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# 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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## 12. Full Copyright Statement



## Intellectual Property



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