

Network Working Group  
Request for Comments: 1399  
Category: Informational

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ISI  
January 1997

## Request for Comments Summary

RFC Numbers 1300-1399

### Status of This Memo

This RFC is a slightly annotated list of the 100 RFCs from RFC 1300 through RFCs 1399. This is a status report on these RFCs. This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

### Note

Many RFCs, but not all, are Proposed Standards, Draft Standards, or Standards. Since the status of these RFCs may change during the standards processing, we note here only that they are on the standards track. Please see the latest edition of "Internet Official Protocol Standards" for the current state and status of these RFCs. In the following, RFCs on the standards track are marked [STANDARDS-TRACK].

RFC ---	Author -----	Date ----	Title -----
1399	Elliott	Jan 97	Requests For Comments Summary

This memo.

1398	Kastenholz	Jan 93	Definitions of Managed Objects for the Ethernet-like Interface Types
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This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing ethernet-like objects. [STANDARDS-TRACK]

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|------|--------|--------|--|
| 1397 | Haskin | Jan 93 | Default Route Advertisement In BGP2 and BGP3 Versions of the Border Gateway Protocol |
|------|--------|--------|--|

This document specifies the recommendation of the BGP Working Group on default route advertisement support in BGP2 [1] and BGP3 [2] versions of the Border Gateway Protocol. [STANDARDS-TRACK]

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|------|---------|--------|--|
| 1396 | Crocker | Jan 93 | The Process for Organization of Internet Standards |
|------|---------|--------|--|

This report provides a summary of the POISED Working Group (WG), starting from the events leading to the formation of the WG to the end of 1992. This memo provides information for the Internet community. It does not specify an Internet standard.

- 1395 Reynolds Jan 93 BOOTP Vendor Information Extensions

This RFC is a slight revision and extension of RFC-1048 by Philip Prindeville, who should be credited with the original work in this memo. This memo will be updated as additional tags are defined. This edition introduces Tag 14 for Merit Dump File, Tag 15 for Domain Name, Tag 16 for Swap Server and Tag 17 for Root Path. This memo is a status report on the vendor information extensions used in the Bootstrap Protocol (BOOTP).

- |      |          |        |   |
|------|----------|--------|---|
| 1394 | Robinson | Jan 93 | Relationship of Telex Answerback Codes<br>to Internet Domains |
|------|----------|--------|---|

This RFC gives the list, as best known, of all common Internet domains and the conversion between specific country telex answerback codes and Internet country domain identifiers. It also lists the telex code and international dialing code, wherever it is available. It will also list major Internet "Public" E-Mail addresses. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |        |        |                               |
|------|--------|--------|-------------------------------|
| 1393 | Malkin | Jan 93 | Traceroute Using an IP Option |
|------|--------|--------|-------------------------------|

This document specifies a new IP option and ICMP message type which duplicates the functionality of the existing traceroute method while generating fewer packets and completing in a shorter time. This memo defines an Experimental Protocol for the Internet community.

1392      Malkin            Jan 93    Internet Users' Glossary

There are many networking glossaries in existence. This glossary concentrates on terms which are specific to the Internet. This memo provides information for the Internet community. It does not specify an Internet standard.

1391      Malkin            Jan 93    The Tao of IETF  
                                 A Guide for New Attendees of the  
                                 Internet Engineering Task Force

The purpose of this For Your Information (FYI) RFC is to explain to the newcomers how the IETF works. This will give them a warm, fuzzy feeling and enable them to make the meeting more productive for everyone. This memo provides information for the Internet community. It does not specify an Internet standard.

1390      Katz                Jan 93    Transmission of IP and ARP over FDDI  
                                 Networks

This memo defines a method of encapsulating the Internet Protocol (IP) datagrams and Address Resolution Protocol (ARP) requests and replies on Fiber Distributed Data Interface (FDDI) Networks. [STANDARDS-TRACK]

1389      Malkin            Jan 93    RIP Version 2 MIB Extension

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. [STANDARDS-TRACK]

1388      Malkin            Jan 93    RIP Version 2  
                                 Carrying Additional Information

This document specifies an extension of the Routing Information Protocol (RIP), as defined in [1], to expand the amount of useful information carried in RIP packets and to add a measure of security. [STANDARDS-TRACK]

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1387      Malkin      Jan 93      RIP Version 2 Protocol Analysis
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As required by Routing Protocol Criteria (RFC 1264), this report documents the key features of the RIP-2 protocol and the current implementation experience. This memo provides information for the Internet community. It does not specify an Internet standard.

1386	Cooper	Dec 92	The US Domain
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This is a description of the US Top Level Domains on the Internet. This memo provides information for the Internet community. It does not specify an Internet standard.

1385	Wang	Nov 92	EIP: The Extended Internet Protocol A Framework for Maintaining Backward Compatibility
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EIP can substantially reduce the amount of modifications needed to the current Internet systems and greatly ease the difficulties of transition. This is an "idea" paper and discussion is strongly encouraged on Big-Internet@munniari.oz.au. This memo provides information for the Internet community. It does not specify an Internet standard.

1384	Barker	Jan 93	Naming Guidelines for Directory Pilots
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This document defines a number of naming guidelines. Alignment to these guidelines is recommended for directory pilots. This memo provides information for the Internet community. It does not specify an Internet standard.

1383	Huitema	Dec 92	An Experiment in DNS Based IP Routing
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Potential solutions to the routing explosion. This memo defines an Experimental Protocol for the Internet community.

1382	Throop	Nov 92	SNMP MIB Extension for the X.25 Packet Layer
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This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets.

[STANDARDS-TRACK]

1381      Throop            Nov 92      SNMP MIB Extension for X.25 LAPB

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing the Link Layer of X.25, LAPB. [STANDARDS-TRACK]

1380      Gross            Nov 92      IESG Deliberations on Routing and Addressing

This memo summarizes issues surrounding the routing and addressing scaling problems in the IP architecture, and it provides a brief background of the ROAD group and related activities in the Internet Engineering Task Force (IETF). This memo provides information for the Internet community. It does not specify an Internet standard.

1379      Braden            Nov 92      Extending TCP for Transactions -- Concepts

This memo discusses extension of TCP to provide transaction-oriented service, without altering its virtual-circuit operation. This memo provides information for the Internet community. It does not specify an Internet standard.

1378      Parker            Nov 92      The PPP AppleTalk Control Protocol (ATCP)

This document defines the NCP for establishing and configuring the AppleTalk Protocol [3] over PPP. [STANDARDS-TRACK]

1377      Katz                Nov 92      The PPP OSI Network Layer Control Protocol (OSINLCP)

This document defines the NCP for establishing and configuring OSI Network Layer Protocols. [STANDARDS-TRACK]

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|------|-------|--------|---|
| 1376 | Senum | Nov 92 | The PPP DECnet Phase IV Control Protocol (DNCP) |
|------|-------|--------|---|

This document defines the NCP for establishing and configuring Digital's DNA Phase IV Routing protocol (DECnet Phase IV) over PPP. This document applies only to DNA Phase IV Routing messages (both data and control), and not to other DNA Phase IV protocols (MOP, LAT, etc.). [STANDARDS-TRACK]

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|------|----------|--------|--|
| 1375 | Robinson | Oct 92 | Suggestion for New Classes of IP Addresses |
|------|----------|--------|--|

This RFC suggests a change in the method of specifying the IP address to add new classes of networks to be called F, G, H, and K, to reduce the amount of wasted address space, and to increase the available IP address number space, especially for smaller organizations or classes of connectors that do not need or do not want a full Class C IP address. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |         |        |                     |
|------|---------|--------|---------------------|
| 1374 | Renwick | Oct 92 | IP and ARP on HIPPI |
|------|---------|--------|---------------------|

The ANSI X3T9.3 committee has drafted a proposal for the encapsulation of IEEE 802.2 LLC PDUs and, by implication, IP on HIPPI. Another X3T9.3 draft describes the operation of HIPPI physical switches. X3T9.3 chose to leave HIPPI networking issues largely outside the scope of their standards; this document discusses methods of using of ANSI standard HIPPI hardware and protocols in the context of the Internet, including the use of HIPPI switches as LANs and interoperation with other networks. This memo is intended to become an Internet Standard.

[STANDARDS-TRACK]

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1373      Tignor      Oct 92      PORTABLE DUAs
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This document comes in two parts. The first part is for regular people who wish to set up their own DUAs (Directory User Interfaces) to access the Directory. The second part is for ISODE-maintainers wishing to provide portable DUAs to users. This part gives instructions in a similar but longer, step-by-step format. This memo provides information for the Internet community. It does not specify an Internet standard.

1372 Hedrick Oct 92 Telnet Remote Flow Control Option

This document specifies an extended version of the Telnet Remote Flow Control Option, RFC 1080, with the addition of the RESTART-ANY and RESTART-XON suboptions. [STANDARDS-TRACK]

1371 Gross Oct 92 Choosing a "Common IGP" for the IP Internet  
(The IESG's Recommendation to the IAB)

This memo presents motivation, rationale and other surrounding background information leading to the IESG's recommendation to the IAB for a single "common IGP" for the IP portions of the Internet. This memo provides information for the Internet community. It does not specify an Internet standard.

1370 I.A.B. Oct 92 Applicability Statement for OSPF

This Applicability Statement places a requirement on vendors claiming conformance to this standard, in order to assure that users will have the option of deploying OSPF when they need a multivendor, interoperable IGP in their environment. [STANDARDS-TRACK]

1369 Kastenholz Oct 92 Implementation Notes and Experience for The Internet Ethernet MIB

This document reflects the currently known status of 11 different implementations of the MIB by 7 different vendors on 7 different Ethernet interface chips. This memo provides information for the Internet community. It does not specify an Internet standard.

1368 McMaster Oct 92 Definitions of Managed Objects for IEEE 802.3 Repeater Devices

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing IEEE 802.3 10 Mb/second baseband repeaters, sometimes referred to as "hubs". [STANDARDS-TRACK]

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|------|----------|--------|--------------------------------------------------------|
| 1367 | Topolcic | Oct 92 | Schedule for IP Address Space<br>Management Guidelines |
|------|----------|--------|--------------------------------------------------------|

This memo suggests a schedule for the implementation of the IP network number allocation plan described in RFC 1366. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |        |        |                                               |
|------|--------|--------|-----------------------------------------------|
| 1366 | Gerich | Oct 92 | Guidelines for Management of IP Address Space |
|------|--------|--------|-----------------------------------------------|

This document has been reviewed by the Federal Engineering Task Force (FEPG) on behalf of the Federal Networking Council (FNC), the co-chairs of the International Engineering Planning Group (IEPG), and the Reseaux IP Europeens (RIPE). There was general consensus by those groups to support the recommendations proposed in this document for management of the IP address space. This memo provides information for the Internet community. It does not specify an Internet standard.

- 1365 Siyan Spt 92 An IP Address Extension Proposal

This RFC suggests an extension to the IP protocol to solve the shortage of IP address problem, and requests discussion and suggestions for improvements. This memo provides information for the Internet community. It does not specify an Internet standard.

- 1364 Varadhan Spt 92 BGP OSPF Interaction

This memo defines the various criteria to be used when designing Autonomous System Border Routers (ASBR) that will run BGP with other ASBRs external to the AS and OSPF as its IGP. [STANDARDS-TRACK]

- 1363 Partridge Spt 92 A Proposed Flow Specification

The flow specification defined in this memo is intended for information and possible experimentation (i.e., experimental use by consenting routers and applications only). This RFC is a product of the Internet Research Task Force (IRTF). This memo provides information for the Internet community. It does not specify an Internet standard.



|      |       |        |                                               |
|------|-------|--------|-----------------------------------------------|
| 1362 | Allen | Spt 92 | Novell IPX Over Various WAN Media<br>(IPXWAN) |
|------|-------|--------|-----------------------------------------------|

This document describes how Novell IPX operates over various WAN media. Specifically, it describes the common "IPX WAN" protocol Novell uses to exchange necessary router to router information prior to exchanging standard IPX routing information and traffic over WAN datalinks. This memo provides information for the Internet community. It does not specify an Internet standard.

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1361      Mills      Aug 92      Simple Network Time Protocol (SNTP)
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This memorandum describes the Simple Network Time Protocol (SNTP), which is an adaptation of the Network Time Protocol (NTP) used to synchronize computer clocks in the Internet. This memorandum does not obsolete or update any RFC. This memo provides information for the Internet community. It does not specify an Internet standard.

1360 I.A.B. Spt 92 IAB OFFICIAL PROTOCOL STANDARDS

Discussion of the standardization process and the RFC document series is presented first, followed by an explanation of the terms. Sections 6.2 - 6.9 contain the lists of protocols in each stage of standardization. Finally come pointers to references and contacts for further information. [STANDARDS-TRACK]

|      |             |        |                                                                                 |
|------|-------------|--------|---------------------------------------------------------------------------------|
| 1359 | ACM SIGUCCS | Aug 92 | Connecting to the Internet<br>What Connecting Institutions Should<br>Anticipate |
|------|-------------|--------|---------------------------------------------------------------------------------|

This FYI RFC outlines the major issues an institution should consider in the decision and implementation of a campus connection to the Internet. This memo provides information for the Internet community. It does not specify an Internet standard.

|      |        |        |                                                  |
|------|--------|--------|--------------------------------------------------|
| 1358 | Chapin | Aug 92 | Charter of the Internet Architecture Board (IAB) |
|------|--------|--------|--------------------------------------------------|

The Internet Architecture Board (IAB) shall be constituted and shall operate as a technical advisory group of the Internet Society. This memo provides information for the Internet community. It does not specify an Internet standard.

1357 Cohen Jul 92 A Format for E-mailing Bibliographic  
Records

This memo defines a format for E-mailing bibliographic records of technical reports. It is intended to accelerate the dissemination of information about new Computer Science Technical Reports (CS-TR). This memo provides information for the Internet community. It does not specify an Internet standard.

1356 Malis Aug 92 Multiprotocol Interconnect  
on X.25 and ISDN in the Packet Mode

This document specifies the encapsulation of IP and other network layer protocols over X.25 networks, in accordance and alignment with ISO/IEC and CCITT standards. It is a replacement for RFC 877, "A Standard for the Transmission of IP Datagrams Over Public Data Networks" [1].  
[STANDARDS-TRACK]

1355 Curran Aug 92 Privacy and Accuracy Issues in Network  
Information Center Databases

This document provides a set of guidelines for the administration and operation of public Network Information Center (NIC) databases. This memo provides information for the Internet community. It does not specify an Internet standard.

1354 Baker Jul 92 IP Forwarding Table MIB

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing routes in the IP Internet.  
[STANDARDS-TRACK]

1353 McCloghrie Jul 92 Definitions of Managed Objects  
for Administration of SNMP Parties

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it describes a representation of the SNMP parties defined in [8] as objects defined according to the Internet Standard SMI [1].  
[STANDARDS-TRACK]

1352      Galvin              Jul 92      SNMP Security Protocols

The Simple Network Management Protocol (SNMP) specification [1] allows for the protection of network management operations by a variety of security protocols. The SNMP administrative model described in [2] provides a framework for securing SNMP network management. In the context of that framework, this memo defines protocols to support the following three security services: data integrity, data origin authentication and data confidentiality. [STANDARDS-TRACK]

1351      Davin                Jul 92      SNMP Administrative Model

This memo presents an elaboration of the SNMP administrative model set forth in [1]. This model provides a unified conceptual basis for administering SNMP protocol entities to support: authentication and integrity, privacy, access control, and cooperation of protocol entities. [STANDARDS-TRACK]

1350      Sollins              Jul 92      THE TFTP PROTOCOL (REVISION 2)

TFTP is a very simple protocol used to transfer files. It is from this that its name comes, Trivial File Transfer Protocol or TFTP. Each nonterminal packet is acknowledged separately. This document describes the protocol and its types of packets. The document also explains the reasons behind some of the design decisions. [STANDARDS-TRACK]

1349      Almquist            Jul 92      Type of Service in the Internet  
                                                 Protocol Suite

This memo changes and clarifies some aspects of the semantics of the Type of Service octet in the Internet Protocol (IP) header. [STANDARDS-TRACK]

1348      Manning              Jul 92      DNS NSAP RRs

This RFC defines the format of two new Resource Records (RRs) for the Domain Name System (DNS), and reserves corresponding DNS type mnemonic and numerical codes. This memo defines an Experimental Protocol for the Internet community.

- |      |        |        |                                                                                                       |
|------|--------|--------|-------------------------------------------------------------------------------------------------------|
| 1347 | Callon | Jun 92 | TCP and UDP with bigger Addresses<br>(TUBA), A Simple Proposal for Internet<br>Addressing and Routing |
|------|--------|--------|-------------------------------------------------------------------------------------------------------|

This paper describes a simple proposal which provides a long-term solution to Internet addressing, routing, and scaling. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |       |        |                                                                               |
|------|-------|--------|-------------------------------------------------------------------------------|
| 1346 | Jones | Jun 92 | Resource Allocation, Control, and Accounting for the Use of Network Resources |
|------|-------|--------|-------------------------------------------------------------------------------|

The purpose of this RFC is to focus discussion on particular challenges in large service networks in general, and the International IP Internet in particular. No solution discussed in this document is intended as a standard. Rather, it is hoped that a general consensus will emerge as to the appropriate solutions, leading eventually to the adoption of standards. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |          |        |                                      |
|------|----------|--------|--------------------------------------|
| 1345 | Simonsen | Jun 92 | Character Mnemonics & Character Sets |
|------|----------|--------|--------------------------------------|

This memo lists a selection of characters and their presence in some coded character sets. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |            |        |                                                 |
|------|------------|--------|-------------------------------------------------|
| 1344 | Borenstein | Jun 92 | Implicaitons of MIME for Internet Mail Gateways |
|------|------------|--------|-------------------------------------------------|

While MIME was carefully designed so that it does not require any changes to Internet electronic message transport facilities, there are several ways in which message transport systems may want to take advantage of MIME. These opportunities are the subject of this memo. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |            |        |                                                                                |
|------|------------|--------|--------------------------------------------------------------------------------|
| 1343 | Borenstein | Jun 92 | A User Agent Configuration Mechanism<br>For Multimedia Mial Format Information |
|------|------------|--------|--------------------------------------------------------------------------------|

This memo suggests a file format to be used to inform multiple mail reading user agent programs about the locally-installed facilities for handling mail in various formats. This memo provides information for the Internet community. It does not specify an Internet standard.

1342      Moore                      Jun 92      Representation of Non-ASCII Text in  
Internet Message Headers

This memo describes an extension to the message format defined in [1] (known to the IETF Mail Extensions Working Group as "RFC 1341"), to allow the representation of character sets other than ASCII in RFC 822 message headers. [STANDARDS-TRACK]

1341      Borenstein                Jun 92      MIME: Mechanisms for Specifying and  
Describing the Format of Internet  
Message Bodies

This document redefines the format of message bodies to allow multi-part textual and non-textual message bodies to be represented and exchanged without loss of information. [STANDARDS-TRACK]

1340      Reynolds                  Jul 92      ASSIGNED NUMBERS

This Network Working Group Request for Comments documents the currently assigned values from several series of numbers used in network protocol implementations. This memo is a status report on the parameters (i.e., numbers and keywords) used in protocols in the Internet community.

1339      Dorner                    Jun 92      Remote Mail Checking Protocol

This RFC defines a protocol to provide a mail checking service to be used between a client and server pair. Typically, a small program on a client workstation would use the protocol to query a server in order to find out whether new mail has arrived for a specified user. This memo defines an Experimental Protocol for the Internet community.

1338      Fuller                    Jun 92      Supernetting: an Address Assignment  
and Aggregation Strategy

This memo discusses strategies for address assignment of the existing IP address space with a view to conserve the address space and stem the explosive growth of routing tables in default-route-free routers run by transit routing domain providers. This memo provides information for the Internet community. It does not specify an Internet standard.

1337 Braden May 92 TIME-WAIT Assassination Hazards in TCP

This note describes some theoretically-possible failure modes for TCP connections and discusses possible remedies. In particular, one very simple fix is identified. This memo provides information for the Internet community. It does not specify an Internet standard.

1336 Malkin May 92 Who's Who in the Internet  
Biographies of IAB, IESG and  
IRSG Members

This FYI RFC contains biographical information about members of the Internet Activities Board (IAB), the Internet Engineering Steering Group (IESG) of the Internet Engineering Task Force (IETF), and the the Internet Research Steering Group (IRSG) of the Internet Research Task Force (IRTF). This memo provides information for the Internet community. It does not specify any standard.

1335 Wang May 92 A Two-Tier Address Structure for the  
Internet: A Solution to the Problem  
of Address Space Exhaustion

This RFC presents a solution to problem of address space exhaustion in the Internet. It proposes a two-tier address structure for the Internet. This is an "idea" paper and discussion is strongly encouraged. This memo provides information for the Internet community. It does not specify an Internet standard.

1334 Lloyd Oct 92 PPP Authentication Protocols

This document defines two protocols for Authentication: the Password Authentication Protocol and the Challenge-Handshake Authentication Protocol. [STANDARDS-TRACK]

1333 Simpson May 92 PPP Link Quality Monitoring

The Point-to-Point Protocol (PPP) [1] provides a standard method of encapsulating Network Layer protocol information over point-to-point links. PPP also defines an extensible Link Control Protocol, which allows negotiation of a Quality Protocol for continuous monitoring of the viability of the link. [STANDARDS-TRACK]

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|------|----------|--------|------------------------------------------------------|
| 1332 | McGregor | May 92 | The PPP Internet Protocol Control<br>Protocol (IPCP) |
|------|----------|--------|------------------------------------------------------|

The Point-to-Point Protocol (PPP) [1] provides a standard method of encapsulating Network Layer protocol information over point-to-point links. PPP also defines an extensible Link Control Protocol, and proposes a family of Network Control Protocols (NCPs) for establishing and configuring different network-layer protocols. [STANDARDS-TRACK]

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|------|---------|--------|--------------------------------------------------------------------------------------------------------------------|
| 1331 | Simpson | May 92 | The Point-to-Point Protocol (PPP><br>for the Transmission of Multi-protocol<br>Datagrams over Point-to-Point Links |
|------|---------|--------|--------------------------------------------------------------------------------------------------------------------|

This document defines the PPP encapsulation scheme, together with the PPP Link Control Protocol (LCP), an extensible option negotiation protocol which is able to negotiate a rich assortment of configuration parameters and provides additional management functions. [STANDARDS-TRACK]

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|------|----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1330 | E.S.C.C. | May 92 | Recommendations for the Phase I<br>Deployment of OSI Directory Services<br>(X.500) and OSI Message Handling<br>Services <X.400) within the ESnet<br>Community |
|------|----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

This RFC is a near verbatim copy of the whitepaper produced by the ESnet Site Coordinating Committee's X.500/X.400 Task Force. This memo provides information for the Internet community. It does not specify an Internet standard.

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|------|-------|--------|--------------------------------------------------------------|
| 1329 | Kuehn | May 92 | Thoughts on Address Resolution for<br>Dual MAC FDDI Networks |
|------|-------|--------|--------------------------------------------------------------|

In this document an idea is submitted how IP and ARP can be used on inhomogeneous FDDI networks (FDDI networks with single MAC and dual MAC stations) by introducing a new protocol layer in the protocol suite of the dual MAC stations. This memo provides information for the Internet community. It does not specify an Internet standard.

1328 Kille May 92 X.400 1988 to 1984 downgrading

This document considers issues of downgrading from X.400(1988) to X.400(1984) [MHS88a, MHS84]. Annexe B of X.419 specifies some downgrading rules [MHS88b], but these are not sufficient for provision of service in an environment containing both 1984 and 1988 components. This document defines a number of extensions to this annexe. [STANDARDS-TRACK]

1327 Kille May 92 Mapping between X.400(1988) / ISO  
10021 and RFC 822

This document specifies a mapping between two protocols. This specification should be used when this mapping is performed on the DARPA Internet or in the UK Academic Community. This specification may be modified in the light of implementation experience, but no substantial changes are expected. [STANDARDS-TRACK]

1326 Tsuchiya May 92 Mutual Encapsulation Considered  
Dangerous

This memo describes a packet explosion problem that can occur with mutual encapsulation of protocols (A encapsulates B and B encapsulates A). This memo provides information for the Internet community. It does not specify an Internet standard.

1325 Malkin May 92 FYI on Questions and Answers  
Answers to Commonly asked "New  
Internet User" Questions

This FYI RFC is one of two FYI's called, "Questions and Answers" (Q/A), produced by the User Services Working Group of the Internet Engineering Task Force (IETF). The goal is to document the most commonly asked questions and answers in the Internet. This memo provides information for the Internet community. It does not specify an Internet standard.



1324      Reed                      May 92      A Discussion on Computer Network  
                                                                                 Conferencing

This memo is intended to make more people aware of the present developments in the Computer Conferencing field as well as put forward ideas on what should be done to formalize this work so that there is a common standard for programmers and others who are involved in this field to work with. This memo provides information for the Internet community. It does not specify an Internet standard.

1323      Jacobson                  May 92      TCP Extensions for High Performance

This memo presents a set of TCP extensions to improve performance over large bandwidth\*delay product paths and to provide reliable operation over very high-speed paths. It defines new TCP options for scaled windows and timestamps, which are designed to provide compatible interworking with TCP's that do not implement the extensions.  
[STANDARDS-TRACK]

1322      Estrin                      May 92      A Unified Approach to Inter-Domain  
                                                                                 Routing

This memo is an informational RFC which outlines one potential approach for inter-domain routing in future global internets. This memo provides information for the Internet community. It does not specify an Internet standard.

1321      Rivest                      Apr 92      The MD5 Message-Digest Algorithm

This document describes the MD5 message-digest algorithm. The algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. This memo provides information for the Internet community. It does not specify an Internet standard.

1320      Rivest                      Apr 92      The MD4 Message-Digest Algorithm

This document describes the MD4 message-digest algorithm [1]. The algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. This memo provides information for the Internet community. It does not specify an Internet standard.

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1319      Kaliski      Apr 92      The MD2 Message-Digest Algorithm
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This document describes the MD2 message-digest algorithm. The algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. This memo provides information for the Internet community. It does not specify an Internet standard.

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|------|---------|--------|---|
| 1318 | Stewart | Apr 92 | Definitions of Managed Objects<br>for Parallel-printer-like Hardware<br>Devices |
|------|---------|--------|---|

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP based internets. In particular, it defines objects for the management of parallel-printer-like devices. [STANDARDS-TRACK]

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|------|---------|--------|---|
| 1317 | Stewart | Apr 92 | Definitions of Managed Objects for RS-232-like Hardware Devices |
|------|---------|--------|---|

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP based internets. In particular, it defines objects for the management of RS-232-like devices. [STANDARDS-TRACK]

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|------|---------|--------|--|
| 1316 | Stewart | Apr 92 | Definitions of Managed Objects<br>for Character Stream Devices |
|------|---------|--------|--|

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP based internets. In particular it defines objects for the management of character stream devices. [STANDARDS-TRACK]

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|------|-------|--------|--|
| 1315 | Brown | Apr 92 | Management Information Base for Frame Relay DTEs |
|------|-------|--------|--|

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing Frame Relay. [STANDARDS-TRACK]

1314      Katz                      Apr 92      A File Format for the Exchange of  
   Images in the Internet

This document defines a standard file format for the exchange of fax-like black and white images within the Internet. [STANDARDS-TRACK]

1313      Partridge              Apr 92      Today's Programming for KRFC AM 1313  
   Internet Talk Radio

Hi and welcome to KRFC Internet Talk Radio, your place on the AM dial for lively talk and just-breaking news on internetworking. This memo provides information for the Internet community. It does not specify an Internet standard.

1312      Nelson                    Apr 92      Message Send Protocol 2

The Message Send Protocol is used to send a short message to a given user on a given terminal on a given host. This memo defines an Experimental Protocol for the Internet community.

1311      Postel                    Mar 92      Introduction to the STD Notes

The STDs are a subseries of notes within the RFC series that are the Internet standards. The intent is to identify clearly for the Internet community those RFCs which document Internet standards. [STANDARDS-TRACK]

1310      I.A.B.                      Mar 92      The Internet Standards Process

This memo documents the process currently used for the standardization of Internet protocols and procedures. [STANDARDS-TRACK]

1309      Weider                      Mar 92      Technical Overview of Directory  
   Services Using the X.500 Protocol

This document is an overview of the X.500 standard for people not familiar with the technology. It compares and contrasts Directory Services based on X.500 with several of the other Directory services currently in use in the Internet. This paper also describes the status of the standard and provides references for further information on X.500 implementations and technical information. This memo provides information for the Internet community. It does not specify an Internet standard.

- |      |        |        |   |
|------|--------|--------|---|
| 1308 | Weider | Mar 92 | Executive Introduction to Directory Services Using the X.500 Protocol |
|------|--------|--------|---|

This document is an Executive Introduction to Directory Services using the X.500 protocol. It briefly discusses the deficiencies in currently deployed Internet Directory Services, and then illustrates the solutions provided by X.500. This memo provides information for the Internet community. It does not specify an Internet standard.

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|------|-------|--------|--|
| 1307 | Young | Mar 92 | Dynamically Switched Link Control Protocol |
|------|-------|--------|--|

This memo describes an experimental protocol developed by a project team at Cray Research, Inc., in implementing support for circuit-switched T3 services. The protocol is used for the control of network connections external to a host, but known to the host. This memo defines an Experimental Protocol for the Internet community.

- |      |           |        |   |
|------|-----------|--------|---|
| 1306 | Nicholson | Mar 92 | Experiences Supporting By-Request<br>Circuit-Switched T3 Networks |
|------|-----------|--------|---|

This memo describes the experiences of a project team at Cray Research, Inc., in implementing support for circuit-switched T3 services. While the issues discussed may not be directly relevant to the research problems of the Internet, they may be interesting to a number of researchers and implementers. This RFC provides information for the Internet community. It does not specify an Internet standard.

- |      |       |        |   |
|------|-------|--------|---|
| 1305 | Mills | Mar 92 | Network Time Protocol (Version 3):<br>Specification, Implementation and<br>Analysis |
|------|-------|--------|---|

This document describes the Network Time Protocol (NTP), specifies its formal structure and summarizes information useful for its implementation. [STANDARDS-TRACK]

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|------|-----|--------|--|
| 1304 | Cox | Feb 92 | Definitions of Managed Objects for the<br>SIP Interface Type |
|------|-----|--------|--|

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing SIP (SMDS Interface Protocol) objects. [STANDARDS-TRACK]

1303      McCloghrie      Feb 92      A Convention for Describing SNMP-based Agents

This memo suggests a straight-forward approach towards describing SNMP-based agents. This memo provides information for the Internet community. It does not specify an Internet standard.

1302      Sitzler      Feb 92      Building a Network Information Services Infrastructure

This FYI RFC document is intended for existing Internet Network Information Center (NIC) personnel, people interested in establishing a new NIC, Internet Network Operations Centers (NOCs), and funding agencies interested in contributing to user support facilities. This memo provides information for the Internet community. It does not specify an Internet standard.

1301      Armstrong      Feb 92      Multicast Transport Protocol

This memo describes a protocol for reliable transport that utilizes the multicast capability of applicable lower layer networking architectures. The transport definition permits an arbitrary number of transport providers to perform realtime collaborations without requiring networking clients (aka, applications) to possess detailed knowledge of the population or geographical dispersion of the participating members. It is not network architectural specific, but does implicitly require some form of multicasting (or broadcasting) at the data link level, as well as some means of communicating that capability up through the layers to the transport. This memo provides information for the Internet community. It does not specify an Internet standard.

1300      Greenfield      Feb 92      Remembrances of Things Past

Poem. This memo provides information for the Internet community. It does not specify an Internet standard.

## Security Considerations

Security issues are not discussed in this memo.

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