. can be requested by the MN

More options for user