HA Reliability using the HAHA Protocol

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HAHA Protocol

- An inter-Home Agents communication protocol
- Can be used for sharing binding cache information
- It supports the scenario where geographically distributed Home Agents serve the same home prefix
- Main features
  - Home Agent reliability including failure detection and recovery
  - Dynamic load balancing
  - Hands off mobile nodes between Home Agents
- Three specifications
  - Base HAHA spec, which defines HAHA messages and messages formats
  - Local HAHA, which describes HA reliability
  - Global HAHA, which describes the protocol between globally distributed home agents.

HA Reliability using HAHA

- All Home Agents that serve a particular home prefix should run the HAHA protocol
- Protocol features
  - Home Agent list management using HELLO messages exchanged between the Home Agents
  - Home Agent failure detection
  - Binding Synchronization
    - Binding cache entries for mobile nodes that belong to the home prefix are synchronized between all the Home Agents
  - Home Agent switching
    - Enable failure recovery and load balancing
- Details in draft-devarapalli-mip6-nemo-local-haha

Interworking with VRRP for IPv6

- VRRP specifies an election protocol that dynamically assigns responsibility for a virtual router to the one of the VRRP routers on a LAN. If the master fails, the election protocol provides fall back to another router.
- VRRP works only if all the nodes are on the same link
- VRPP does not do perform state synchronization
  - Binding cache state still needs to be synchronized
- When HAHA and VRRP are used together
  - The failure detection mechanism in HAHA is not used; VRRP's failure detection mechanism is used
  - Binding synchronization is used
  - Home Agent switch mechanism is used