Internet Standards Documents

Let's look at what can be called the "official documentation of the Internet" now! We'll refer to these standards documents throughout this course.

WE'LL COVER THE FOLLOWING

Why Care About Internet Standards?

Standardization has allowed us to achieve **interoperability**. Different organizations and vendors can develop hardware and software to be connected to the Internet. Unless they agree on a protocol, their hardware and software wouldn't be able to talk to each other. Standardization is all interested stakeholders sitting together, debating and agreeing on a protocol or design.

Also, it's important to know **what's out there, who designed what and why**.

Also, you'd know where to submit your ideas in case you come up with a better design for any of the protocols we're going to study.

What Is an RFC?

- An RFC or Request For Comments is a document that contains proposals for new protocols or systems.
- Today, RFCs are submitted to and handled by the Internet Society which has a sub-body called the **Internet Engineering Task Force (IETF)**. This sub-body works on the standardization of Internet protocols and systems.
- An RFC is then deliberated on by experts, revised and then hopefully, eventually adopted as a standard.

Who Writes RFCs?

- RFCs are generally written by those who work at IETF, Internet researchers, and specialists. However, an RFC *can* be written by **anyone**! Yes, even you can write one. Just write up your findings and submit them to the Internet society's Independent Submissions page!
- All Internet protocols, like the world wide web, are described by one or more RFCs.

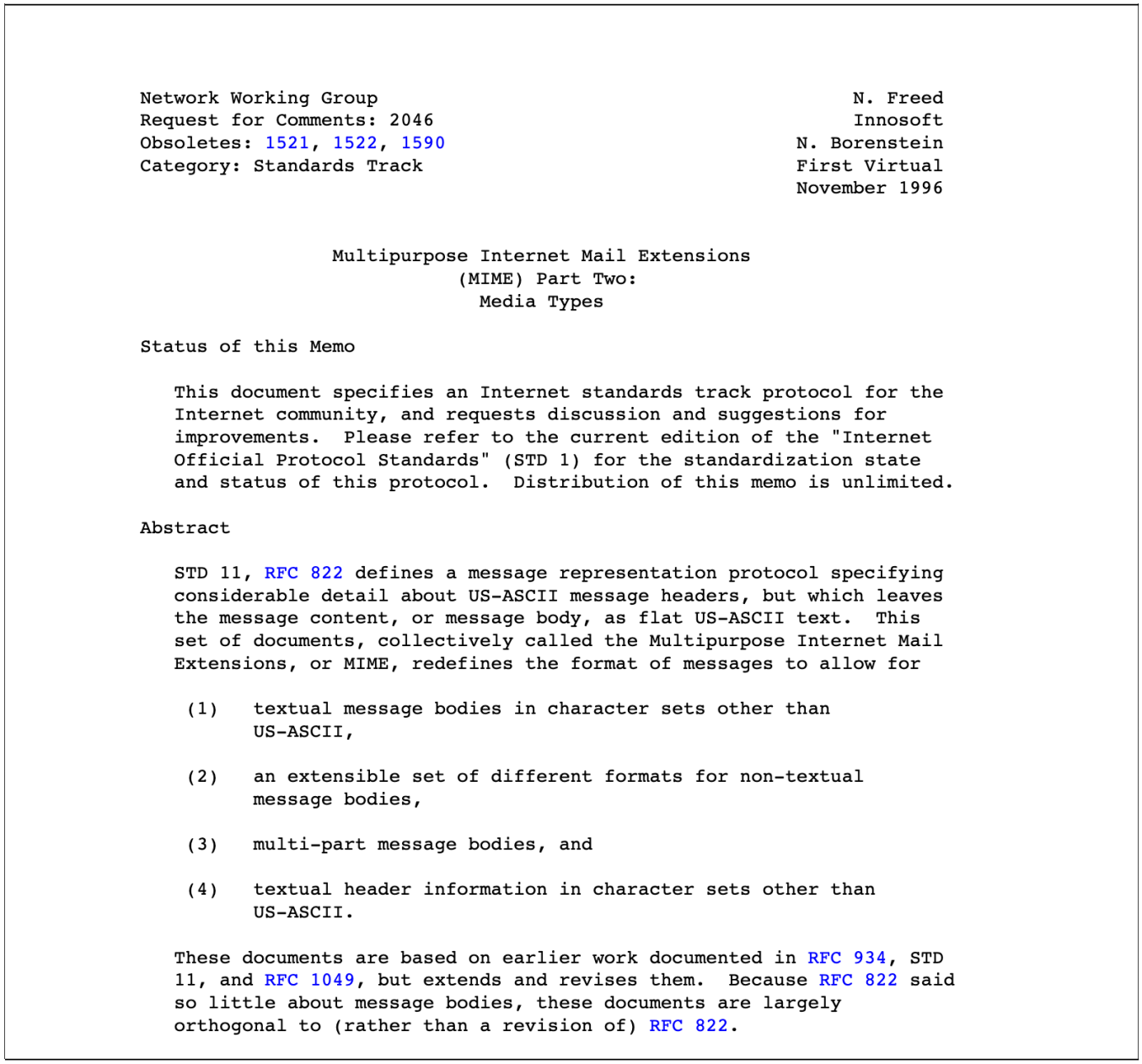
History

- RFCs were started by Steve Crocker to document details of ARPANET while it was being created. These documents were called **Requests For Comments** to encourage discussion and not seem too assertive. They used to be written on a typewriter and distributed around ARPA's office as physical copies with requests for comments.

Contents of an RFC

- RFC's generally start off with a header that contains the category of the document, its identification number, the name(s) of the author(s), and the date.
- Then the document contains its title, a status, and an abstract.
- Then a table of contents after which the document starts.
- The document usually starts with an introduction.

Here is an example of the first page RFC standards document, RFC 2046.



Network Working Group
Request for Comments: 2046
Obsoletes: 1521, 1522, 1590
Category: Standards Track

N. Freed
Innosoft
N. Borenstein
First Virtual
November 1996

Multipurpose Internet Mail Extensions
(MIME) Part Two:
Media Types

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

Abstract

STD 11, RFC 822 defines a message representation protocol specifying considerable detail about US-ASCII message headers, but which leaves the message content, or message body, as flat US-ASCII text. This set of documents, collectively called the Multipurpose Internet Mail Extensions, or MIME, redefines the format of messages to allow for

(1) textual message bodies in character sets other than US-ASCII,

(2) an extensible set of different formats for non-textual message bodies,

(3) multi-part message bodies, and

(4) textual header information in character sets other than US-ASCII.

These documents are based on earlier work documented in RFC 934, STD 11, and RFC 1049, but extends and revises them. Because RFC 822 said so little about message bodies, these documents are largely orthogonal to (rather than a revision of) RFC 822.

An example of the first page of an RFC

Types of RFCs

Standards Track

There are two kinds of standards documents: **Proposed Standard, and Internet Standard**.

Proposed Standard documents are well reviewed and stable but not as mature as an Internet Standard document. Internet Standard documents are technically competent, practically applicable, and publicly recognized. Perhaps one of the most important standard documents that we know about from the Internet history lesson is the one on the Internet protocol, RFC 791.

IETF has documented its internet standards process in RFC 2026. Have a look if you want to learn more about it.

Historic

These RFCs are usually obsolete and contain details about technologies that are not in use anymore.

Unknown

Some RFCs cannot be categorized or often do not specify any new standards or findings. These are categorized as unknown.

You can browse all of these categories of RFCs on the RFC retrieve page.

Quick Quiz!

1 Standardization enables _____

COMPLETED 0%

1 of 2

Now that we have a solid foundation to start learning all about computer networks, let's get right into it from the next chapter!