Link Identi£ers
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What Are LinkIdenti£ers?

- Identi£ers which aim to unambiguously represent a Link.
- Link Identi£ers (not Identity)
- Suggest include in router discovery messages
- critical that adjacent links have different identi£ers (and identity).

Why would you use LinkIDs?

- Check if link change has occurred with a “single” RA
- Receive Router Advertisement, determine if Link IDs match
- Difference with known ID implies that router believes is a different link
- Unless ID changes...

World without Explicit LinkIDs

- RFC2461 allows incomplete advertisement of routing info (pre£xes)
- Not all routers will know or care about LinkIDs
- Mixed 2461/LinkID routers on same link
- Mixed 2461/LinkID routers on adjacent links.

LinkIDs not always there

- Not all routers on a link will know about link IDs
- Transition LinkID-no LinkID.
- Transition no LinkID-LinkID.
- Hard to tell difference between new non LinkID router and link change.
- Good reason to transmit LinkID in all FastRAs.

What type of LinkIDs are useful?

- Globally Unique Vs Locally Unique

Globally unique LinkIDs?

- May be an address or pre£x on the link
- Size may matter: Pre£xes are bigger
- Changes to identi£er's uniqueness or allocation need to be re¤ected

Locally unique LinkIDs?

- Need to have different link ID’s for (any) adjacent links
- Randomly distributed or Allocated (MAC?)
- low chance of collision between adjacent networks
- collisions with adjacent Link Ident£€ers require recon£guratuion

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- Locally unique identi£ers (48 bits)
- 8 octet ND option
- IDs exchanged on a Router-to-Router ICMPv6 channel
- Router channel authenticated with SEND ADD.
- Select the lowest linkID (modulo 48)
- Link IDs required in all RAs