

# MIF DHCPv6 Route Options

## Post WGLC Summary

draft-ietf-mif-dhcpv6-route-option-03

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# Recent (-03) changes

- IA\_RD option removed (was just a container)
- Route lifetime added
  - Does not govern renewal, this is done in the usual DHCPv6 way (info-refresh time option)  
info-refresh time option < route lifetime
  - Up to  $2^{32}-2$  seconds, 0xffffffff means infinity
- Clarified about default route configuration
  - NEXT\_HOP (addr) + RTOPTION (prefix, len, route lifetime, metric)
  - NEXT\_HOP (addr) – this is for bandwidth limited networks only
- SHOULD NOT be used in dynamic routing environment
  - Resolves Routing Directorate concerns

# WGGLC in MIF

- WGGLC in MIF completed
- Also requested for review in 6MAN and DHC
- Questions/comments received:
  - RA vs DHCP preference
  - Separate option for default route?
  - Source routing?
  - Implementations?
  - Prefix format

# DHCPv6 vs RA: Preference?

- In case of conflict what should node choose?
- Proposal: choose DHCPv6 over RA, choose secure

DHCP	RA	DHCP
DHCP	RA(SEND)	RA
Secure DHCP	RA	DHCP
Secure DHCP	RA(SEND)	DHCP

## Reasons:

- RA specify info for all hosts, DHCP is per host basis
- “Default” configuration (RA) can be overridden (DHCPv6) for selected hosts (or a class of hosts)
- DHCPv6 offers security (somewhat weak argument as it is not frequently used yet, but this will change)
- Similar to DNS servers problem, adapting the same approach (but favor secure DHCP)

# Questions/Comments

- Why not provide source routing information?
  - That's a different problem. May define option for that later if needed.
- Separate option for default route?
  - No, one option type for all routes is enough.
  - Please don't ask again.
- Separate option for default route?
- MAC/link-layer address info?
  - No, not needed (redundant with ND), even harmful (operational concerns).
- Prefix format changed:
  - Fixed length (16) => variable length

# Next steps

- WGLC seems to be passed
  - The last outstanding issue: RA vs DHCP
- Presenting results in MIF and DHC WGs
- Will publish -04 with small changes
- Authors believe -04 draft will be ready for IESG



# Implementations

- “rough consensus and working code”
- Two independent implementations available
- ISC DHCP 4.2.3 (open source, BSD)  
<http://www.isc.org/community/blog/201111/routing-configuration-over-dhcpv6>
- Dnsmasq 2.75 (open source, GPL)  
<http://klub.com.pl/dhcpv6/>
- Nominum
  - Ted Lemon confirmed that custom options can be configured
- ISC and Dnsmasq tested and are ***interoperable***.



# Thank you

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