

Internet Engineering Task Force (IETF)
Request for Comments: 9029
Updates: 7752
Category: Standards Track
ISSN: 2070-1721

A. Farrel
Old Dog Consulting
June 2021

Updates to the Allocation Policy for the Border Gateway Protocol - Link
State (BGP-LS) Parameters Registries

Abstract

RFC 7752 defines the Border Gateway Protocol - Link State (BGP-LS). IANA created a registry consistent with that document called "Border Gateway Protocol - Link State (BGP-LS) Parameters" with a number of subregistries. The allocation policy applied by IANA for those registries is "Specification Required", as defined in RFC 8126.

This document updates RFC 7752 by changing the allocation policy for all of the registries to "Expert Review" and by updating the guidance to the designated experts.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <https://www.rfc-editor.org/info/rfc9029>.

Copyright Notice

Copyright (c) 2021 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

- 1. Introduction
 - 1.1. Requirements Language
 - 2. IANA Considerations
 - 2.1. Guidance for Designated Experts
 - 3. Security Considerations
 - 4. Normative References
- Acknowledgements
Author's Address

1. Introduction

"North-Bound Distribution of Link-State and Traffic Engineering (TE) Information Using BGP" [RFC7752] requested IANA to create a registry called "Border Gateway Protocol - Link State (BGP-LS) Parameters"

with a number of subregistries. The allocation policy applied by IANA for those registries is "Specification Required", as defined in [RFC8126].

The "Specification Required" policy requires evaluation of any assignment request by a "designated expert", and guidelines for any such experts are given in Section 5.1 of [RFC7752]. In addition, this policy requires that "the values and their meanings must be documented in a permanent and readily available public specification, in sufficient detail so that interoperability between independent implementations is possible" [RFC8126]. Further, the intention behind "permanent and readily available" is that "a document can reasonably be expected to be findable and retrievable long after IANA assignment of the requested value" [RFC8126].

Another allocation policy called "Expert Review" is defined in [RFC8126]. This policy also requires Expert Review but has no requirement for a formal document.

All reviews by designated experts are guided by advice given in the document that defined the registry and set the allocation policy.

This document updates [RFC7752] by changing the allocation policy for all of the registries to "Expert Review" and updating the guidance to the designated experts.

1.1. Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

2. IANA Considerations

IANA maintains a registry called "Border Gateway Protocol - Link State (BGP-LS) Parameters". This registry contains four subregistries:

- * BGP-LS NLRI-Types
- * BGP-LS Protocol-IDs
- * BGP-LS Well-Known Instance-IDs
- * BGP-LS Node Descriptor, Link Descriptor, Prefix Descriptor, and Attribute TLVs

IANA has changed the assignment policy for each of these registries to "Expert Review".

IANA has also added this document as a reference for the registries mentioned above.

2.1. Guidance for Designated Experts

Section 5.1 of [RFC7752] gives guidance to designated experts. This section replaces that guidance.

In all cases of review by the designated expert described here, the designated expert is expected to check the clarity of purpose and use of the requested code points. The following points apply to the registries discussed in this document:

1. Application for a code point allocation may be made to the designated experts at any time and MUST be accompanied by technical documentation explaining the use of the code point. Such documentation SHOULD be presented in the form of an Internet-Draft but MAY arrive in any form that can be reviewed and exchanged amongst reviewers.

2. The designated experts SHOULD only consider requests that arise from Internet-Drafts that have already been accepted as working group documents or that are planned for progression as AD-Sponsored documents in the absence of a suitably chartered working group.
3. In the case of working group documents, the designated experts MUST check with the working group chairs that there is consensus within the working group to make the allocation at this time. In the case of AD-Sponsored documents, the designated experts MUST check with the AD for approval to make the allocation at this time.
4. If the document is not adopted by the IDR Working Group (or its successor), the designated expert MUST notify the IDR mailing list (or its successor) of the request and MUST provide access to the document. The designated expert MUST allow two weeks for any response. Any comments received MUST be considered by the designated expert as part of the subsequent step.
5. The designated experts MUST then review the assignment requests on their technical merit. The designated experts MAY raise issues related to the allocation request with the authors and on the IDR (or successor) mailing list for further consideration before the assignments are made.
6. The designated expert MUST ensure that any request for a code point does not conflict with work that is active or already published within the IETF.
7. Once the designated experts have granted approval, IANA will update the registry by marking the allocated code points with a reference to the associated document.
8. In the event that the document is a working group document or is AD Sponsored, and that document fails to progress to publication as an RFC, the working group chairs or AD SHOULD contact IANA to coordinate about marking the code points as deprecated. A deprecated code point is not marked as allocated for use and is not available for allocation in a future document. The WG chairs may inform IANA that a deprecated code point can be completely deallocated (i.e., made available for new allocations) at any time after it has been deprecated if there is a shortage of unallocated code points in the registry.

3. Security Considerations

The security considerations described in Section 8 of [RFC7752] still apply.

Note that the change to the Expert Review guidelines makes the registry and the designated experts slightly more vulnerable to denial-of-service attacks through excessive and bogus requests for code points. It is expected that the registry cannot be effectively attacked because the designated experts would, themselves, fall to any such attack first. Designated experts are expected to report to the IDR Working Group chairs and responsible Area Director if they believe an attack to be in progress and should immediately halt all requests for allocation. This may temporarily block all legitimate requests until mitigations have been put in place.

4. 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, <<https://www.rfc-editor.org/info/rfc2119>>.
- [RFC7752] Gredler, H., Ed., Medved, J., Previdi, S., Farrel, A., and S. Ray, "North-Bound Distribution of Link-State and

Traffic Engineering (TE) Information Using BGP", RFC 7752,
DOI 10.17487/RFC7752, March 2016,
<<https://www.rfc-editor.org/info/rfc7752>>.

[RFC8126] Cotton, M., Leiba, B., and T. Narten, "Guidelines for
Writing an IANA Considerations Section in RFCs", BCP 26,
RFC 8126, DOI 10.17487/RFC8126, June 2017,
<<https://www.rfc-editor.org/info/rfc8126>>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC
2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174,
May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.

Acknowledgements

This work is based on the IANA Considerations described in Section 5
of [RFC7752]. The author thanks the people who worked on that
document.

The author would like to thank John Scudder for suggesting the need
for this document.

Thanks to John Scudder, Donald Eastlake 3rd, Ketan Talaulikar, and
Alvaro Retana for their review, comments, and discussion.

Additional thanks to Gyan Mishra, Acee Lindem, Ketan Talaulikar, Les
Ginsberg, Bruno Decraene, Benjamin Kaduk, and Martin Vigoureux for
engaging in discussion on the details of this work.

Author's Address

Adrian Farrel
Old Dog Consulting

Email: adrian@olddog.co.uk