

Network Working Group  
Internet-Draft  
Updates: [5492](#) (if approved)  
Intended status: Standards Track  
Expires: November 24, 2019

J. Scudder  
Juniper Networks  
May 23, 2019

**Revision to Capability Codes Registration Procedures  
draft-ietf-idr-capabilities-registry-change-04.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](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on November 24, 2019.

**Copyright Notice**

Copyright (c) 2019 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

<a href="#">1.</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Discussion . . . . .	<a href="#">2</a>
<a href="#">3.</a>	IANA Considerations . . . . .	<a href="#">3</a>
<a href="#">4.</a>	Security Considerations . . . . .	<a href="#">4</a>
<a href="#">5.</a>	Acknowledgements . . . . .	<a href="#">4</a>
<a href="#">6.</a>	References . . . . .	<a href="#">4</a>
<a href="#">6.1.</a>	Normative References . . . . .	<a href="#">4</a>
<a href="#">6.2.</a>	Informative References . . . . .	<a href="#">4</a>
	Author's Address . . . . .	<a href="#">5</a>

## [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 "Private Use" described in [\[RFC8126\] section 4.1](#). An example of a legitimate "private use" code point might be a BGP community [\[RFC1997\]](#) value assigned for use within a given Autonomous System, 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 [\[RFC8126\]](#):

- 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 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.

The reason for designating "IESG" as the change controller for all registrations is that while it should be easy to obtain a Capability Code, once registered it's not a trivial matter to safely and interoperably change the use of that code, and thus working group consensus should be sought before changes are made to existing registrations.

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. Values that have been reported, are included.

### 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.

Registry Owner/Change Controller: IESG

Registration procedures:

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

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
128	Prestandard Route Refresh (deprecated)	(this document)
129	Prestandard Outbound Route Filtering (deprecated)	(this document)
130	Prestandard Outbound Route Filtering (deprecated)	(this document)
255	Reserved	(this document)

#### 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, Martin Djernaes, Jeff Haas, Sue Hares, Acee Lindem, Thomas Mangin, and Tom Petch for review and comments.

#### 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>>.



Author's Address

John Scudder  
Juniper Networks  
1194 N. Mathilda Ave  
Sunnyvale, CA 94089  
USA

Email: [jgs@juniper.net](mailto:jgs@juniper.net)