IPv6 RA Options for Multiple Interface Next Hop Routes

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RA Route Option

Motivation

- RFC 4191 defines Route Information Option
- Prf field is to prefer the router associated with this IPv6 destination prefix
- Next hop address is missing
- Next hop address metric is missing
- So we need 4191bis

- We added the above to the Route Information Option and the new option is called Route Prefix Option (RPO)
RA Route Option
Motivation - Continued

- **Next Hop Address in Route Prefix option**
- **Next Hop Address option**
  - Next hop address represents the IPv6 destination prefixes reachable via the given next hop
  - **Next hop address metric** to prefer the next hop associated with this IPv6 destination prefix over others, when multiple identical prefixes (for different next hops) have been received
  - Includes next hop with RPO in one option to designate that specific routes are available via routers
  - If there is more than one route available via specific next hop, then one next hop which contains multiple route prefix options, i.e. **Next Hop Address and RPO** needs to be included in RA (slide 5)

- **RA based solution**
  - Assume clients that know what to do with the info
  - Those that don’t simply ignore
Proposed RA Options

- **RPO**
  - Defines the destination prefix
  - Borrows from RFC4191 in using the Reserved and Prf values
  - Adds metric in place of resvd
  - Prf is for preferring the router and metric is for preferring the next hop

- **Next Hop Address**
  - Defines IPv6 next hop address.
Proposed RA Options

- Next Hop Address and RPO
  - Defines the two options together in one option
Next Steps

- Is 6man interested in this work?