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NTP Chimer Information

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Questions

Introduction

This document contains frequently asked questions about the NTP chimer.

Q. How do I enable the NTP chimer on my Cisco router?

A. You can use one of these basic commands:

- **ntp server (host) [version n]**
- **ntp peer (host) [version n]**

The command you use depends on whether you want a client/server or peer relationship. There are other features available for MD5 authentication, broadcast, and access control. You can also use the context−sensitive help feature to puzzle it out; type **ntp?** in the config mode.

You also need to look at the **show ntp router** commands. Here are two examples:

```
router# show ntp assoc

address       ref clock     st  when  poll reach  delay  offset    disp
128.9.2.129  .WWVB.          1   109   512  377    97.8   −2.69    26.7
132.249.16.1 .GOES.          1   309   512  357    55.4   −1.34    27.5
master (synced), # master (unsynced), + selected, − candidate, ~ configured

router# show ntp stat

Clock is synchronized, stratum 2, reference is 132.249.16.1 nominal freq is
250.0000 Hz, actual freq is 249.9981 Hz, precision is 2**19 reference time
is B1A8852D.B69201EE (12:36:13.713 PDT Tue Jun 14 1994) clock offset is
−1.34 msec, root delay is 55.40 msec root dispersion is 41.29 msec, peer
dispersion is 28.96 msec
```

Q. Are there sample Cisco NTP configurations available?

A. You need to substitute your own NTP peers, timezones, and GMT offsets into the examples below, of course. Example 1 is in US Central Time Zone, while Example 3 is in US Pacific Time Zone. Both account for normal US Daylight Savings Time practices.

Example 1 US Central Time Zone:

```
...
  clock timezone CST -6
  clock summer-time CDT recurring
  ntp source eth 0
  ntp peer (host1)
  ntp peer (host2)
  ntp peer (host3)
  ...
```

Example 2:

```
...
  ntp source Ethernet0/0
  ntp update-calendar
  ntp peer (host1)
  ntp peer (host2) prefer
  ...
```

Example 3 US Pacific Time Zone:

```
...

!--- Granular timestamping of debug and syslog messages.

  service timestamps debug datetime localtime
  service timestamps log datetime localtime

!--- Pacific Standard Time  clock timezone PST -8.


!-- U.S. standard daylight saving time is in effect.

  clock summer-time PDT recurring
  interface Ethernet0
  ip address 10.1.1.1 255.255.255.0

!--- NTP broadcast packets out onto the local Ethernet.

  ntp broadcast
  ntp clock-period 17180319

!--- Ethernet0 is the source for NTP packets.

  ntp source Ethernet0
  ntp server (host1)
  ntp server (host2)
  ntp server (host3)
```

Note: The **ntp clock-period** command is added automatically to jump-start the NTP frequency compensation when the box is rebooted. (Do not configure this command manually.) This is essentially a representation of the frequency of the crystal used as the local timebase, and may take several days to calculate otherwise. Use the **write mem** command after a week or so to save a good value.

Q. How can I set NTP to update the clock chip in my router?

A. You can use the **ntp update-calendar** command. This causes NTP to periodically (every hour) update the clock chip in high end routers.

Q. Where can I get more information on NTP?

A. Refer to the University of Delaware EE/CIS FTP server for more NTP information. The **clock.txt** file in that directory has information about various public NTP servers. There is also information on radio time receivers that can be connected to an NTP server.

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