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Getting Rid of the Cruft: Report from an Experiment in Identifying and Reclassifying Obsolete Standards Documents

Status of This Memo

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Abstract

This memo documents an experiment to review and classify Proposed Standards as not reflecting documented practice within the world today. The results identify a set of documents that were marked as Proposed Standards that are now reclassified as Historic.

Table of Contents

1. Introduction and History

RFC 2026, and RFC 1602 before it, specified timelines for review of immature (draft or proposed) standards. The purpose of such review was to determine whether such documents should be advanced, retired, or developed further [1].

This procedure has never been followed in the history of the IETF. Since this procedure has not been followed, members of the community have suggested that the retiring of a document to Historic is a significant event, which should be justified carefully -- leading to the production of documents such as RFC 2556 (OSI Connectionless Transport Services on top of UDP Applicability Statement for Historic Status) and RFC 3166 (Request to Move RFC 1403 to Historic Status).

Such documents require significant time and effort on the part of authors, area directors, and the RFC Editor.

2. Bulk Decommissioning Procedure

From the Fall of 2004 through the Spring of 2005, the authors conducted an experiment to determine how many Proposed Standards could be considered obsolete. The experiment was operated as follows:

- Identify a group of documents that are standards.
- Assume by default that each document will be retired.
- Create a mailing list for discussion with a policy of open access.
- Allow any document to be removed from the list of those to be retired for virtually any reason, so long as a reason is provided.
- Present the list to the working group, IETF, and IESG for review.
- Revise list based on comments.
- Write up results.

The initial intent of the authors was to present a list of documents to be reclassified as Historic. The NEWTRK working group supported this view. The IESG, and the IETF as a community, makes the final decision. We will discuss this further below.

3. Input, Mailing list, Output, and Observations

We started with our initial document set being all RFCs with numbers less than 2000 and a status of Proposed Standard. The input we used, starting November 25, 2004, can be found in Appendix A. There were some 125 documents in all.

A mailing list, old-standards@alvestrand.no, was created to discuss and remove candidates from this list. A call for participation was issued to the IETF-Announce list on or around the November 15, 2004. There were 29 members of the mailing list. Approximately 244 messages were sent to the list. People were encouraged to consider the question of whether or not an implementer would either write a new implementation or maintain an existing one.

After some months the list of documents to be considered was reduced considerably. This list was then forwarded to the IETF discussion list on December 16, 2004, and to the NEWTRK working group list for wider review.

During review, RFCs 1518 and 1519 were removed, based on the fact that work is ongoing to revise them. Similarly, RFCs 1381, 1382, 1471, 1472, 1473, 1582, 1598, and 1755 were removed based on the belief that they were actively in use. RFC 1584 was removed based on an expected future dependency.

Here are the results:

RFC 1234 (Tunneling IPX Traffic through IP Networks)
RFC 1239 (Reassignment of Experimental MIBs to Standard MIBs)
RFC 1276 (Replication and Distributed Operations Extensions to provide an Internet Directory Using X.500)
RFC 1285 (FDDI Management Information Base)
RFC 1314 (A File Format for the Exchange of Images in the Internet)
RFC 1328 (X.400 1988 to 1984 Downgrading)
RFC 1370 (Applicability Statement for OSPF)
RFC 1378 (The PPP AppleTalk Control Protocol (ATCP))
RFC 1397 (Default Route Advertisement in BGP2 and BGP3 Version of the Border Gateway Protocol)
RFC 1414 (Identification MIB)
RFC 1415 (FTP-FTAM Gateway Specification)
RFC 1418 (SNMP over OSI)
RFC 1419 (SNMP over AppleTalk)
RFC 1421 (Privacy Enhancement for Internet Electronic Mail: Part I: Message Encryption and Authentication Procedures)
RFC 1422 (Privacy Enhancement for Internet Electronic Mail: Part II: Certificate-Based Key Management)
RFC 1423 (Privacy Enhancement for Internet Electronic Mail: Part III: Algorithms, Modes, and Identifiers)
RFC 1424 (Privacy Enhancement for Internet Electronic Mail: Part IV: Key Certification and Related Services)
RFC 1461 (SNMP MIB Extension for Multiprotocol Interconnect over X.25)
RFC 1469 (IP Multicast over Token-Ring Local Area Networks)
RFC 1474 (The Definitions of Managed Objects for the Bridge Network Control Protocol of the Point-to-Point Protocol)
RFC 1478 (An Architecture for Inter-Domain Policy Routing)
RFC 1479 (Inter-Domain Policy Routing Protocol Specification: Version 1)
RFC 1494 (Equivalences between 1988 X.400 and RFC-822 Message Bodies)
RFC 1496 (Rules for Downgrading Messages from X.400/88 to X.400/84) when MIME Content-types Are Present in the Messages

RFC 1502 (X.400 Use of Extended Character Sets)
RFC 1512 (FDDI Management Information Base)
RFC 1513 (Token Ring Extensions to the Remote Network Monitoring MIB)
RFC 1525 (Definitions of Managed Objects for Source Routing Bridges)
RFC 1552 (The PPP Internetworking Packet Exchange Control Protocol (IPXCP))
RFC 1553 (Compressing IPX Headers over WAN Media (CIPX))
RFC 1648 (Postmaster Convention for X.400 Operations)
RFC 1666 (Definitions of Managed Objects for SNA NAUs using SMIv2)
RFC 1692 (Transport Multiplexing Protocol (TMux))
RFC 1696 (Modem Management Information Base (MIB) Using SMIv2)
RFC 1742 (AppleTalk Management Information Base II)
RFC 1747 (Definitions of Managed Objects for SNA Data Link Control (SDLC) Using SMIv2)
RFC 1749 (IEEE 802.5 Station Source Routing MIB using SMIv2)
RFC 1763 (The PPP Banyan Vines Control Protocol (BVCP))
RFC 1764 (The PPP XNS IDP Control Protocol (XNSCP))
RFC 1828 (IP Authentication using Keyed MD5)
RFC 1835 (Architecture of the WHOIS++ Service)
RFC 1848 (MIME Object Security Services)
RFC 1913 (Architecture of the Whois++ Index Service)
RFC 1914 (How to Interact with a Whois++ Mesh)

One additional document, RFC 1829, the ESP DES-CBC transform, was suggested for Historic status, but in this case, the group consensus is that the community would benefit from a separate document describing the security implications of using this algorithm.

4. Discussion

As one peruses this list one sees several classes of documents:

- Multiprotocol functions for protocols that are obsolete, such as Appletalk or X.400.
- Protocols that were defined but not used, such as PEM or Whois++

In either case above, a judgment is necessary as to whether or not a protocol is both in use and likely to be supported. The parameters of our experiment were sufficiently conservative to avoid cases where protocols were likely to continue to be supported. That is, anyone could remove a document from the list for any reason. In fact, in some cases we may have been too conservative. Thus, it is also worth considering the categories of documents that were removed from the list:

- o specifications known to be in full use that should be considered for advancement
- o specifications that are currently under review within the IETF process
- o Specifications that were previously considered for deprecation and rejected.

The last category is exclusive to telnet options, which were reviewed in the late 1990s. Arguably, such options should be reconsidered for deprecation. Realistically, nobody is going to develop a new version of telnet that supports the TACACS option, for instance. Nevertheless, as a first cut we were still left with 61 documents that could be reclassified.

In at least one case, discussion of deprecation has spurred work on documents. For instance, there is a Classless Inter-Domain Routing (CIDR) update in progress.

5. Next Steps

As we mention in the introduction, the current process requires reconsideration of immature standards, and this review currently does not occur. This experiment has been an attempt at a procedure that could ease that review. The final step was working group consideration of what to do next. There were four options:

1. Accept the results of this experiment, issue a last call, and deprecate standards that remain on the list past last call. This is an aggressive approach that would preserve the intent of RFC 2026.
2. Do not accept the results of this experiment and update RFC 2026 to indicate a new practice.
3. Revise the procedure based on the results of this experiment, based on feedback from the IESG. This option might take into account the different types of old standards as described above.
4. Do nothing. This would leave the IETF and the IESG practice inconsistent with documented practice.

The working group chose the first option. The RFC Editor is requested to mark the above listed standards as Historic.

It should be pointed out that we only looked at proposed standards and only those RFCs with numbers less than 2000. Should either the first or third of the above options be accepted, draft standards and those older than several years should be considered.

Finally, should NEWTRK deliver a new document classification system, these documents may provide a basis for one or more new categories of that.

6. IANA Considerations

The IANA databases contain references to many of these documents. The documents are still the normative definitions for these values, and the IANA databases do not contain information about the status of the RFCs referred to.

Therefore, the IANA should not need to do anything based on this document.

7. Security Considerations

Documents that have security problems may require special attention and individual documents to indicate what concerns exist, and when or in what ways an implementation can be deployed to alleviate concerns.

8. Acknowledgements

This experiment would have been completely useless without participation of the members of the old-standards mailing list. Most notably, Pekka Savalo, Bob Braden, and John Klensin were very active contributors to the discussions.

9. Normative References

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

Appendix A. Input RFCs

RFC 0698 (Telnet Extended ASCII Option)
RFC 0726 (Remote Controlled Transmission and Echoing Telnet Option)
RFC 0727 (Telnet Logout Option)
RFC 0735 (Revised Telnet Byte Macro Option)
RFC 0736 (Telnet SUPDUP Option)
RFC 0749 (Telnet SUPDUP-Output Option)
RFC 0779 (Telnet send-location Option)
RFC 0885 (Telnet End of Record Option)
RFC 0927 (TACACS User Identification Telnet Option)
RFC 0933 (Output Marking Telnet Option)
RFC 0946 (Telnet Terminal Location Number Option)
RFC 0977 (Network News Transfer Protocol)
RFC 1041 (Telnet 3270 Regime Option)
RFC 1043 (Telnet Data Entry Terminal Option: DODIIS Implementation)
RFC 1053 (Telnet X.3 PAD Option)
RFC 1073 (Telnet Window sSize Option)
RFC 1079 (Telnet Terminal Speed Option)
RFC 1091 (Telnet Terminal-type Option)
RFC 1096 (Telnet X Display Location Option)
RFC 1144 (Compressing TCP/IP Headers for Low-speed Serial Links)
RFC 1195 (Use of OSI IS-IS for Routing in TCP/IP and Dual)
RFC 1234 (Tunneling IPX Traffic through IP Networks)
RFC 1239 (Reassignment of Experimental MIBs to Standard MIBs)
RFC 1256 (ICMP Router Discovery Messages)
RFC 1269 (Definitions of Managed Objects for the Border Gateway Protocol: Version 3)
RFC 1274 (The COSINE and Internet X.500 Schema)
RFC 1276 (Replication and Distributed Operations Extensions to Provide an Internet Directory Using X.500)
RFC 1277 (Encoding Network Addresses to Support Operation over Non-OSI Lower Layers)
RFC 1285 (FDDI Management Information Base)
RFC 1314 (A File Format for the Exchange of Images in the Internet)
RFC 1323 (TCP Extensions for High Performance)
RFC 1328 (X.400 1988 to 1984 Downgrading)
RFC 1332 (The PPP Internet Protocol Control Protocol (IPCP))
RFC 1370 (Applicability Statement for OSPF)
RFC 1372 (Telnet Remote Flow Control Option)
RFC 1377 (The PPP OSI Network Layer Control Protocol (OSINLCP))
RFC 1378 (The PPP AppleTalk Control Protocol (ATCP))
RFC 1381 (SNMP MIB Extension for X.25 LAPB)
RFC 1382 (SNMP MIB Extension for the X.25 Packet Layer)
RFC 1397 (Default Route Advertisement in BGP2 and BGP3 Version of the Border Gateway Protocol)
RFC 1413 (Identification Protocol)
RFC 1414 (Identification MIB)

RFC 1415 (FTP-FTAM Gateway Specification)
RFC 1418 (SNMP over OSI)
RFC 1419 (SNMP over AppleTalk)
RFC 1420 (SNMP over IPX)
RFC 1421 (Privacy Enhancement for Internet Electronic Mail: Part I: Message Encryption and Authentication Procedures)
RFC 1422 (Privacy Enhancement for Internet Electronic Mail: Part II: Certificate-Based Key Management)
RFC 1423 (Privacy Enhancement for Internet Electronic Mail: Part III: Algorithms, Modes, and Identifiers)
RFC 1424 (Privacy Enhancement for Internet Electronic Mail: Part IV: Key Certification and Related Services)
RFC 1461 (SNMP MIB extension for Multiprotocol Interconnect over X.25)
RFC 1469 (IP Multicast over Token-Ring Local Area Networks)
RFC 1471 (The Definitions of Managed Objects for the Link Control Protocol of the Point-to-Point Protocol)
RFC 1472 (The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol)
RFC 1473 (The Definitions of Managed Objects for the IP Network Control Protocol of the Point-to-Point Protocol)
RFC 1474 (The Definitions of Managed Objects for the Bridge Network Control Protocol of the Point-to-Point Protocol)
RFC 1478 (An Architecture for Inter-Domain Policy Routing)
RFC 1479 (Inter-Domain Policy Routing Protocol Specification: Version 1)
RFC 1494 (Equivalences between 1988 X.400 and RFC-822 Message Bodies)
RFC 1496 (Rules for Downgrading Messages from X.400/88 to X.400/84)
RFC 1502 (X.400 Use of Extended Character Sets)
RFC 1510 (The Kerberos Network Authentication Service (V5))
RFC 1512 (FDDI Management Information Base)
RFC 1513 (Token Ring Extensions to the Remote Network Monitoring MIB)
RFC 1517 (Applicability Statement for the Implementation of Classless Inter-Domain Routing (CIDR))
RFC 1518 (An Architecture for IP Address Allocation with CIDR)
RFC 1519 (Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy)
RFC 1525 (Definitions of Managed Objects for Source Routing Bridges)
RFC 1552 (The PPP Internetworking Packet Exchange Control Protocol)
RFC 1553 (Compressing IPX Headers over WAN Media (CIPX))
RFC 1570 (PPP LCP Extensions)
RFC 1572 (Telnet Environment Option)
RFC 1582 (Extensions to RIP to Support Demand Circuits)
RFC 1584 (Multicast Extensions to OSPF)
RFC 1598 (PPP in X.25)

RFC 1618 (PPP over ISDN)
RFC 1628 (UPS Management Information Base)
RFC 1648 (Postmaster Convention for X.400 Operations)
RFC 1663 (PPP Reliable Transmission)
RFC 1666 (Definitions of Managed Objects for SNA NAUs Using SMIv2)
RFC 1692 (Transport Multiplexing Protocol (TMux))
RFC 1696 (Modem Management Information Base (MIB) Using SMIv2)
RFC 1697 (Relational Database Management System (RDBMS) Management)
RFC 1731 (IMAP4 Authentication Mechanisms)
RFC 1734 (POP3 AUTHentication command)
RFC 1738 (Uniform Resource Locators (URL))
RFC 1740 (MIME Encapsulation of Macintosh Files - MacMIME)
RFC 1742 (AppleTalk Management Information Base II)
RFC 1747 (Definitions of Managed Objects for SNA Data Link Control)
RFC 1749 (IEEE 802.5 Station Source Routing MIB Using SMIv2)
RFC 1752 (The Recommendation for the IP Next Generation Protocol)
RFC 1755 (ATM Signaling Support for IP over ATM)
RFC 1763 (The PPP Banyan Vines Control Protocol (BVCP))
RFC 1764 (The PPP XNS IDP Control Protocol (XNSCP))
RFC 1767 (MIME Encapsulation of EDI Objects)
RFC 1793 (Extending OSPF to Support Demand Circuits)
RFC 1808 (Relative Uniform Resource Locators)
RFC 1812 (Requirements for IP Version 4 Routers)
RFC 1828 (IP Authentication using Keyed MD5)
RFC 1829 (The ESP DES-CBC Transform)
RFC 1831 (RPC: Remote Procedure Call Protocol Specification Version 2)
RFC 1833 (Binding Protocols for ONC RPC Version 2)
RFC 1835 (Architecture of the WHOIS++ Service)
RFC 1847 (Security Multiparts for MIME: Multipart/Signed and Multipart/Encrypted)
RFC 1848 (MIME Object Security Services)
RFC 1913 (Architecture of the Whois++ Index Service)
RFC 1914 (How to Interact with a Whois++ Mesh)
RFC 1928 (SOCKS Protocol Version 5)
RFC 1929 (Username/Password Authentication for SOCKS V5)
RFC 1961 (GSS-API Authentication Method for SOCKS Version 5)
RFC 1962 (The PPP Compression Control Protocol (CCP))
RFC 1964 (The Kerberos Version 5 GSS-API Mechanism)
RFC 1968 (The PPP Encryption Control Protocol (ECP))
RFC 1973 (PPP in Frame Relay)
RFC 1982 (Serial Number Arithmetic)
RFC 1985 (SMTP Service Extension for Remote Message Queue Starting)
RFC 1995 (Incremental Zone Transfer in DNS)
RFC 1996 (A Mechanism for Prompt Notification of Zone Changes (DNS NOTIFY))
RFC 1997 (BGP Communities Attribute)

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