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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 "First Come First Served", "Experimental Use" and "Reserved".

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[1.](#) Introduction

The Border Gateway Protocol uses a mechanism called "Capability Advertisement" [[RFC5492](#)] to enable BGP peers to tell one another about their optional protocol extensions. These so-called "Capabilities" are signaled using code points called "Capability Codes".

[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.

Accordingly, this document revises the registration procedures for the range 128-255, as follows, using the terminology defined in [[RFC8126](#)]:

- o 128-238: First Come First Served
- o 239-254: Experimental Use
- o 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

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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 in the "Border Gateway Protocol (BGP) Parameters" group as follows.

Reference: [[RFC5492](#)] and this document.

Registration procedures:

+-----+-----+	
Range	Registration Procedures
+-----+-----+	
1-63	IETF Review
64-238	First Come First Served
239-254	Experimental
+-----+-----+	

Table 1

Note: a separate "owner" column is not provided because the owner of all registrations, once made, is "IESG".

IANA is requested to perform the following new allocations within the "Capability Codes" registry:

Value	Description	Reference / Change Controller
128	Prestandard Route Refresh (deprecated)	(this document)
129	Prestandard Outbound Route Filtering (deprecated), prestandard Routing Policy Distribution (deprecated)	(this document)
130	Prestandard Outbound Route Filtering (deprecated)	(this document)
131	Prestandard Multisession (deprecated)	(this document)
184	Prestandard FQDN (deprecated)	(this document)
185	Prestandard OPERATIONAL message (deprecated)	(this document)
255	Reserved	(this document)

Table 2

4. Security Considerations

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

5. Acknowledgements

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6. References

6.1. Normative References

- [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>>.
- [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>>.

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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