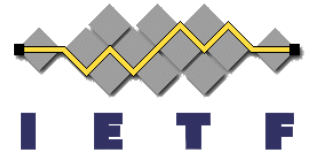


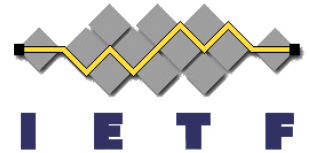
Distributed and Dynamic Mobility Management with Mobile IPv6



Julien Laganier

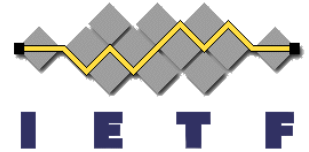
MEXT WG, IETF-79, Nov. 2010

Observations



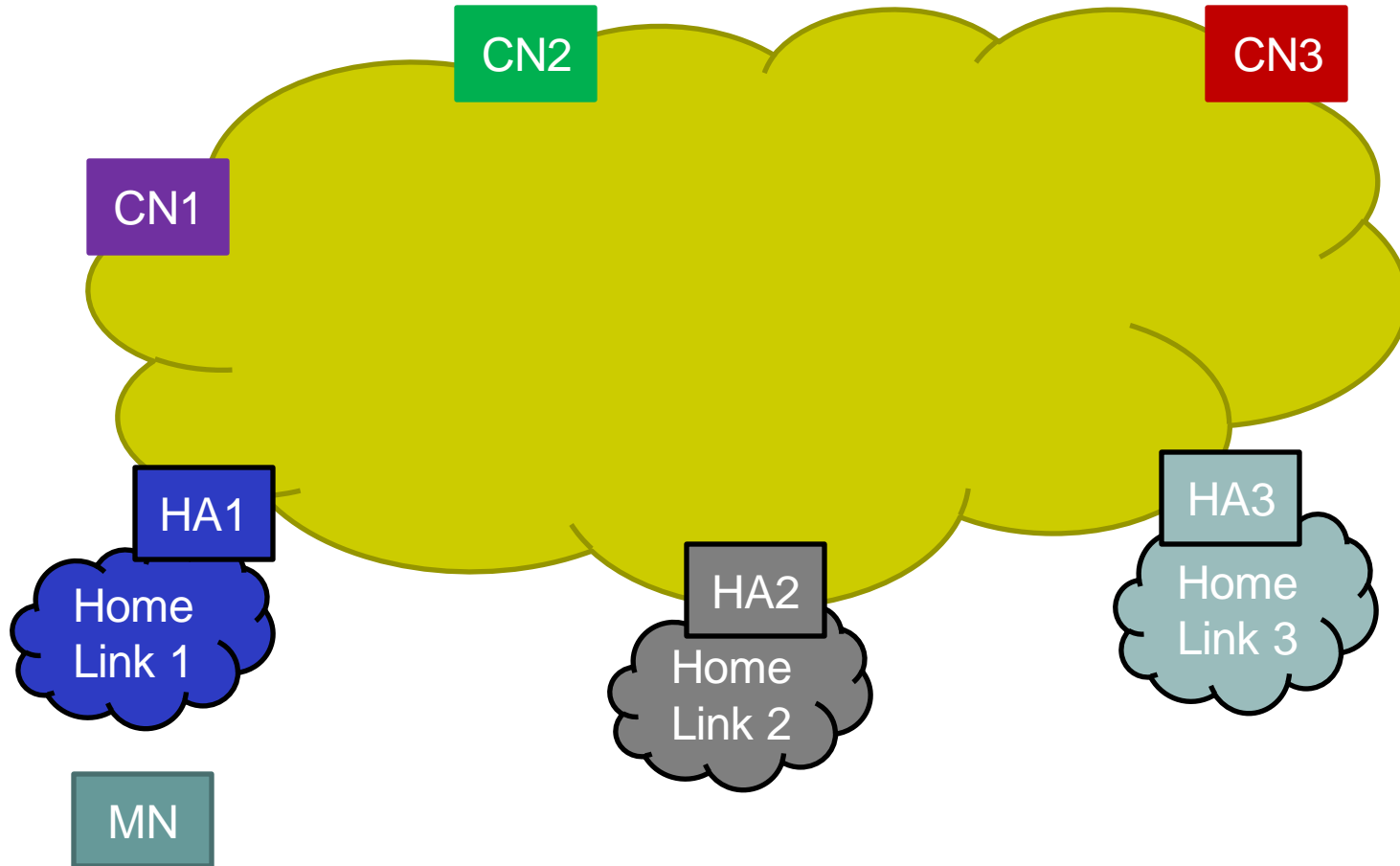
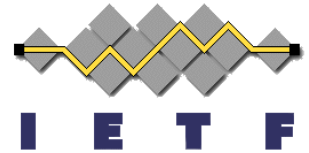
- Current system architectures use MIPv6 in a centralized manner
- MIPv6 in itself isn't centralized per se
- MN can maintain multiple MIPv6 “sessions” with multiple HAs distributed on edge of Mobile Core Network
- System Architecture can evolve to use MIPv6 in a decentralized and distributed manner

Strawman Solution

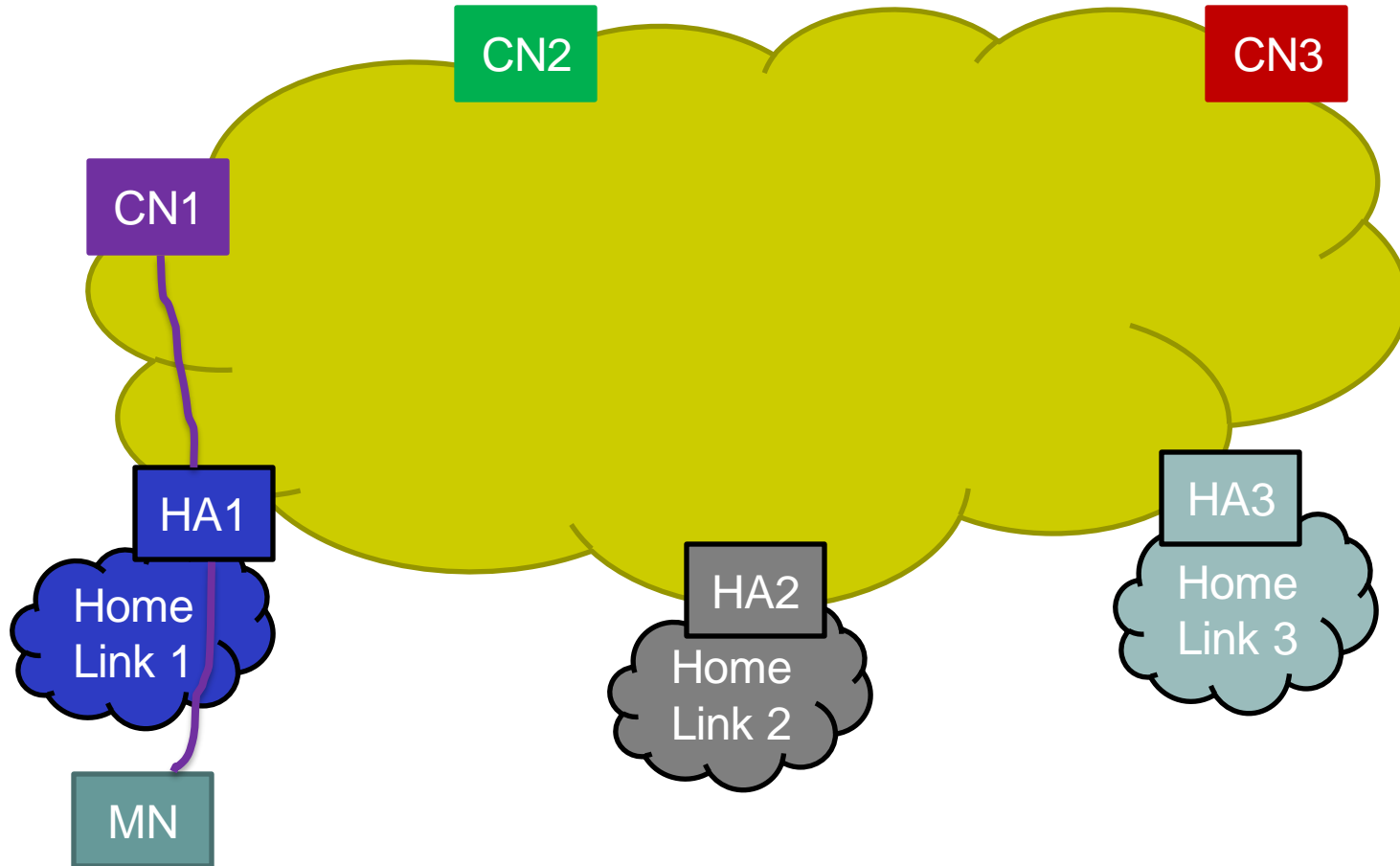
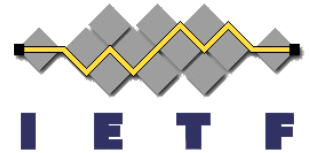


- Embed an HA in every first hop router
 - Every access link is a home link
 - MN configures new HoA on every new access link
 - No tunneling overhead if stationary
- Maintain BCE with HA when moving away from home
 - As long as there are ongoing upper layer communication using the HoA
 - Use HoA on current access link as CoA for other BCEs
- Tear down BCE when HoA no longer in use

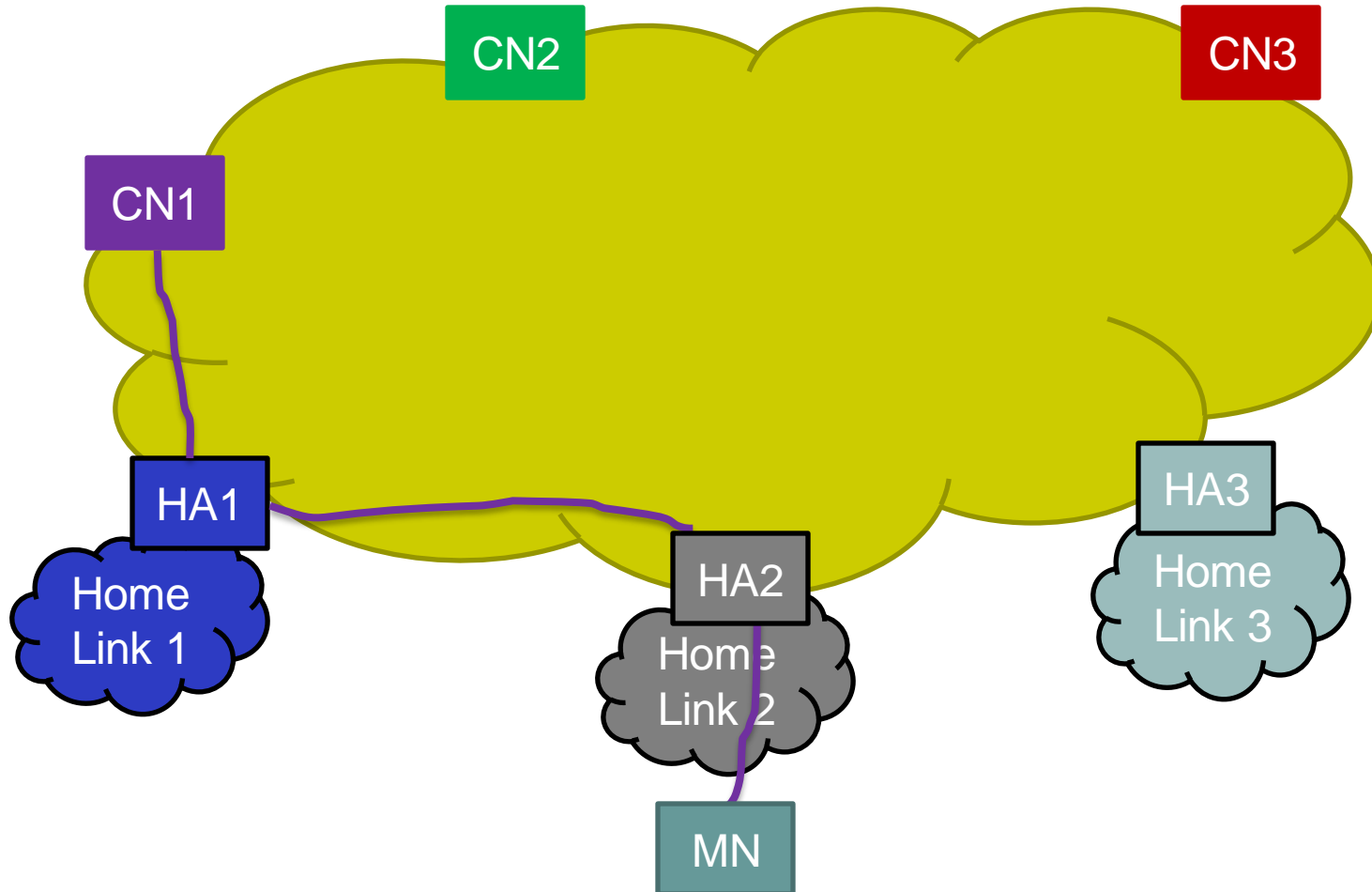
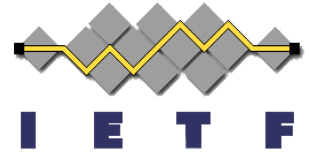
Strawman Architecture



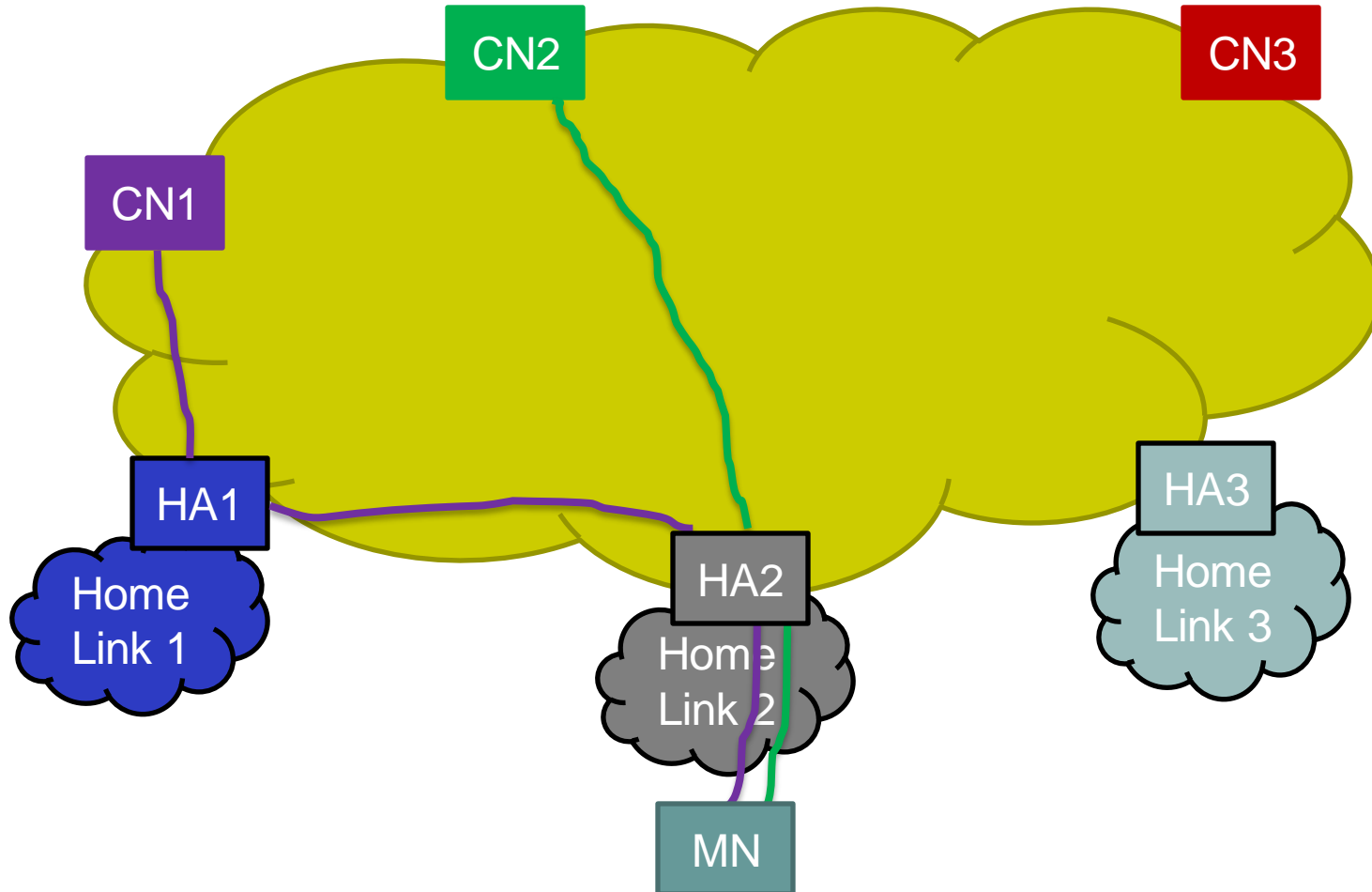
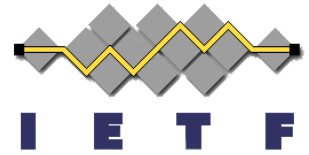
Strawman Architecture



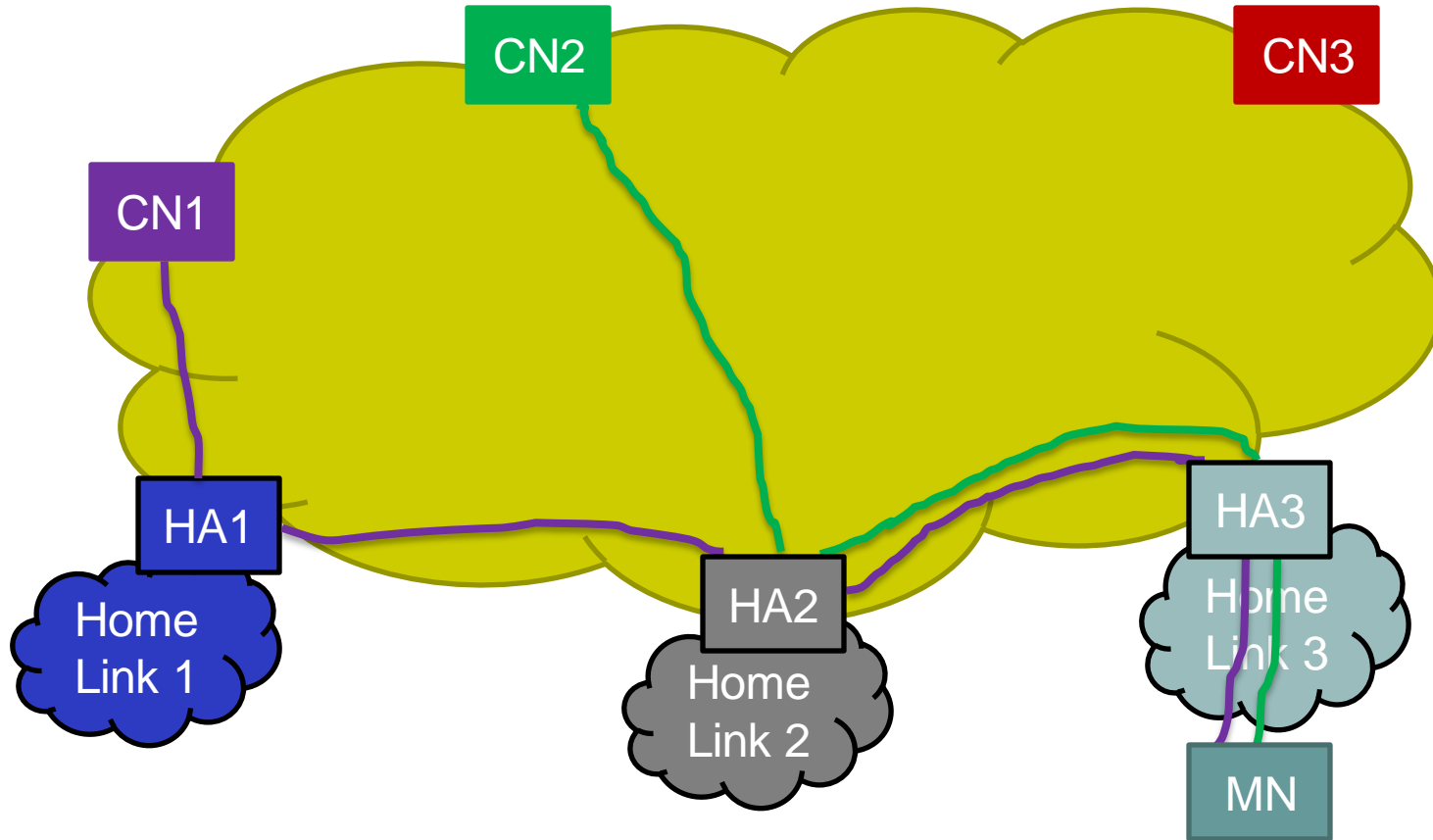
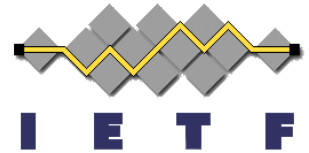
Strawman Architecture



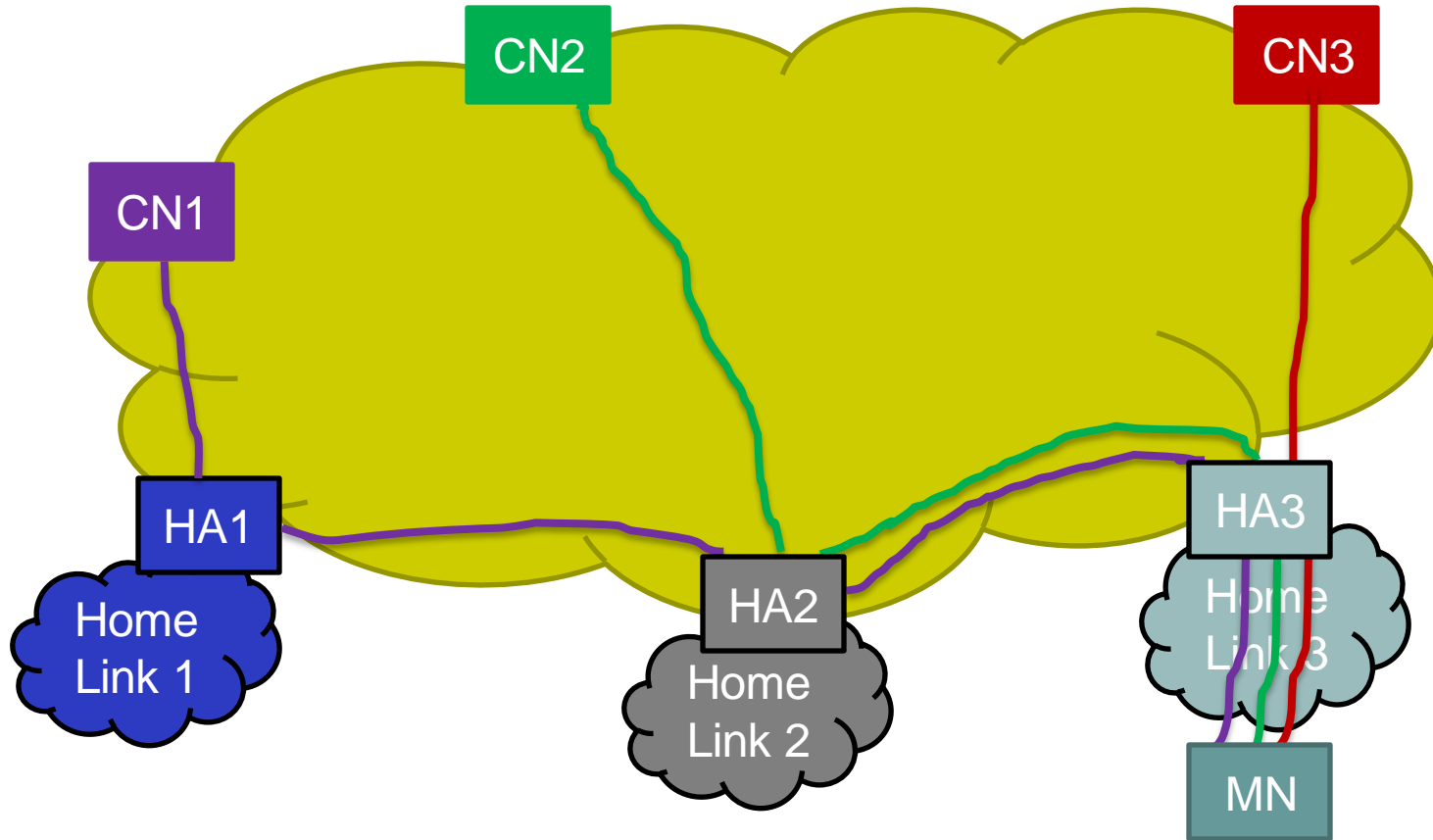
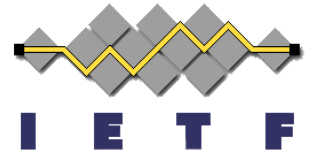
Strawman Architecture



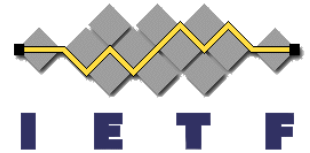
Strawman Architecture



Strawman Architecture

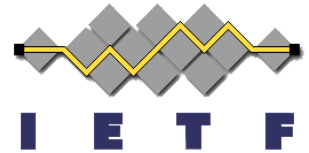


More details

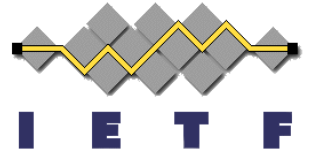


- MIPv6 Bootstrapping at every new attach
 - RFC 5026
 - DHCP HI option
 - CGA-based?
- Tear down BCE when HoA no longer in use by upper layer
 - i.e., no sockets bound to HoA

Other Mobility Protocols?



- Same architecture applies for PMIPv6
 - Dynamically allocate LMA on the network edge
- HMIPv6 and FMIPv6 are redundant if anchor in the first hop access router:
 - Can't insert hierarchical mobility anchor between MIPv6 HA and MN if HA is in the first hop AR
 - FMIPv6 tunneling between ARs redundant with MIPv6 tunneling if the HA is in the AR



Thank you