DHCP Option for IEEE 1003.1 POSIX Timezone Specifications
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Abstract

   The Dynamic Host Configuration Protocol (DHCP) [1] provides a
   framework for passing configuration information to hosts on a TCP/IP
   network. This document defines a new option to extend the available
   option codes [3].

Introduction

   DHCP includes an option for the specification of the Universal
   Coordinated Time Offset [2], which is defined as a two's complement
   32-bit integer representing the offset in seconds from UTC.
   Unfortunately, the UTC offset option does not provide enough
   information for an Internet client to determine such timezone-related
   details as the timezone names, daylight savings time start and end
   times in addition to the timezone UTC offsets.

   This document defines a new option which addresses these
   shortcomings by delivering timezone information in the form of a
   1003.1 POSIX Timezone specifier [4]. Timely information regarding

timezones can be had at the U.S. Naval Observatory's web site [5].

Timezone 0ption Precedence

   If a DHCP client receives both the Time Offset (code 2) and the
   POSIX Timezone (code 88) options in a DHCP reply message, the
   client MUST discard the value of the Time Offset (code 2) option and
   utilize the POSIX Timezone Option. The DHCP client MAY notify the
   user that it is resolving the conflict by discarding the Time Offset
   (code 2) option.

   If a DHCP client finds that the POSIX Timezone option value is
   misformatted, it SHOULD notify the the user of the problem and MUST
   discard the entire option value.

Definition of option 88, IEEE 1003.1 POSIX Timezone
specifier

   This NVT ASCII string represents the IEEE 1003.1 POSIX Timezone
   specification that a client is to use to set its timezone. The
   option code number is 88.

    Code   Len   POSIX Timezone string
   +-----+-----+-----+-----+-----+-----+---
   | 88 | n | a1 | a2 | a3 | a4 | ...
   +-----+-----+-----+-----+-----+-----+---

   The format of the IEEE 1003.1 POSIX timezone specification is
   defined as follows:

   stdoffset[dst[offset],[start[/time],end[/time]]], where:

   std, dst: three or more bytes for the standard timezone (std) and
              daylight savings timezone (dst). If dst is missing, then
              daylight savings time does not apply in this locale. Any
              characters (or case) except a leading colon, digits,
              comma, minus or plus sign are allowed.

   offset: Indicates the value one must add to local time to arrive
              at UTC, of the form: hh[:mm[:ss]]. offset following std
              is required. If no offset follows dst, then dst is
              assumed to be one hour ahead of standard time. Digits
              always interpreted as decimal number.

   hour: 0-23, minutes and seconds: 0-59. If preceded by a '-',
              the timezone is east of the Prime Meridian, otherwise

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                  it is west ('+' is optional)

   start/time,end/time: Indicate when to change to and back from
                  daylight savings time. The 'time' field indicates when,
                  in local time, the change is made.

                  start, end:

                  Jn:      The julian day n, (1 <= n <= 365). Leap days
                           not counted.

                  n:       zero-based julian day, (0 <= n <= 365). Leap
                           days are counted so it is possible to refer to
                           Feb 29.

                  Mm.n.d: The 'd'th day, (0 <= d <= 6) of week 'n' of
                           month 'm' of the year (1 <= n <= 5, 1 <= m <= 12,
                           where week 5 means last 'd' day in month 'm'
                           which may occur in either the fourth or the fifth
                           week. Week '1' is the first week in which the 'd'
                           day occurs.

                  time:    time has the same format as offset, except that
                           no leading '-' or '+' is permitted. The default
                           is 02:00:00.


An Example
   Eastern USA time zone, 1986:

   EST5EDT4,116/02:00:00,298/02:00:00

References
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   [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 Associates, October 1993.

   [3] Droms, R., "Procedure for Defining New DHCP Options", Work in
       progress, February, 1996.

   [4] IEEE, "1003.1 POSIX Timezone Specification", 1988.
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   [5] http://tycho.usno.navy.mil, "U.S. Naval Observatory"
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Security Considerations

    Security issues are not relevant to this document.

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