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Reducing the Standards Track to Two Maturity Levels

Abstract

This document updates the Internet Engineering Task Force (IETF) Standards Process defined in RFC 2026. Primarily, it reduces the Standards Process from three Standards Track maturity levels to two.

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 5741.

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/rfc6410.

1. Introduction

This document changes the Internet Standards Process defined in RFC 2026 [1]. In recent years, the Internet Engineering Task Force (IETF) witnessed difficulty advancing documents through the maturity levels: Proposed Standard, Draft Standard, and finally Standard. These changes are designed to simplify the Standards Process and reduce impediments to standards progression while preserving the most important benefits of the IETF engineering approach. In addition, the requirement for annual review of Standards Track documents that have not reached the top of the maturity ladder is removed from the Internet Standards Process.

Over the years, there have been many proposals for refining the Internet Standards Process to reduce impediments to standards progression. During May 2010, the Internet Engineering Steering Group (IESG) discussed many of these proposals. Then, a plenary discussion at IETF 78 in July 2010 demonstrated significant support for transition from a three-tier maturity ladder to one with two tiers.

In the Internet Standards Process, experience with a Proposed Standard is expected to motivate revisions that clarify, modify, enhance, or remove features. However, in recent years, the vast majority of Standards Track documents are published as Proposed Standards and never advance to a higher maturity level. Very few specifications have advanced on the maturity ladder in the last decade. Changing the Internet Standards Process from three maturity levels to two is intended to create an environment where lessons from implementation and deployment experience are used to improve specifications.

The primary aspect of this change is to revise the requirements for advancement beyond Proposed Standard. RFC 2026 [1] requires a report that documents interoperability between at least two implementations from different code bases as an interim step ("Draft Standard") before a specification can be advanced further to the third and final maturity level ("Standard") based on widespread deployment and use. In contrast, this document requires measuring interoperability through widespread deployment of multiple implementations from different code bases, thus condensing the two separate metrics into one.

The result of this change is expected to be maturity-level advancement based on achieving widespread deployment of quality specifications. Additionally, the change will result in the incorporation of lessons from implementation and deployment

experience, and recognition that protocols are improved by removing complexity associated with unused features.

In RFC 2026 [1], widespread deployment is essentially the metric used for advancement from Draft Standard to Standard. The use of this same metric for advancement beyond Proposed Standard means that there is no longer a useful distinction between the top two tiers of the maturity ladder. Thus, the maturity ladder is reduced to two tiers.

In addition, RFC 2026 [1] requires annual review of specifications that have not achieved the top maturity level. This review is no longer required.

2. Two Maturity Levels

This document replaces the three-tier maturity ladder defined in RFC 2026 [1] with a two-tier maturity ladder. Specifications become Internet Standards through a set of two maturity levels known as the "Standards Track". These maturity levels are "Proposed Standard" and "Internet Standard".

A specification may be, and indeed, is likely to be, revised as it advances from Proposed Standard to Internet Standard. When a revised specification is proposed for advancement to Internet Standard, the IESG shall determine the scope and significance of the changes to the specification, and, if necessary and appropriate, modify the recommended action. Minor revisions and the removal of unused features are expected, but a significant revision may require that the specification accumulate more experience at Proposed Standard before progressing.

2.1. The First Maturity Level: Proposed Standard

The stated requirements for Proposed Standard are not changed; they remain exactly as specified in RFC 2026 [1]. No new requirements are introduced; no existing published requirements are relaxed.

2.2. The Second Maturity Level: Internet Standard

This maturity level is a merger of Draft Standard and Standard as specified in RFC 2026 [1]. The chosen name avoids confusion between "Draft Standard" and "Internet-Draft".

The characterization of an Internet Standard remains as described in RFC 2026 [1], which says:

> An Internet Standard is characterized by a high degree of technical maturity and by a generally held belief that the specified protocol or service provides significant benefit to the Internet community.

The IESG, in an IETF-wide Last Call of at least four weeks, confirms that a document advances from Proposed Standard to Internet Standard. The request for reclassification is sent to the IESG along with an explanation of how the criteria have been met. The criteria are:

(1) There are at least two independent interoperating implementations with widespread deployment and successful operational experience.

(2) There are no errata against the specification that would cause a new implementation to fail to interoperate with deployed ones.

(3) There are no unused features in the specification that greatly increase implementation complexity.

(4) If the technology required to implement the specification requires patented or otherwise controlled technology, then the set of implementations must demonstrate at least two independent, separate and successful uses of the licensing process.

After review and consideration of significant errata, the IESG will perform an IETF-wide Last Call of at least four weeks on the requested reclassification. If there is consensus for reclassification, the RFC will be reclassified without publication of a new RFC.

As stated in RFC 2026 [1], in a timely fashion after the expiration of the Last Call period, the IESG shall make its final determination and notify the IETF of its decision via electronic mail to the IETF Announce mailing list. No changes are made to Section 6.1.2 of RFC 2026 [1].

2.3. Transition to a Standards Track with Two Maturity Levels

Any protocol or service that is currently at the Proposed Standard maturity level remains so.

Any protocol or service that is currently at the Standard maturity level shall be immediately reclassified as an Internet Standard.

Any protocol or service that is currently at the abandoned Draft Standard maturity level will retain that classification, absent explicit actions. Two possible actions are available:

(1) A Draft Standard may be reclassified as an Internet Standard as soon as the criteria in Section 2.2 are satisfied.

(2) At any time after two years from the approval of this document as a BCP, the IESG may choose to reclassify any Draft Standard document as Proposed Standard.

3. Removed Requirements

3.1. Removal of Requirement for Annual Review

In practice, the annual review of Proposed Standard and Draft Standard documents after two years (called for in RFC 2026 [1]) has not taken place. Lack of this review has not revealed any ill effects on the Internet Standards Process. As a result, the requirement for this review is dropped. No review cycle is imposed on Standards Track documents at any maturity level.

3.2. Requirement for Interoperability Testing Reporting

Testing for interoperability is a long tradition in the development of Internet protocols and remains important for reliable deployment of services. The IETF Standards Process no longer requires a formal interoperability report, recognizing that deployment and use is sufficient to show interoperability.

Although no longer required by the IETF Standards Processes, RFC 5657 [2] can be helpful to conduct interoperability testing.

4. Security Considerations

This document does not directly affect the security of the Internet.

5. Acknowledgements

A two-tier Standards Track has been proposed many times. Spencer Dawkins, Charlie Perkins, and Dave Crocker made a proposal in 2003. Additional proposals were made by Scott Bradner in 2004, Brian Carpenter in June 2005, and Ran Atkinson in 2006. This document takes ideas from many of these prior proposals; it also incorporates ideas from the IESG discussion in May 2010, the IETF 78 plenary discussion in July 2010, and yet another proposal submitted by Spencer Dawkins, Dave Crocker, Eric Burger, and Peter Saint-Andre in November 2010.

6. References

6.1. Normative References

[1] Bradner, S., "The Internet Standards Process -- Revision 3", BCP 9, RFC 2026, October 1996.

6.2. Informative References

[2] Dusseault, L. and R. Sparks, "Guidance on Interoperation and Implementation Reports for Advancement to Draft Standard", BCP 9, RFC 5657, September 2009.

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