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**Revision to Capability Codes Registration Procedures
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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 "Standards Action", "Experimental" and "Reserved".

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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]:

- 128-250: Standards Action
- 251-254: 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 choosing Standards Action and not some other policy is that it provides opportunity for working group oversight of the space, when and if it becomes depleted. At time of writing there is ample space available in both the IETF Review and First Come First Served portions of the 1-127 range. Note that any unallocated space in this range can be reclassified with some other allocation policy in the future, if needed.

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.

3. IANA Considerations

IANA is requested to revise the "Capability Codes" registry as described in [Section 1](#).

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, Jeff Haas and Sue Hares 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", [BCP 26](#), [RFC 5226](#), May 2008.
- [RFC5492] Scudder, J. and R. Chandra, "Capabilities Advertisement with BGP-4", [RFC 5492](#), February 2009.

6.2. Informative References

- [RFC1997] Chandrasekeran, R., Traina, P., and T. Li, "BGP Communities Attribute", [RFC 1997](#), August 1996.
- [RFC4271] Rekhter, Y., Li, T., and S. Hares, "A Border Gateway Protocol 4 (BGP-4)", [RFC 4271](#), January 2006.

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