The Autonomous System Option for DHCP
<draft-ietf-dhc-asnum-00.txt>

Status of this memo

   This document is an Internet-Draft. Internet-Drafts are working
   documents of the Internet Engineering Task Force (IETF), its areas,
   and its working groups. Note that other groups may also distribute
   working documents as Internet-Drafts.

   Internet-Drafts are draft documents valid for a maximum of six months
   and may be updated, replaced, or obsoleted by other documents at any
   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as ``work in progress.''

   To learn the current status of any Internet-Draft, please check the
   ``1id-abstracts.txt'' listing contained in the Internet-Drafts Shadow
   Directories on ftp.is.co.za (Africa), nic.nordu.net (Europe),
   munnari.oz.au (Pacific Rim), ds.internic.net (US East Coast), or
   ftp.isi.edu (US West Coast).

1. Abstract

   This document describes a configuration option that may be used
   by hosts acting as IP forwarders. The option contains information
   about the autonomous system in which the host resides and may be
   required by routing protocols.

2 Requirements

   Throughout this document, the words that are used to define the
   significance of particular requirements are capitalized. These
   words are:

      o "MUST"

         This word or the adjective "REQUIRED" means that the
         item is an absolute requirement of this specification.

      o "MUST NOT"

         This phrase means that the item is an absolute prohibition
         of this specification.

      o "SHOULD"

This word or the adjective "RECOMMENDED" means that there
may exist valid reasons in particular circumstances to ignore
this item, but the full implications should be understood and
the case carefully weighed before choosing a different course.

   o "SHOULD NOT"

        This phrase means that there may exist valid reasons in
        particular circumstances when the listed behavior is acceptable
        or even useful, but the full implications should be understood
        and the case carefully weighed before implementing any behavior
        described with this label.

      o "MAY"

        This word or the adjective "OPTIONAL" means that this item is
        truly optional. One vendor may choose to include the item
        because a particular marketplace requires it or because it
        enhances the product, for example; another vendor may omit the
        same item.

3 Terminology

   This document uses the following terms:

      o "DHCP client"

        A DHCP client is an Internet host using DHCP to obtain
        configuration parameters such as a network address.

      o "DHCP server"

        A DHCP server is an Internet host that returns configuration
        parameters to DHCP clients.

4 Autonomous System Option

   Any client that is configured by DHCP [1] may act as an IP packet
   forwarder. This role as router may be performed at the edge of an
   administrative routing domain known as an autonomous system (AS).
   The AS is identified by a 16-bit AS number. At an AS edge, a routing
   protocol may be required to exchange routing information with other
   AS routers (the Border Gateway Protocol [3] is an example of such a
   routing protocol). These routing protocols may require that the
   client know the number of the AS in which it resides.

   This option is used by DHCP servers to provide the autonomous system
   number of the local network. The DHCP client can obtain this
   parameter as part of the normal DHCP protocol message exchange or
   separately via DHCPINFORM.

```
        Code   Len   AS Number
       +-----+-----+-----+-----+
```

```
   | 109 |  2  | a1  | a2  |
   +-----+-----+-----+-----+
```

   The code for this option is 109 and the length is 2.

5 References

[1] Droms, R., "Dynamic Host Configuration Protocol", RFC 1541,
    Bucknell University, October 1993.

[2] Alexander, S., and R. Droms, "DHCP Options and BOOTP Vendor
    Extensions", RFC 1533, Lachman Technology, Inc., Bucknell
    University, October 1993.

[3] Rekhter, Y., and T. Li. "A Border Gateway Protocol 4 (BGP-4)",
    RFC 1771, IBM Corp., Cisco Systems, March 1995.

5 Author's Address

Walter D. Lazear
MITRE Corporation
1820 Dolley Madison Blvd.
McLean VA 22102

Phone: 703 883 6515
EMail: lazear@mitre.org

This document will expire on July, 1998