Network Working Group
Internet-Draft
Updates: 5492 (if approved)
Intended status: Standards Track
Expires: March 23, 2019

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September 19, 2018

Revision to Capability Codes Registration Procedures
draft-scudder-idr-capabilities-registry-change-02.txt

Abstract

This document updates RFC 5492 by making a change to the registration procedures for BGP Capability Codes. Specifically, the range formerly designated "Reserved for Private Use" is divided into three new ranges, respectively designated as "First Come First Served", "Experimental" and "Reserved".

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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1. Introduction

[RFC5492] designates the range of Capability Codes 128-255 as "Reserved for Private Use". Subsequent experience has shown this to be not only useless, but actively confusing to implementors. BGP Capability Codes do not meet the criteria for "Reserved for Private Use" described in [RFC5226] S. 4.1. An example of a legitimate "private use" code point might be a BGP community [RFC1997] value assigned for use within a given AS, but no analogous use of Capabilities exists.

Accordingly, this document revises the registration procedures for the range 128-255, as follows, using the terminology defined in [RFC5226]:

128-238: First Come First Served

239-254: Experimental Use

255: Reserved

The procedures for the ranges 1-63 and 64-127 are unchanged, remaining "IETF Review" and "First Come First Served" respectively.

2. Discussion

The reason for providing an Experimental Use range is to preserve a range for use during early development. Although there are few practical differences between Experimental and Private Use, the change both makes it clear that code points from this space should not be used long-term or in shipping products, and reduces the consumption of the scarce Capability Code space expended for this purpose. Once classified as Experimental, it should be considered

difficult to reclassify the space for some other purpose in the future.

The reason for reserving the maximum value is that it may be useful in the future if extension of the number space is needed.

We note that since the range 128-255 was formerly ungoverned, implementors may have chosen to use code points within that range prior to publication of this document. Although it is not possible to know what code points implementors may have used, experience suggests 128 is a likely value. For that reason, this document asks IANA to reserve that value, to minimize the risk of conflict with existing implementations.

Finally, we invite implementors who have used values in the range 128-255 to contribute to this draft, so that the values can be included in the registry.

3. IANA Considerations

IANA is requested to revise the "Capability Codes" registry as described in Section 1. Since the range 128-238 is adjacent to the existing First Come First Served range, after this change the entire First Come First Served range will be 64-238.

IANA is requested to allocate value 128 as "Reserved".

4. Security Considerations

This revision to registration procedures does not change the underlying security issues inherent in the existing [RFC5492] and [RFC4271].

5. Acknowledgements

Thanks to Alia Atlas, Bruno Decraene, Jeff Haas, Sue Hares and Thomas Mangin for review and comments.

6. References

6.1. Normative References

[RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", RFC 5226, DOI 10.17487/RFC5226, May 2008, <https://www.rfc-editor.org/info/rfc5226>.

[RFC5492] Scudder, J. and R. Chandra, "Capabilities Advertisement with BGP-4", RFC 5492, DOI 10.17487/RFC5492, February 2009, <https://www.rfc-editor.org/info/rfc5492>.

6.2. Informative References

[RFC1997] Chandra, R., Traina, P., and T. Li, "BGP Communities Attribute", RFC 1997, DOI 10.17487/RFC1997, August 1996, <https://www.rfc-editor.org/info/rfc1997>.

[RFC4271] Rekhter, Y., Ed., Li, T., Ed., and S. Hares, Ed., "A Border Gateway Protocol 4 (BGP-4)", RFC 4271, DOI 10.17487/RFC4271, January 2006, <https://www.rfc-editor.org/info/rfc4271>.

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