

# NTP Chimer Information

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## Questions

### Introduction

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

**Are there sample Cisco NTP configurations available?**

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

**Where can I get more information on NTP?**

### Related Information

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## 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 (syncd), # master (unsyncd), + 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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