

MeetingPlace Server Clock Drift FAQ

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Introduction

This document provides answers to frequently asked questions about the concept of clock drift on the Cisco MeetingPlace server.

For more information on document conventions, refer to the Conventions Used in Cisco Technical Tips.

Q. What causes clock drift?

A. The Cisco MeetingPlace server derives its internal clock from a standard clock circuit on the CPU. This circuit uses a quartz crystal oscillator as its time base, similar to any modern wristwatch. The oscillator frequency varies somewhat depending on the precision of the crystal and the ambient temperature. In particular, the temperature inside the Cisco MeetingPlace cabinet is often somewhat higher than the 77°F (25°C) calibration temperature for the crystal, and this can cause the clock to run slow.

Q. What can I do about clock drift?

A. There are several approaches to keeping the clock synchronized.

1. Try to keep the temperature inside the case as close to 77°F (25°C) as possible. Keeping the temperature down also helps to extend the life of the electronic components. Do this by providing good air circulation and a controlled ambient temperature. The technician command **swstatus** shows the temperature inside the case.
2. It is strongly recommended that you synchronize the Cisco MeetingPlace server clock with a Network Time Protocol (NTP) server. Systems synchronized with NTP do not exhibit any clock drift.
3. Periodically update the time manually. A technician must log in to the system to change the time. In Cisco MeetingPlace 98 and later releases, the **timeadjust** command is available for adjusting the time without shutting the system down. With earlier software releases, it is necessary to bring the system down and then set the time.

4. If the clock is drifting wildly, the clock circuit may be defective. In that case, it is necessary to replace the CPU. You should not choose this option unless all others have failed.

Q. Why can I not just change the time when it is wrong?

A. There are a variety of time-related processes on the Cisco MeetingPlace server. If the time is jumping around, you can expect some of them to misbehave. Therefore, the system must be down when the time is changed. In Cisco MeetingPlace 98 and later releases, the **timeadjust** command can be used to slowly adjust the time plus or minus 900 seconds (15 minutes) while the system is up. This works by speeding up or slowing down the clock tick rate by 10 percent until the adjustment is complete.

If the time is off by more than 15 minutes, chances are there is something wrong besides clock drift. The **date -u** command shows the time in Greenwich Mean Time (GMT). If it is correct, you have a time zone problem. Do not attempt to correct a time zone problem by changing the system clock.

Q. What is Network Time Protocol (NTP)?

A. NTP is a standard method for synchronizing clocks among various computers on a network. It operates in a hierarchy where a primary (stratum 1) server has a highly accurate time reference, such as a global positioning service (GPS) receiver or an atomic clock, and other machines derive their clock settings from it across the network. Systems connected to such a hierarchy typically have clocks accurate to within a small fraction of a second.

Cisco MeetingPlace implements NTP Version 3, which is defined in the Internet Engineering Task Force (IETF) specification RFC-1305 . Cisco MeetingPlace also works with Version 2 (RFC-1119), Version 1 (RFC-1059), and Simple NTP (RFC-2030) servers.

For more information, refer to the NTP home page .

Q. How do I set up Cisco MeetingPlace to use Network Time Protocol (NTP)?

A. In Cisco MeetingTime, click the **Configure** tab and select **System Parameters**. From there, you may enter up to three IP addresses for NTP servers. You must restart the system for this change to take effect.

Q. Why use three Network Time Protocol (NTP) servers?

A. Typically, just one server is sufficient. However, the Cisco MeetingPlace server can synchronize with up to three servers simultaneously. Of the three, it chooses the one it thinks is best to supply the time information. By offering three servers, you allow the Cisco MeetingPlace server to reject a server that is not sane (in other words, one that does not agree with the others). More typically, the Cisco MeetingPlace server chooses the server that is at the lowest stratum (logically nearest the primary server) and is reliably accessible.

Q. Where can I find a Network Time Protocol (NTP) server?

A. There are several possibilities. First, many companies have internal NTP servers. Check with the network administrator. UNIX workstations and routers are often synchronized in this

manner. Second, if Internet connectivity is available, you can use a server on the Internet. Many Internet service providers (ISPs) have NTP servers. There is a list of publicly accessible servers on the US Naval Observatory web page . To get through a firewall, make sure UDP port 123 is open in both directions.

It is also possible to set up an NTP server on a UNIX or Microsoft Windows NT system. Bear in mind that this is a waste of time if your server does not have a good reference clock. The software is available at the NTP home page , but you must build it yourself if you get it from there. Note that Cisco Systems, Inc. cannot be responsible for the NTP servers of customers.

Related Information

- **Voice Technology Support**
- **Voice and IP Communications Product Support**
- **Recommended Reading: Troubleshooting Cisco IP Telephony**
- **Technical Support – Cisco Systems**

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