

draft-lear-dhc-timezone-option-02.txt

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# Motivation

- ① There is no timezone option for DHCPv6
- ① What's there in v4 isn't used and is somewhat limited

# What's Wrong With An Offset

- 👁 Clients cannot determine if they are in DST or when to go into or out of DST
- 👁 Clients cannot determine the current timezone they are in
- 👁 Client operating systems may not be able to use the information

# There *\*IS\** a standard for this stuff, right!?!

- 👁 There are FOUR standards to describe  
timezone information
  - 👁 IEEE 1003.1-POSIX TZ strings
  - 👁 The "TZ Database"
  - 👁 Microsoft TimeZone Elements
  - 👁 VTIMEZONE entries from RFC 2445

# The Draft

- Option with suboptions
- POSIX strings mandatory, everything else optional

# POSIX Strings

- Provides forward/backward consistency until a rule change
- Understood by UNIX systems
- Concise - no database needed
- Example

```
TZ="EST5EDT4,M3.2.0/02:00,M11.1.0/02:00"
```

# The TZ Database

- Forward and backward consistency and accuracy of time zone information to 1970
- Used by default for most UNIX systems (FreeBSD, Linux, OS-X, Solaris) and some JVMs
- Index passed
- Example:
  - America/Central

# Microsoft TimeZone Element

```
<TimeZone ID="13" Name="(GMT-08:00) Pacific Time (US and Canada);  
Tijuana" Hidden="FALSE">  
  <Bias>480</Bias>  
  <StandardTime>  
    <Bias>0</Bias>  
    <Date>  
      <Month>10</Month> <Day>5</Day><Hour>2</Hour>  
    </Date>  
  </StandardTime>  
  <DaylightTime>  
    <Bias>-60</Bias>  
    <Date>  
      <Month>4</Month><Day>1</Day><Hour>2</Hour>  
    </Date>  
  </DaylightTime>  
</TimeZone>
```

# Microsoft TimeZone Element (Ctd)

- 👁 Only the index is needed (two bytes)
- 👁 Similar information to POSIX
- 👁 Native to Windows devices

# VTIMEZONE entries

```
BEGIN:VTIMEZONE
TZID:US/Central
LAST-MODIFIED:20060222T102150Z
BEGIN:DAYLIGHT
DTSTART:20060402T020000
TZOFFSETTO:-0500
TZOFFSETFROM:-0600
TZNAME:CDT
END:DAYLIGHT
BEGIN:STANDARD
DTSTART:20051030T020000
TZOFFSETTO:-0600
TZOFFSETFROM:-0500
TZNAME:CST
END:STANDARD
END:VTIMEZONE
```

# VTIMEZONE (ctd)

- No central (or distributed) repository of information (Yet)
- Same type of information as TZ database
- Not concise (and no upper bound on size)

# Draft Contents

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- 👁️ POSIX TZ string (mandatory)
- 👁️ TZ Database Timezone name
- 👁️ Microsoft TimeZone Element Index
- 👁️ NO VTIMEZONE records

# Who cares?

- 👁 Mobile laptops
- 👁 IP-based Phones
- 👁 Set top boxes

# Why DHCP is the right vehicle

- ① Change of location generally implies change of link state on a given link (albeit not always)
- ① Granularity is appropriate (system level)
- ① DHCP is already there for link state changes

# Authors' concerns

- 👁️ Do we have the right mandatory suboption?
- 👁️ Is this draft too complex? Use multiple suboptions?
- 👁️ Are the field sizes correct? (neither author knows much about DHCP internals)

# Next Steps

- 👁 Discussion
- 👁 Accept draft as WG item?