Abstract
This document updates RFC 5492 by making a change to the registration procedures for BGP Capability Codes. Specifically, the range formerly designated "Private Use" is divided into three new ranges: "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 "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]:

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. The full range for "First Come First Served" is now 64-238.

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 Use" 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 Codes space expended for this purpose. Once classified as "Experimental Use", 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.

Since the range 128-255 was formerly designated "Private Use", implementors may have chosen to use code points within that range prior to publication of this document. For this reason, a survey was conducted beginning August 14, 2015 (version 01 of the individual draft [SCUDDER]) to find any such uses. A number were contributed and were used to seed Table 2. Of course, there can be no guarantee that all uses were discovered; however, the likelihood seems high that remaining uses, if any, genuinely do fall under the intended use of "Private Use" and are restricted to some special deployment and are not in wide use. Furthermore, any remaining uses would be no worse than any other code point collision, such as occasionally occurs with code point "squatting", and could be dealt with in the same manner.

3. IANA Considerations

IANA has revised the "Capability Codes" registry as follows.

Reference: [RFC5492] and this document.

Note: The IETF will be the Change Controller for all future registrations.

Registration procedures:

<table>
<thead>
<tr>
<th>Range</th>
<th>Registration Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-63</td>
<td>IETF Review</td>
</tr>
<tr>
<td>64-238</td>
<td>First Come First Served</td>
</tr>
<tr>
<td>239-254</td>
<td>Experimental Use</td>
</tr>
</tbody>
</table>

Table 1

IANA has made the following new allocations within the "Capability Codes" registry:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
<th>Reference</th>
<th>Change Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>Prestandard Route Refresh (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>129</td>
<td>Prestandard Outbound Route Filtering (deprecated), prestandard Routing Policy Distribution (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
<td>Reference</td>
<td>Change Controller</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------</td>
<td>-----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>130</td>
<td>Prestandard Outbound Route Filtering (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>131</td>
<td>Prestandard Multisession (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>184</td>
<td>Prestandard FQDN (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>185</td>
<td>Prestandard OPERATIONAL message (deprecated)</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
<tr>
<td>255</td>
<td>Reserved</td>
<td>RFC 8810</td>
<td>IETF</td>
</tr>
</tbody>
</table>

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. References

5.1. Normative References


5.2. Informative References


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