              Survey of IPv4 Addresses in Currently Deployed
        IETF Sub-IP Area Standards Track and Experimental Documents

Status of this Memo

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Abstract

   This document seeks to document all usage of IPv4 addresses in
   currently deployed IETF Sub-IP Area documented standards. In order
   to successfully transition from an all IPv4 Internet to an all IPv6
   Internet, many interim steps will be taken. One of these steps is
   the evolution of current protocols that have IPv4 dependencies. It
   is hoped that these protocols (and their implementations) will be
   redesigned to be network address independent, but failing that will
   at least dually support IPv4 and IPv6. To this end, all Standards
   (Full, Draft, and Proposed) as well as Experimental RFCs will be
   surveyed and any dependencies will be documented.

Table of Contents

1.   Introduction

     This document is part of a document set aiming to document all usage
     of IPv4 addresses in IETF standards. In an effort to have the
     information in a manageable form, it has been broken into 7 documents
     conforming to the current IETF areas (Application, Internet,
     Operations & Management, Routing, Security, Sub-IP and Transport).

     For a full introduction, please see the introduction [1].

2.   Document Organization

     The rest of the document sections are described below.

     Sections 3, 4, 5, and 6 each describe the raw analysis of Full,
     Draft, and Proposed Standards, and Experimental RFCs. Each RFC is
     discussed in its turn starting with RFC 1 and ending with (around)
     RFC 3100. The comments for each RFC are "raw" in nature. That is,
     each RFC is discussed in a vacuum and problems or issues discussed do
     not "look ahead" to see if the problems have already been fixed.

     Section 7 is an analysis of the data presented in Sections 3, 4, 5,
     and 6. It is here that all of the results are considered as a whole
     and the problems that have been resolved in later RFCs are
     correlated.

3.   Full Standards

     Full Internet Standards (most commonly simply referred to as
     "Standards") are fully mature protocol specification that are widely
     implemented and used throughout the Internet.

     There are no full standards within the scope of this document.

4.   Draft Standards

     Draft Standards represent the penultimate standard level in the IETF.
     A protocol can only achieve draft standard when there are multiple,
     independent, interoperable implementations. Draft Standards are
     usually quite mature and widely used.

     There are no draft standards within the scope of this document.

5. Proposed Standards

   Proposed Standards are introductory level documents. There are no
   requirements for even a single implementation. In many cases
   Proposed are never implemented or advanced in the IETF standards
   process. They therefore are often just proposed ideas that are
   presented to the Internet community. Sometimes flaws are exposed or
   they are one of many competing solutions to problems. In these later
   cases, no discussion is presented as it would not serve the purpose
   of this discussion.

   5.01. RFC 3031 Multiprotocol Label Switching Architecture (MPLS)

      There are no IPv4 dependencies in this specification.

   5.02. RFC 3032 MPLS Label Stack Encoding

      This specification is both IPv4 and IPv6 aware and needs no
      changes.

   5.03. RFC 3034 Use of Label Switching on Frame Relay Networks
          Specification

      There are no IPv4 dependencies in this specification.

   5.04. RFC 3035 MPLS using LDP and ATM VC Switching

      There are no IPv4 dependencies in this specification.

   5.05. RFC 3036 LDP Specification

      This specification is both IPv4 and IPv6 aware and needs no
      changes.

   5.06. RFC 3038 VCID Notification over ATM link for LDP

      There are no IPv4 dependencies in this specification.

6. Experimental RFCs

   Experimental RFCs typically define protocols that do not have
   widescale implementation or usage on the Internet. They are often
   propriety in nature or used in limited arenas. They are documented
   to the Internet community in order to allow potential
   interoperability or some other potential useful scenario. In a few
   cases they are presented as alternatives to the mainstream solution
   to an acknowledged problem.

   6.01. RFC 3063 MPLS Loop Prevention Mechanism

      There are no IPv4 dependencies in this specification.

7. Summary of Results

   In the initial survey of RFCs 0 positives were identified out of a
   total of 7, broken down as follows:

         Standards: 0 out of 0 or 0.00%
         Draft Standards: 0 out of 0 or 0.00%
         Proposed Standards: 0 out of 6 or 0.00%
         Experimental RFCs: 0 out of 1 or 0.00%

   Of those identified many require no action because they document
   outdated and unused protocols, while others are document protocols
   that are actively being updated by the appropriate working groups.
   Additionally there are many instances of standards that should be
   updated but do not cause any operational impact if they are not
   updated. The remaining instances are documented below.

   7.01. Standards

      There are no standards within the scope of this document.

   7.02. Draft Standards

      There are no draft standards within the scope of this document.

   7.03. Proposed Standards

      There are no proposed standards with recommendations in this
      document.

   7.04. Experimental RFCs

      There are no experimental standards with recommendations in this
      document.

8. Security Considerations

   This memo examines the IPv6-readiness of specifications; this does
   not have security considerations in itself.

9. Acknowledgements

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10. Normative Reference

   [1] Nesser, II, P. and A. Bergstrom, Editor, "Introduction to the
        Survey of IPv4 Addresses in Currently Deployed IETF Standards",
        RFC 3789, May 2004.

11. Authors' Addresses

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