

Running MIPv4 and MOBIKE together – Optimizations

MIPv4 WG, IETF 69

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MIPv4 – MOBIKE Interworking

- draft-ietf-mip4-mobike-connectivity-03.txt is with the IESG currently
- Describes how to run Mobile IPv4 over an IPsec tunnel
 - The IPsec remote IP address obtained as part of IPsec tunnel setup is used as the co-located CoA for MIPv4 registration
 - MIPv4 is used when the MN is inside the trusted network – No IPsec tunnel
 - MOBIKE is used to handle IP address changes when the MN is outside the trusted network and is running MIPv4 over IPsec
- Some disadvantages
 - Tunneling overhead when the MN is outside the trusted network
 - Packet initiated by the MN

```
IPv4 hdr (src=IPA, dst=VPN_GW)
ESP Hdr
IPv4 hdr (src=TIA, dst=HA)
IPv4 hdr (src=HoA, dst=CN)
Payload
```
 - FA CoA mode not addressed

Foreign Agent co-located with VPN GW

- Co-locate the foreign agent on the VPN GW
- The IPsec remote IP address is the same as the MIPv4 home address
- Reduces the tunneling overhead since the Mobile IP tunnel is between the VPN GW/FA and the HA and the IPsec tunnel is between the MN and the VPN gateway

```
    IPv4_hdr (src=IPA, dst=VPN_GW/FA)
    ESP_hdr
    IPv4_hdr (src=HoA, dst=CN)
    Payload
```
- The IPsec tunnel between the MN and the VPN GW provides a single hop p2p link between the MN and the FA
 - FA Agent Advertisement sent over this link
- Currently documented in draft-meghana-mip4-mobike-optimizations-02

Home Agent co-located with VPN GW

- Co-locate the home agent with the VPN GW
- The IPsec remote IP address is the same as the MIPv4 home address
- The MN is at home when attached to the VPN GW
 - No tunneling overhead
 - Single hop p2p link between the MN and the HA
 - HA Agent Advertisement sent over the IPsec tunnel
- Was documented in version 00 of draft-meghana-mip4-mobike-optimizations-02