

# AERO Presentation for IETF93 DMM Working Group

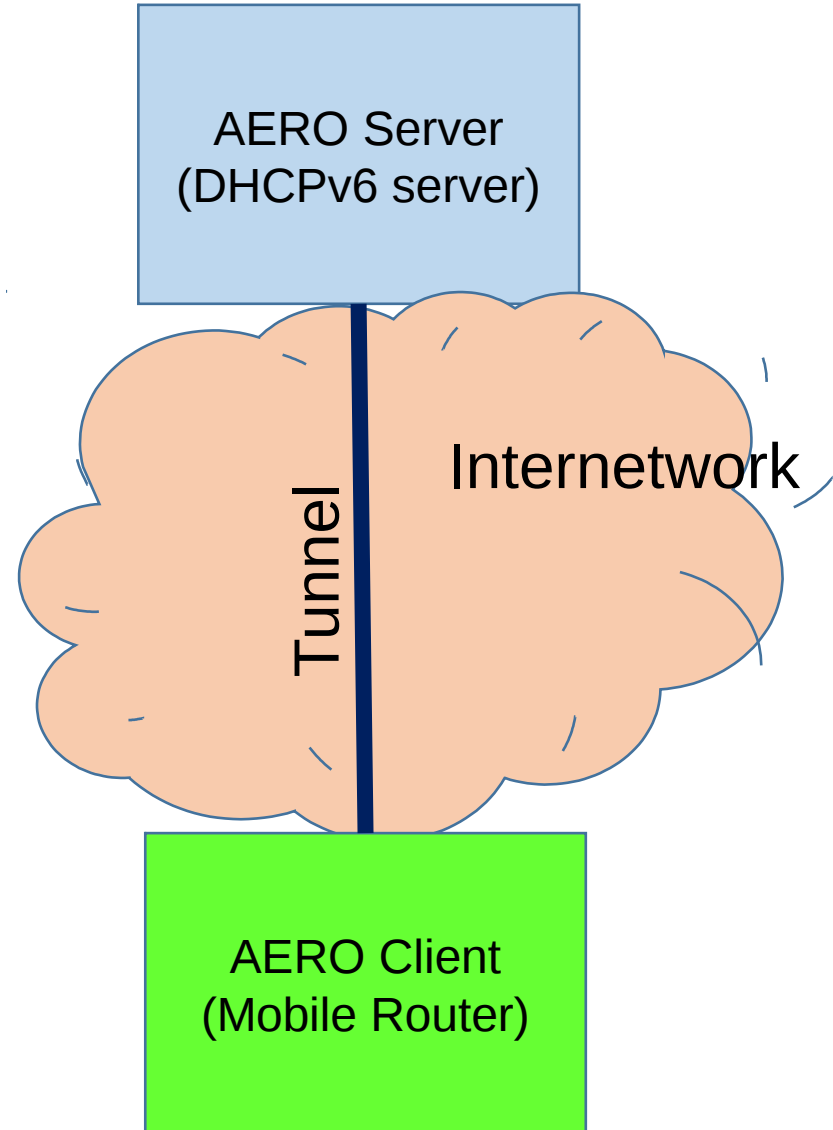
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# AERO Address Format

- AERO Client (“Mobile Router”) receives Prefix Delegation from AERO Server (“DHCPv6 server”)
- Prefix length is  $0 < L \leq 64$
- AERO address is “fe80::” as upper 64 bits and delegated prefix as lower 64 bits
- Example:
  - Prefix is “2001:db8:1:2::/64”
  - AERO is “fe80::2001:db8:1:2”
- **AERO address unique since delegated prefix is unique**



# AERO Service Prefix and AERO Client Prefix

- AERO Service Prefix (ASP) assigned to AERO Relays
- AERO Client Prefix (ACP) taken from ASP and assigned to AERO Client
- Example:
  - **ASP is 2001:db8::/32**
  - **4 Billion /64 ACPs available for assignment to AERO Clients**
  - **4 Billion AERO Clients**

# AERO Scaling Factors

- ASP assigned to AERO Relays (e.g., 2001:db8::/32)
- The shorter the ASP, the more Clients can be serviced
- Each set of Relays can handle up to 1 Million BGP routes
- **1000 sets of AERO Relays can handle up to 1 Billion BGP routes**
- Each AERO Server can handle  $O(10^4)$  (or possibly  $O(10^5)$ ) Clients
- **Incremental Deployment:**
  - Start with a few Relays and Servers
  - add more Relays and Servers to service more Clients
  - **no disruption of existing services**
- **Separation of Control/Data Plane:**
  - naturally coordinated with prefix delegation
  - **AERO Servers handle control plane**
  - **AERO forwarding agents handle data plane**

# AERO as DMM Working Group Item?

- <https://datatracker.ietf.org/doc/draft-templin-aerolink/>
- DMM mailing list discussions since March 2014
- Presentations at last 4 IETF meetings
- Addresses working team requirements
- User- and kernel-level implementations
- Based on standard mechanisms:
  - **BGP routing**
  - **DHCPv6 Prefix Delegation**
  - **IPv6 Neighbor Discovery**

