Recap sequence
Host Joins the Network

Host

Router

Router Solicitation

Router NC: Host LLA <> Host MAC STALE

Host configures GvA (m.b. Optimistic)

Host NC: Router LLA <> Router MAC STALE
Host starts sending traffic.

Host NC: Router LLA <-> Router MAC

Router NC: Host LLA <-> Host MAC

Host GUA -> dst1
Host GUA -> dst1
Host GUA -> dst2
Host GUA -> dst3

Host GUA -> dst1
Host GUA -> dst1
Host GUA -> dst2
Host GUA -> dst3
And Here Comes the Return Traffic

Host

Host MC: Router LLÀ → Router MAC

Router

ref

1 packet buffer

packet1 to Host GUA

Host GUA ↔ INCOMPLETE

MS to Solicited Node MCast Address

packets are dropped as there is no MC entry for Host GUA

Neighbor Advertisement

Host GUA ↔ REACHABLE

buffered packet1 delivered

packets2, 3, 4 to Host GUA

packet5 to Host GUA

Router

Router

Server

Host
In the Ideal World...

Host $\leftrightarrow$ Router LLA $\leftrightarrow$ Router MAC

Host GUA $\rightarrow$ Server

Neighbor Cache is prepopulated somehow:
Host GUA $\leftrightarrow$ Host MAC STALE

Server $\rightarrow$ Host GUA

Server $\rightarrow$ Host GUA

Server $\rightarrow$ Host GUA

Host $\rightarrow$ Router $\rightarrow$ Server $\rightarrow$ Host GUA
Dual-Stack Network

- Hosts sends *Gratuitous ARP*
- Routers get their cache updated
- Happy Eyeballs
Changes Since Adoption (IETF105)
Split one draft in two

- draft-ietf-v6ops-nd-cache-init-00
  - Operational problem
  - Various solution approaches

- draft-linkova-6man-grand-00
  - Proposed changes to RFC4861
  - Security considerations
Another solution approach added

- Routers glean from DAD, start resolution proactively
  - Pros: no host changes
  - Cons:
    - Routers have to receive/process all DAD traffic
    - Race condition (hosts would ignore NS for tentative address)
Proposed changes to ND

- Hosts SHOULD send Gratuitous NAs when a new address is configured on the interface
- Routers MAY entries upon receiving unsolicited NAs
Editorial Changes

- Sections moved to draft-linkova-6man-grand
  - Avoiding disruption
  - Security considerations
QUESTIONS?

COMMENTS?