INTERNET OFFICIAL PROTOCOL STANDARDS


Status of this Memo

   This memo describes the state of standardization of protocols used in
   the Internet as determined by the Internet Architecture Board (IAB).
   This memo is an Internet Standard.  Distribution of this memo is
   unlimited.

Table of Contents

Introduction

   A discussion of the standardization process and the RFC document
   series is presented first, followed by an explanation of the terms.
   Sections 6.2 - 6.10 contain the lists of protocols in each stage of
   standardization.  Finally are pointers to references and contacts for
   further information.

   This memo is intended to be issued approximately quarterly; please be
   sure the copy you are reading is current.  Current copies may be
   obtained from the Network Information Center (INTERNIC) or from the
   Internet Assigned Numbers Authority (IANA) (see the contact
   information at the end of this memo).  Do not use this edition after
   1-Mar-95.

   See Section 6.1 for a description of recent changes.  In the official
   lists in sections 6.2 - 6.10, an asterisk (*) next to a protocol
   denotes that it is new to this document or has been moved from one
   protocol level to another, or differs from the previous edition of
   this document.

1.  The Standardization Process

   The Internet Architecture Board maintains this list of documents that
   define standards for the Internet protocol suite.  See RFC-1601 for
   the charter of the IAB and RFC-1160 for an explanation of the role
   and organization of the IAB and its subsidiary groups, the Internet
   Engineering Task Force (IETF) and the Internet Research Task Force
   (IRTF).  Each of these groups has a steering group called the IESG
   and IRSG, respectively.  The IETF develops these standards with the
   goal of co-ordinating the evolution of the Internet protocols; this
   co-ordination has become quite important as the Internet protocols
   are increasingly in general commercial use.  The definitive
   description of the Internet standards process is found in RFC-1602.

   The majority of Internet protocol development and standardization
   activity takes place in the working groups of the IETF.

   Protocols which are to become standards in the Internet go through a
   series of states or maturity levels (proposed standard, draft
   standard, and standard) involving increasing amounts of scrutiny and
   testing.  When a protocol completes this process it is assigned a STD
   number (see RFC-1311).  At each step, the Internet Engineering
   Steering Group (IESG) of the IETF must make a recommendation for
   advancement of the protocol.

   To allow time for the Internet community to consider and react to
   standardization proposals, a minimum delay of 6 months before a
   proposed standard can be advanced to a draft standard and 4 months
   before a draft standard can be promoted to standard.

   It is general practice that no proposed standard can be promoted to
   draft standard without at least two independent implementations (and
   the recommendation of the IESG).  Promotion from draft standard to
   standard generally requires operational experience and demonstrated
   interoperability of two or more implementations (and the
   recommendation of the IESG).

   In cases where there is uncertainty as to the proper decision
   concerning a protocol a special review committee may be appointed
   consisting of experts from the IETF, IRTF and the IAB with the
   purpose of recommending an explicit action.

   Advancement of a protocol to proposed standard is an important step
   since it marks a protocol as a candidate for eventual standardization
   (it puts the protocol "on the standards track").  Advancement to
   draft standard is a major step which warns the community that, unless
   major objections are raised or flaws are discovered, the protocol is
   likely to be advanced to standard in six months.

Some protocols have been superseded by better ones or are otherwise
unused.  Such protocols are still documented in this memorandum with
the designation "historic".

Because it is useful to document the results of early protocol
research and development work, some of the RFCs document protocols
which are still in an experimental condition.  The protocols are
designated "experimental" in this memorandum.  They appear in this
report as a convenience to the community and not as evidence of their
standardization.

Other protocols, such as those developed by other standards
organizations, or by particular vendors, may be of interest or may be
recommended for use in the Internet.  The specifications of such
protocols may be published as RFCs for the convenience of the
Internet community.  These protocols are labeled "informational" in
this memorandum.

In addition to the working groups of the IETF, protocol development
and experimentation may take place as a result of the work of the
research groups of the Internet Research Task Force, or the work of
other individuals interested in Internet protocol development.  The
the documentation of such experimental work in the RFC series is
encouraged, but none of this work is considered to be on the track
for standardization until the IESG has made a recommendation to
advance the protocol to the proposed standard state.

A few protocols have achieved widespread implementation without the
approval of the IESG.  For example, some vendor protocols have become
very important to the Internet community even though they have not
been recommended by the IESG.  However, the IAB strongly recommends
that the standards process be used in the evolution of the protocol
suite to maximize interoperability (and to prevent incompatible
protocol requirements from arising).  The use of the terms
"standard", "draft standard", and "proposed standard" are reserved in
any RFC or other publication of Internet protocols to only those
protocols which the IESG has approved.

In addition to a state (like "Proposed Standard"), a protocol is also
assigned a status, or requirement level, in this document.  The
possible requirement levels ("Required", "Recommended", "Elective",
"Limited Use", and "Not Recommended") are defined in Section 4.2.
When a protocol is on the standards track, that is in the proposed
standard, draft standard, or standard state (see Section 5), the
status shown in Section 6 is the current status.

Few protocols are required to be implemented in all systems; this is
because there is such a variety of possible systems, for example,

gateways, routers, terminal servers, workstations, and multi-user
hosts.  The requirement level shown in this document is only a one
word label, which may not be sufficient to characterize the
implementation requirements for a protocol in all situations.  For
some protocols, this document contains an additional status paragraph
(an applicability statement).  In addition, more detailed status
information may be contained in separate requirements documents (see
Section 3).

2.   The Request for Comments Documents

     The documents called Request for Comments (or RFCs) are the working
     notes of the "Network Working Group", that is the Internet research
     and development community.  A document in this series may be on
     essentially any topic related to computer communication, and may be
     anything from a meeting report to the specification of a standard.

     Notice:

        All standards are published as RFCs, but not all RFCs specify
        standards.

     Anyone can submit a document for publication as an RFC.  Submissions
     must be made via electronic mail to the RFC Editor (see the contact
     information at the end of this memo, and see RFC 1543).

     While RFCs are not refereed publications, they do receive technical
     review from the task forces, individual technical experts, or the RFC
     Editor, as appropriate.

     The RFC series comprises a wide range of documents, ranging from
     informational documents of general interests to specifications of
     standard Internet protocols.  In cases where submission is intended
     to document a proposed standard, draft standard, or standard
     protocol, the RFC Editor will publish the document only with the
     approval of the IESG.  For documents describing experimental work,
     the RFC Editor will notify the IESG before publication, allowing for
     the possibility of review by the relevant IETF working group or IRTF
     research group and provide those comments to the author.  See Section
     5.1 for more detail.

     Once a document is assigned an RFC number and published, that RFC is
     never revised or re-issued with the same number.  There is never a
     question of having the most recent version of a particular RFC.
     However, a protocol (such as File Transfer Protocol (FTP)) may be
     improved and re-documented many times in several different RFCs.  It
     is important to verify that you have the most recent RFC on a
     particular protocol.  This "Internet Official Protocol Standards"

Internet Architecture Board                                    [Page 5]

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