Deprecation Of The IPv6 Router Alert Option

draft-bonica-6man-deprecate-router-alert-02

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IETF 119
Goal

• This document deprecates the IPv6 Router Alert Option
• Protocols that use the Router Alert Option may continue to do so
  • Even in future versions (e.g., MLDv3)
• However, protocols standardized in the future must not use the Router Alert Option
## Router Architecture

<table>
<thead>
<tr>
<th>CONTROL PLANE</th>
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<td>(OSPF, ISIS, BGP)</td>
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<td>(FIB Read-Write)</td>
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<th>FIB updates and routing protocol messages to other nodes</th>
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<td>Messages addressed to the router and messages that contain the Router Alert Option</td>
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Router Architecture

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| CONTROL PLANE  |
| (OSPF, ISIS, BGP) |
| (FIB Read-Write) |

FIB updates and routing protocol messages to other nodes must be protected. RFC 6192.

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| FORWARDING PLANE  |
| (IPv6) |
| (FIB Read-Only) |
Access Control Lists and the Router Alert Option

• Computationally expensive
• Need to parse the Hop-by-hop extension header
• Need to parse any options that might precede the Router Alert Option in the Hop-by-hop header
• Experience suggest that operators discard packets that might touch the control plane
The Router Alert Option’s Grim Future

Quotes from draft-ietf-6man-hbh-processing

• “The function of a Router Alert option results in the processing that this specification is proposing to eliminate, that is, to instruct a router to process the packet in the Control Plane.”

• “One approach would be to deprecate this, because current usage beyond the local network appears to be limited, and packets containing Hop-by-Hop options are frequently dropped.”

• “Implementations of the IP Router Alert option SHOULD offer the configuration option to simply ignore the presence of "IP Router Alert" in IPv4 and IPv6 packets’ [RFC6398]”

NOTE: draft-ietf-6man-hbh-processing does not deprecate the Router Alert Option
Router Architecture (So, what’s left?)

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**CONTROL PLANE**
(OSPF, ISIS, BGP)
(FIB Read-Write)
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FIB updates and routing protocol messages to other nodes
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Packet Snooping
If no other option Is available

**FORWARDING PLANE**
(IPv6)
(FIB Read-Only)
Ask

• Adopt this document as a WG item