

# The AERO Address

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# Draft History

- First posted on 6man list 6/5/2017 as Draft -00
- List discussion showed interest in the concept
- Questions about fe80::/10 vs. fe80::/64
- <https://datatracker.ietf.org/doc/draft-templin-6man-aeroaddr/>

# The AERO Address

- Node 'N' receives a unique IPv6 Prefix Delegation '2001:db8:1:2::/64' through whatever means (DHCPv6 PD, manual configuration, etc.)
- 'N' embeds '2001:db8:1:2' in the suffix of the IPv6 link-local prefix:

**fe80::2001:db8:1:2/64 (The "AERO Address")**

# AERO Address Advantages

- **Stateless IPv6 Link-local address autoconfiguration**
- **DAD avoidance – IPv6 PD is unique, so AERO address is also unique**
- **Can be used as the source/destination address of IPv6 ND messages**
- **Links IPv6 Neighbor Discovery with IPv6 forwarding**

# Prefix Length Issues

- IPv6 link-local prefix is fe80::/10, but RFC4291 link-local address configuration assumes fe80::/64
- Therefore, embedded prefix length is restricted to /64
- **But, what if we could use a shorter fe80:: prefix?**
  - fe80::/10 with 2001:db8:1:2 -> fe88:0043:6e00:0400:0800::/10
    - **Pros: No wasted bits - can embed prefixes up to /118**
    - **Cons: Not easy to read or parse**
  - fe80::/16 with 2001:db8:1:2 -> fe80:2001:db8:1:2::/16
    - **Pros: Reads well - can embed prefixes up to /112**
    - **Cons: wastes 6 bits of the leading 16 bits**

# Use Cases and Next Steps

- Enterprise mobile devices (e.g., cell phones, tablets, etc.)
- Aeronautical communications (e.g., airplanes, air traffic control, etc.)
- Unmanned Air System (UAS) networks (vehicle to vehicle)
- Home networks with multiple subnets [HOMENET]
- Next steps:
  - 6man WG item?