

SEND / ND Proxy
Problem Statement
IETF 72 – csi WG

Jean-Michel Combes, Greg Daley

Identified scenarios (1/4)

- IPv6 Mobile Nodes
 - Two nodes need to be able to "advertise" a same address (i.e. DAD, Neighbor Resolution)
 - Impact on NS/NA messages
 - E.g. in Mobile IPv6 [RFC3775], a MN and a HA with the the MN's HoA

Identified scenarios (2/4)

- IPv6 Fixed Nodes
 - One node needs to "advertise" a address but owned by another node
 - Impact on NS/NA messages
 - E.g. address assignment in IKEv2 [RFC4306] with the Security Gateway
 - Sub-case of the previous scenario
 - But with a larger solution space

Identified scenarios (3/4)

- Bridge-like ND Proxies [RFC4389]
 - A Bridge needs to rewrite information in forwarded packets
 - A Bridge needs to "advertise" a address but owned by another node
 - Impact on NS/NA messages
 - A Bridge needs to "advertise" a prefix but owned by another router
 - Impact on RS/RA messages

Identified scenarios (4/4)

- *Generalization: case where N nodes "advertise" a same address (with $N \geq 2$)*
 - *Anycast addresses*
 - *PMIPv6 case (i.e. ingress MAG's LLA)*

SEND and ND Proxy

- No appropriate keys/authorizations
 - To generate messages and to sign them instead of another node
 - To modify messages and to keep valid the signatures

Potential approaches

- Trusted ND Proxy
 - Do nothing
- Relax SEND policy
 - To accept unsecured ND/RD messages
- Authorization delegation
 - Generation of certificates for the ND Proxy
- *Crypto based*
 - *Ring group signatures*
- *Virtual interface*
 - *One prefix per node*

Open issues/Next steps

- To add references to potential solutions?

Comments/Questions?