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IPv6 ND PIO Flags IANA considerations  
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## Abstract

The Prefix Information Option 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 request IANA to create a new registry for the PIO flags to avoid potential conflict in the use of these flags.

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[1.](#) Introduction

The Prefix Information Option 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 request IANA to create a new registry for the PIO flags to avoid potential conflict in the use of these flags.

[2.](#) Current Prefix Information Option flags

Currently, the NDP Prefix Information Option 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](#)]

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### 3. Updates to [RFC4861](#)

This document updates [RFC4861](#) with the new IANA Considerations section specified below.

### 4. IANA Considerations

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

RA Option Bit	Description	Reference
0	L - On-link Flag	<a href="#">[RFC4861]</a>
1	A - Autonomous Address Configuration Flag	<a href="#">[RFC4861]</a>
2	R - Router Address Flag	<a href="#">[RFC6275]</a>

Figure 2

The assignment of new flags in the PIO option header require standards action or IESG approval.

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

## 5. References

### 5.1. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate

Requirement Levels", [BCP 14](#), [RFC 2119](#),  
DOI 10.17487/RFC2119, March 1997,  
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[RFC4861] Narten, T., Nordmark, E., Simpson, W., and H. Soliman,  
"Neighbor Discovery for IP version 6 (IPv6)", [RFC 4861](#),  
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## [5.2.](#) Informative References

[RFC6275] Perkins, C., Ed., Johnson, D., and J. Arkko, "Mobility  
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2011, <<https://www.rfc-editor.org/info/rfc6275>>.

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