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# IPv6 Router Advertisement IPv4 Unavailable Flag <draft-hinden-ipv4flag-03>

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Bob Hinden  
Brian Carpenter

IETF101 London

# Background



- Observation at IETF100 IPv6 Only network that dual stack hosts were
  - Creating IPv4 auto-configured IPv4 addresses
  - Attempting to reach IPv4 services
- Proposal came of discussion on how to stop this

# Dual Stack host behavior



- Layer 2 Broadcast Traffic
- Doubles state in switches
- Drains battery on wireless hosts (see RFC7772)
- Possible use of IPv4 for malicious traffic

# Proposal



- New flag for Router Advertisement (RA) that allows administrator to notify dual stack hosts on link that there isn't IPv4 on this router

```
 0 1 2 3 4 5 6 7
+--+--+--+--+--+--+
|M|O|H|Prf|P|4|R|
+--+--+--+--+--+--+
```

Values:

```
0    IPv4 is Available on this default Router
1    IPv4 is Not Available on this default Router
```

- Draft would update IANA RA Flags Registry to add this flag

# Router Considerations



- Only applies to Default Routers
- Administrator sets flag to desired value

# Host Considerations



- Host only look at flag if RA is from a default router
  - Lifetime field  $\neq 0$
- If all RAs received have flag = 1, then host should not attempt IPv4 operations
  - Reasonable to assume there is no IPv4 on link
- Flag value is advisory
- Hosts may delay IPv4 operations until RAs are received, and/or only if an application requests to use IPv4

# Next Steps



- 6MAN adopt as working group document?



# QUESTIONS / COMMENTS?