DOD STANDARD

INTERNET PROTOCOL

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prepared for

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PREFACE

This document specifies the DoD Standard Internet Protocol. This
document is based on five earlier editions of the ARPA Internet Protocol
Specification, and the present text draws heavily from them. There have
been many contributors to this work both in terms of concepts and in
terms of text. This edition revises the details security,
compartmentation, and precedence features of the internet protocol.

Jon Postel

Editor

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1.   INTRODUCTION

1.1. Motivation

The Internet Protocol is designed for use in interconnected systems of
packet-switched computer communication networks. Such a system has
been called a "catenet" [1]. The internet protocol provides for
transmitting blocks of data called datagrams from sources to
destinations, where sources and destinations are hosts identified by
fixed length addresses. The internet protocol also provides for
fragmentation and reassembly of long datagrams, if necessary, for
transmission through "small packet" networks.

1.2. Scope

The internet protocol is specifically limited in scope to provide the
functions necessary to deliver a package of bits (an internet
datagram) from a source to a destination over an interconnected system
of networks. There are no mechanisms to promote data reliability,
flow control, sequencing, or other services commonly found in
host-to-host protocols.

1.3. Interfaces

This protocol is called on by host-to-host protocols in an internet
environment. This protocol calls on local network protocols to carry
the internet datagram to the next gateway or destination host.

For example, a TCP module would call on the internet module to take a
TCP segment (including the TCP header and user data) as the data
portion of an internet datagram. The TCP module would provide the
addresses and other parameters in the internet header to the internet
module as arguments of the call. The internet module would then
create an internet datagram and call on the local network interface to
transmit the internet datagram.

In the ARPANET case, for example, the internet module would call on a
local net module which would add the 1822 leader [2] to the internet
datagram creating an ARPANET message to transmit to the IMP. The
ARPANET address would be derived from the internet address by the
local network interface and would be the address of some host in the
ARPANET, that host might be a gateway to other networks.

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