

98th IETF, Mar. 2016, Chicago, USA

Mtrace Version 2: Traceroute Facility for IP Multicast

draft-ietf-mboned-mtrace-v2-17

Hitoshi Asaeda, NICT

Kerry Meyer, Cisco

WeeSan Lee (Ed.)

Change

- Formula converting from a UNIX timeval to a 32-bit NTP timestamp for Query arrival time
- Query arrival time
 - 32-bit NTP timestamp specifying the arrival time of the Mtrace2 Query or Request packet
 - Middle 32 bits of the full 64-bit form
 - The low 16 bits of the integer part and the high 16 bits of the fractional part

Old Formula

```
query_arrival_time  
= (tv.tv_sec + 32384) << 16  
  + ((tv.tv_usec << 10) / 15625)
```

```
struct timeval {  
    time_t tv_sec;        /* seconds */  
    suseconds_t tv_usec; /* micro seconds */  
};
```

- POSIX.1-2008 marks `gettimeofday()` as obsolete

New Formula

```
query_arrival_time  
= ((tv.tv_sec + 32384) << 16)  
  + ((tv.tv_nsec << 7) / 1953125)
```

```
struct timespec {  
    time_t tv_sec;        /* seconds */  
    long   tv_nsec;      /* nano seconds */  
};
```

- POSIX.1-2008 recommends `clock_gettime()`

Next Step

- WGLC (really)