Internet Engineering Task Force (IETF)
Request for Comments: 8174
BCP: 14
Updates: 2119
Category: Best Current Practice
ISSN: 2070-1721

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May 2017

Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words

Abstract

RFC 2119 specifies common key words that may be used in protocol specifications. This document aims to reduce the ambiguity by clarifying that only UPPERCASE usage of the key words have the defined special meanings.

Status of This Memo

This memo documents an Internet Best Current Practice.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on BCPs is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc8174.

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1. Introduction

RFC 2119 specifies common key words, such as "MUST", "SHOULD", and "MAY", that may be used in protocol specifications. It says that the key words "are often capitalized," which has caused confusion about how to interpret non-capitalized words such as "must" and "should".

This document updates RFC 2119 by clarifying that only UPPERCASE usage of the key words have the defined special meanings. This document is part of BCP 14.

2. Clarifying Capitalization of Key Words

The following change is made to [RFC2119]:

=== OLD ===
In many standards track documents several words are used to signify the requirements in the specification. These words are often capitalized. This document defines these words as they should be interpreted in IETF documents. Authors who follow these guidelines should incorporate this phrase near the beginning of their document:

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

=== NEW ===
In many IETF documents, several words, when they are in all capitals as shown below, are used to signify the requirements in the specification. These capitalized words can bring significant clarity and consistency to documents because their meanings are well defined. This document defines how those words are interpreted in IETF documents when the words are in all capitals.

- These words can be used as defined here, but using them is not required. Specifically, normative text does not require the use of these key words. They are used for clarity and consistency when that is what’s wanted, but a lot of normative text does not use them and is still normative.

- The words have the meanings specified herein only when they are in all capitals.

- When these words are not capitalized, they have their normal English meanings and are not affected by this document.

Authors who follow these guidelines should incorporate this phrase near the beginning of their document:

> The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

=== END ===

3. IANA Considerations

This document does not require any IANA actions.

4. Security Considerations

This document is purely procedural; there are no related security considerations.

5. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <http://www.rfc-editor.org/info/rfc2119>.

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