

# AERO Updates

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# AERO Specification Status

- Cleaned up DHCPv6 Prefix Delegation
  - AERO Servers run DHCPv6 server and also implement RFC6221 Lightweight DHCPv6 Relay Agent (LDRA)
  - LDRA loops Client Link-Layer Address (LLA) through DHCPv6 server then back to Client using RFC6422 Relay Supplied Option
  - Client discovers its LLA **from the perspective of the Server**, which may be different than its own perspective
  - **Means that Client can be behind a NAT**
- Fragmentation and MTU specification stable
  - Tunnels see at least 1500, and allow larger packets that fit the available MTU
  - Small amount of fragmentation may be needed
  - Fragmentation can be tuned out quickly if available MTU is sufficient

# AERO AUTOCONF

- DHCPv6 PD provides Client with an IPv6 or IPv4 prefix
- Client sets default route via Server
- Client configures an AERO address based on the prefix and assigns it to the AERO interface
  - **Guaranteed unique IPv6 Link Local Address**
- Client provisions delegated prefixes to other interfaces
  - **Guaranteed unique IPv4 or IPv6 Global Addresses**
- Now, AERO address used in all IPv6 ND signaling over AERO link.

# AERO Encapsulation

- Encapsulation within UDP or raw IP
- **No mobility headers – no kernel changes**
- AERO UDP encapsulation vs new Generic UDP Encapsulation (GUE)
- AERO is control plane messaging; GUE is data plane encapsulation
- AERO as a GUE user

# AERO Mobility

- DHCPv6 Renew/Rebind securely updates Server's neighbor cache with the Client's new LLA
- IPv6 ND unsolicited NA informs correspondent Clients of LLA changes
- IPv6 ND Redirect for route optimization

# AERO Distributed Mobility Management

- Thousands of Servers within a single AERO domain
- Each Server capable of serving thousands of Clients
- Servers can offload forwarding plane to fast-path forwarding engines (forwarding/control plane separation)
- Relays bind everything together with BGP

# AERO Implementation Status

- “aerod” – user level daemon on linux (no kernel changes)
- Porting to android, iOS
- Uses TUN/TAP interface
- RFC6221 and RFC6422 implemented
- Works with ISC DHCPv6 package
- Plan to change to ISC kea

# Documents

- draft-templin-aerolink
- draft-templin-aeromin
- draft-herbert-gue