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IANA Considerations for IPv6 Neighbor Discovery Prefix Information
Option Flags
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Abstract

The Prefix Information Option in the IPv6 Neighbor Discovery Router Advertisement message defines an 8-bit flag field with two flags defined and the remaining 6 bits reserved (Reserved1). [RFC 6275](#) has defined a new flag from this field without creating a IANA registry or updating [RFC 4861](#). The purpose of this document is to request a new IANA registry for the PIO flags. This document updates [RFC 4861](#).

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1. Introduction

The Prefix Information Option (PIO) in the IPv6 Neighbor Discovery Router Advertisement defines an 8-bit flag field with two flags defined and the remaining 6 bits reserved (Reserved1). [RFC 6275](#) has defined a new flag from this field without creating a IANA registry or updating [RFC 4861](#). The purpose of this document is to to create a new registry for the PIO flags.

2. Current Prefix Information Option flags

Currently, the Neighbor Discovery Protocol Prefix Information Option [[RFC4861](#)] contains the following one-bit flags defined in published RFCs:

```

      0 1 2 3 4 5 6 7
    +--+--+--+--+--+--+--+
    |L|A|R|Reserved1|
    +--+--+--+--+--+--+
  
```

Figure 1

L - On-link Flag [[RFC4861](#)]

A - Autonomous Address Configuration Flag [[RFC4861](#)]

R - Router Address Agent Flag [[RFC6275](#)]

Reserved1 - Reserved

3. Updates to [RFC4861](#)

This document updates [Section 4.6.2](#) "Prefix Information" of [[RFC4861](#)] to point to the new IANA registry that is created in this document.

Specifically: The current list of flags in the Prefix Information Option can be found in IANA-TBD.

4. IANA Considerations

The IANA is requested to create a new registry for IPv6 Neighbor Discovery Prefix Information Option flags. This should include the current flags in the PIO option. The format for the registry is:

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RA Option Bit	Description	Reference
0	L - On-link Flag	[RFC4861]
1	A - Autonomous Address Configuration Flag	[RFC4861]
2	R - Router Address Flag	[RFC6275]
3-7	Reserved	

Figure 2

The assignment of new flags in the PIO option header require Standards Action [RFC8126].

The registry for these flags should be added to:
<http://www.iana.org/assignments/icmpv6-parameters>

5. Security Considerations

This document has no security considerations.

6. Normative References

- [RFC4861] Narten, T., Nordmark, E., Simpson, W., and H. Soliman, "Neighbor Discovery for IP version 6 (IPv6)", [RFC 4861](#), DOI 10.17487/RFC4861, September 2007, <<https://www.rfc-editor.org/info/rfc4861>>.
- [RFC6275] Perkins, C., Ed., Johnson, D., and J. Arkko, "Mobility Support in IPv6", [RFC 6275](#), DOI 10.17487/RFC6275, July 2011, <<https://www.rfc-editor.org/info/rfc6275>>.
- [RFC8126] Cotton, M., Leiba, B., and T. Narten, "Guidelines for Writing an IANA Considerations Section in RFCs", [BCP 26](#),

[RFC 8126](https://www.rfc-editor.org/info/rfc8126), DOI 10.17487/RFC8126, June 2017,
<<https://www.rfc-editor.org/info/rfc8126>>.

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