

# IPv6 Addresses for Ad Hoc Networks

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<https://datatracker.ietf.org/doc/draft-templin-6man-mla>

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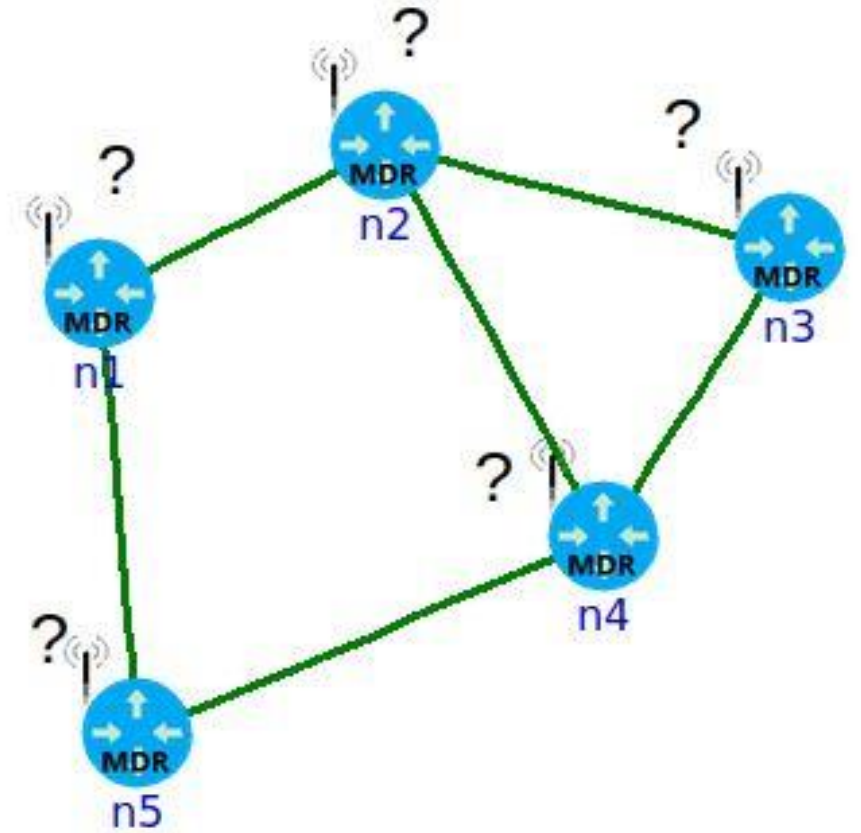
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# Overview / Draft Summary

“When two or more IPv6 nodes come together within an Ad Hoc network operating region, they must be able to assign unique addresses, discover multihop routes and exchange IPv6 packets with peers even when no Internetworking infrastructure present.”

## ■ Ad Hoc Network Properties

- Neighbor relationships appear as **p2p links**
  - Ad Hoc network interface connects to **multilink**
  - **Multihop forwarding** needed for Ad Hoc traversal
  - Applies to any local network type (not just mobile or Ad-Hoc)
  - **What addresses for Ad Hoc network interfaces??**
- ## ■ RFC5889 says GUAs/ULAs (but, coordinated provisioning in isolated networks often not possible)
- ## ■ RFC5889 explains why LLAs have limited use (Ad Hoc network interface multilink nature)
- ## ■ Need: Multilink Local Addresses (MLAs)



# Why This is Needed / Next Steps

## ■ Why MLAs?

- Extremely high assurance of uniqueness
- Self-generated and/or self-asserted by each node
- Uniqueness persists across network partitions/merges
- Supports **adaptation layer** multihop forwarding
- Greater scope than LLAs; can apply to multiple interfaces
- **Nodes assign MLA to Ad-hoc network interface as /128 Optimistic Address [RFC4429]**
- **Nodes may assign GUA to Overlay Multilink Network (OMNI) Interface when Internet gateway present**

## ■ MLA Types:

- **Type 1:** Re-purpose `fec0::/10` - [RFC4291]
  - ex: `fee7:6c29:de12:4b74:884e:9d2a:73fc:2d94/128`
- **Type 2:** Use prefix `2001:20::/28` - ORCHIDv2 [RFC7343]
  - ex: `2001:20:280:1405:a3ad:1952:ad0:a69e/128`
- **Type 3:** Use prefix `2001:30::/28` - HHIT/DET [RFC9374]
  - ex: `2001:30:5efe:2018:c63d:9724:fca:1237/128`

## ■ Next Steps – Working Group Item?

