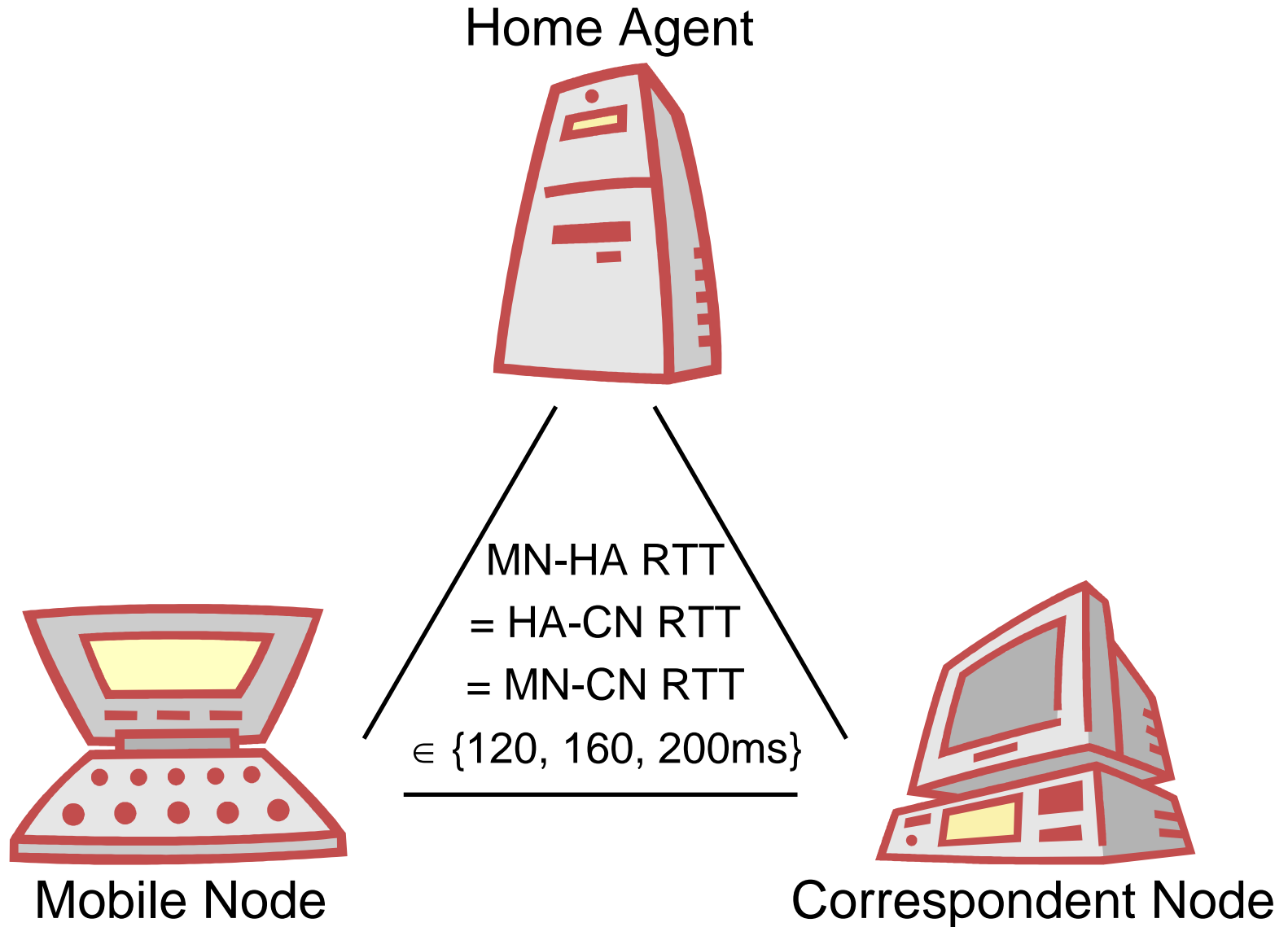

Experimentation Results for Early Binding Updates and Credit-Based Authorization

Christian Vogt, chvogt@tm.uka.de

Implementation, TCP and VoIP-like UDP Measurements, Brief Analysis

63th Meeting of the Internet Engineering Task Force
MIP6 Working Group Session, August 2, 2005



Kame-Shisa MIPv6 plus optimistic Return Routability

- Home registration and RR in parallel
 - Then correspondent registration
- } **3 RTT**

MIPv6 plus Early Binding Updates and CBA

- RR proactive and concurrent
 - Home and correspondent registration in parallel
- } **1 RTT**

Network and access

- 128 KB/s bandwidth; no loss (except during handovers)
- Handovers through firewall; no real L2-handover delay

IPv6 auto-configuration

- Router Advertisements every 30ms to 70 ms (RFC 3775)
- Assuming optimistic DAD (but not implemented)

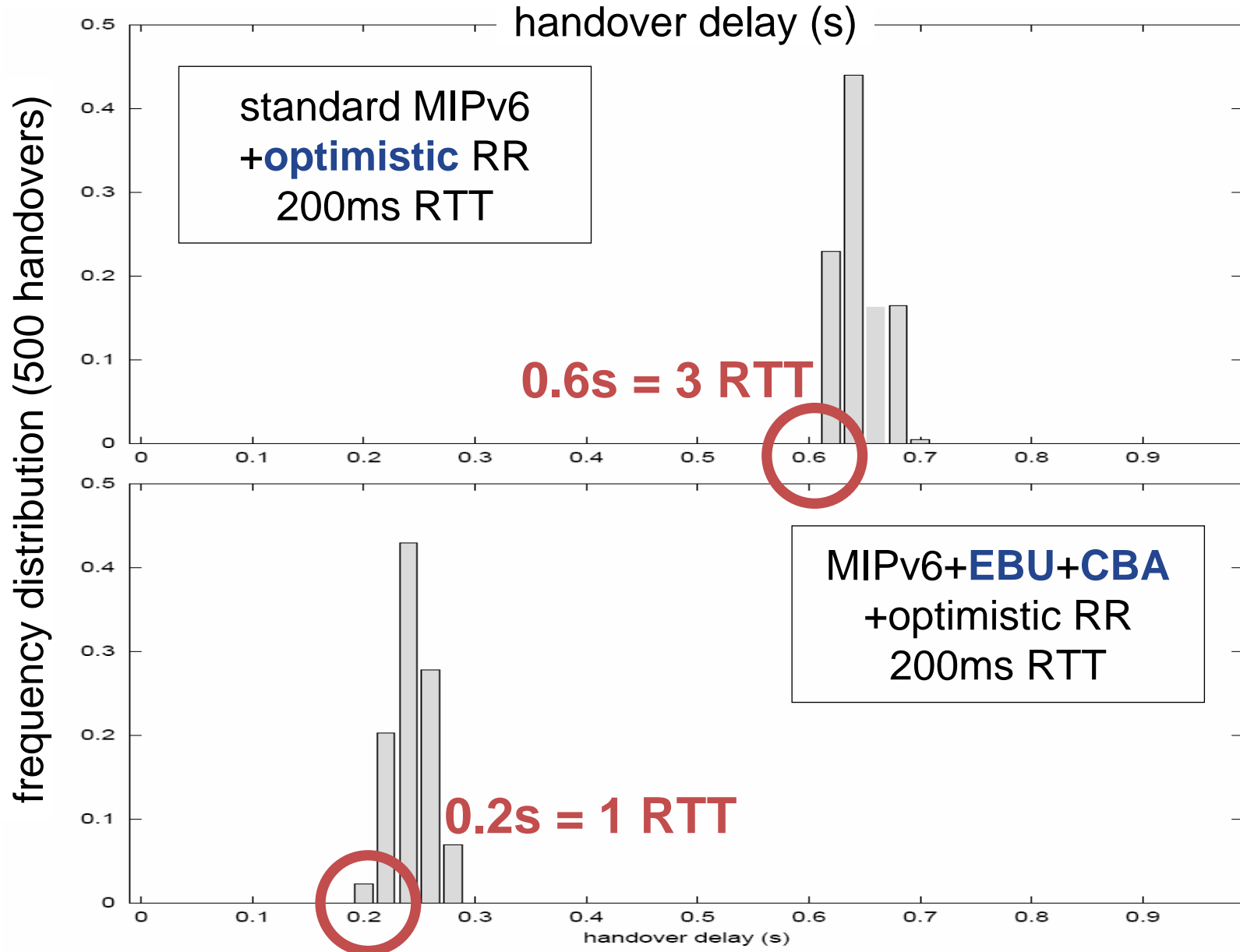
Mobility

- Handovers separated by 10s; 1st home-to-visited, then visited-to-visited

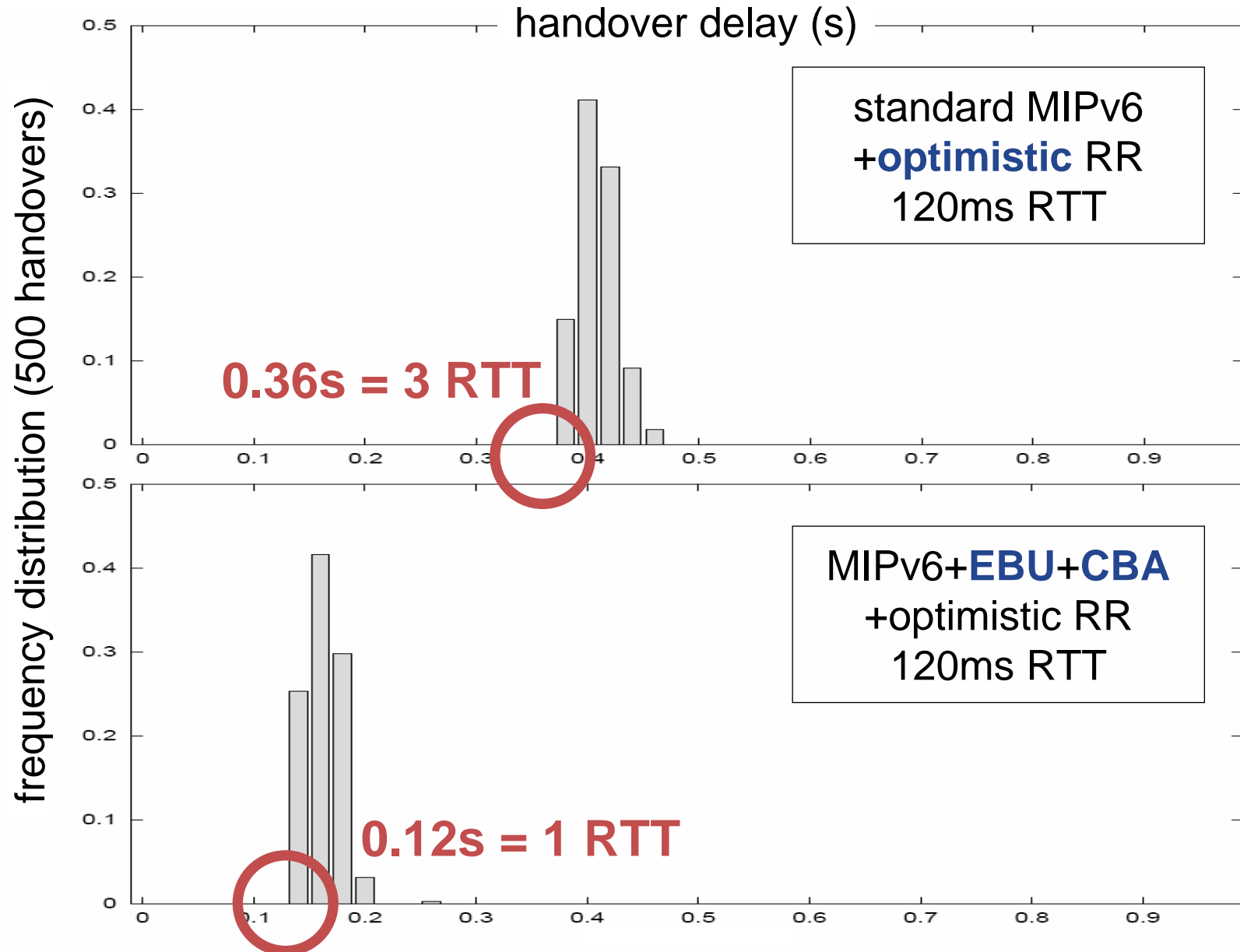
Application

- VoIP-like UDP traffic; 100 pps; 64kbps VoIP stream; bidirectional; 140 Bytes per packet + IPv6 Routing, Destination Options ext. header
- TCP download from sender-CN to receiver-MN

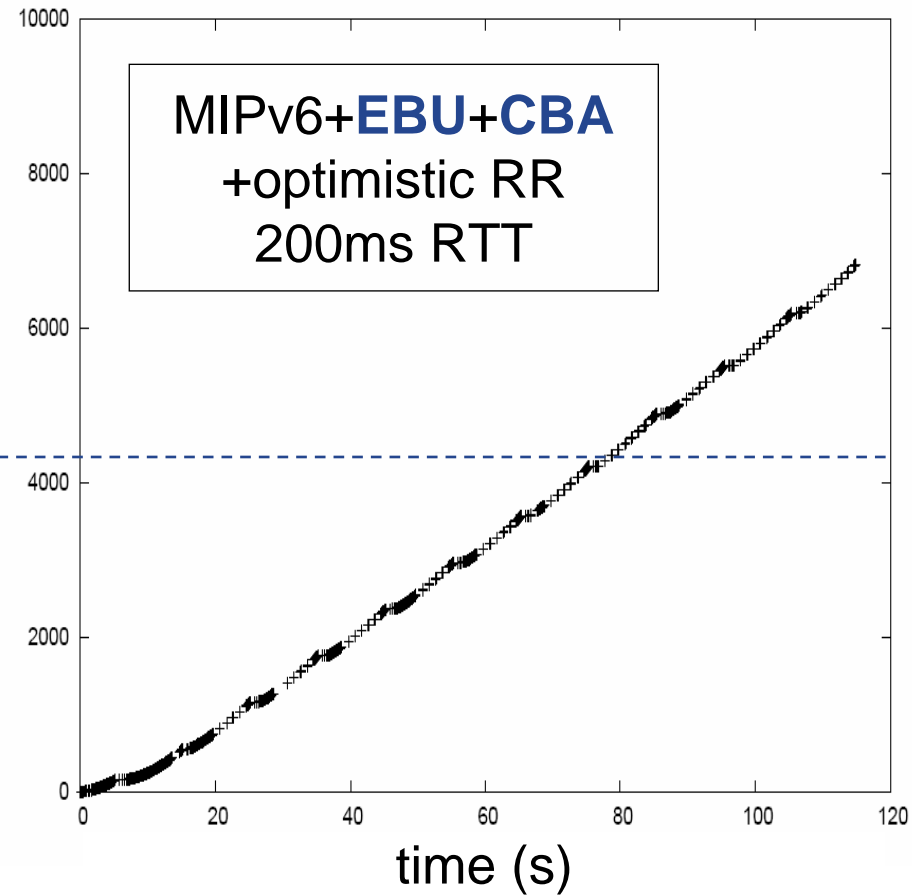
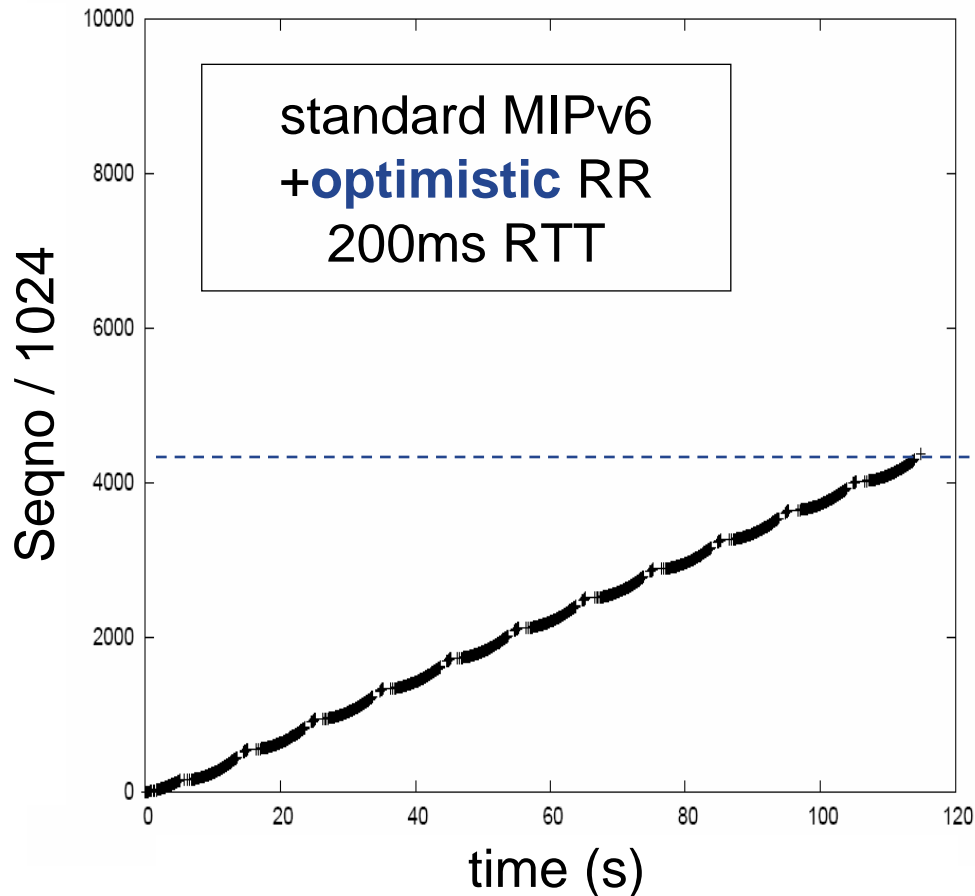
VoIP-like UDP: Std. Mobile IPv6 vs. EBU+CBA



Same with 120-ms RTT



TCP: Std. Mobile IPv6 vs. EBU+CBA



2 RTO vs. 1 RTO per handover.

One RTO is inevitable, since entire Cwnd sent to old CoA.
But L2-HO and IPv6 auto-conf. delays may still be too high.

(Waiting for DNA and faster interfaces?)