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Additional Key words to Indicate Requirement Levels
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Abstract

Some document authors want to express requirement levels using the traditional definitions of "MUST" and "SHOULD" from [RFC 2119](#), but also want to express that there is an expectation that later versions of the document may change those requirements. For example, they may want to express "this SHOULD be implemented now, but we expect that this will become a MUST requirement in a future update to this standard".

This document defines three new keywords, "MUST-", "SHOULD+", and "SHOULD-" to facilitate such definitions.

1. Introduction

[RFC 2119](#) [[RFC2119](#)] defines keywords that are used in the RFC series. Using those definitions allows a document writer to specify the requirements level in a generally-understood manner. However, in some protocols, the authors want to convey that the requirements levels are expected to change in the future.

There are three requirements level changes that can be easily envisioned:

- o A MUST requirement that is expected to be demoted to SHOULD in the future.
- o A SHOULD requirement that is expected to be elevated to MUST in the future.
- o A SHOULD requirement that is expected to be demoted to MAY in the future.

[RFC 4307](#) [[RFC4307](#)] defined new terms for these three states. The purpose of defining new terms in [RFC 4307](#) was to alert implementers that there was a widespread expectation that some of the cryptographic algorithms that were listed as SHOULD-level in the document were expected to become MUST-level in a few years; similarly, there was a widespread expectation that some of the MUST-level algorithms would be demoted to SHOULD-level in a few years.

Since then, other RFCs and Internet Drafts have re-used those definitions. This document provides stand-alone definitions based on [RFC 4307](#), and explicitly updates [RFC 2119](#). It is important to note that this document does not change any of the definitions in [RFC 2119](#); it only adds new ones.

2. Definitions of MUST-, SHOULD+, and SHOULD-

Three new terms are defined:

- MUST- This term means the same as MUST. However, the authors expect that this requirement will no longer be a MUST in a future revision of this document. Although its status will be determined at a later time, it is reasonable to expect that if a future update this document alters the status of a MUST- requirement, it will remain at least a SHOULD or a SHOULD-.
- SHOULD+ This term means the same as SHOULD. However, the authors expect that a requirement marked as SHOULD+ will be promoted at some future time to be a MUST.
- SHOULD- This term means the same as SHOULD. However, the authors expect a requirement marked as SHOULD- will be demoted to a MAY in a future version of this document.

3. Acknowledgements

The definitions here are based on those in [RFC 4107](#), which was authored by Jeff Schiller. The genesis for the idea of requirements language that includes foreshadowing of changes came from Russ Housley during the discussion of [RFC 4107](#).

4. Security Considerations

There are no security considerations specific to the new definitions.

5. References

5.1. Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

5.2. Informative References

- [RFC4307] Schiller, J., "Cryptographic Algorithms for Use in the Internet Key Exchange Version 2 (IKEv2)", [RFC 4307](#), December 2005.

Appendix A. Change History

[[This entire section is to be removed upon publication.]]

This is the first version of the document.

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