Computer Clock Accuracy

Computer clock accuracy: The computer system clock can deviate from the correct time depending on the computer system hardware, what software is being run, the environmental conditions in which the computer is operating or if the CMOS battery is failing, the drift could be as much as a few seconds each day.

To check the accuracy of a computer clock visit. https://time.is/

Amateur radio, computer clock accuracy is important when it comes to using digital modes such as WSPR, JT65 and FT8 etc which are time-synchronous and require the computer clock to be accurate to within a second, an accurate PC clock is also useful for electronic logging and contests.

When using digital modes some new users don't realize that PC clock accuracy is important and sometimes find that they aren't decoding any signals.

For digital modes the computer's clock must be as accurate as possible and within 2 seconds of other stations.

Free software programs are available as a means for synchronizing the computer clock to UTC within ±1 second.

At Windows start up, the time synchronizing program can be set to connect the computer clock to one of the time-sync (NTP or NIST) servers on the internet.

The program will then run in the background and keeps the computer clock in-sync by resetting the computer time at the time-sync interval you choose.

Four of five computer clock synchronization software programs below all mention being compatible with Windows XP thru to Windows 10.
Dimension 4 being compatible with Windows XP thru to Windows 8 (D4 website).

With Windows when using alternative time synchronizing programs disable the Windows Time Service (W32Time).

I looked at free time synchronizing programs which can synchronize with the Network Time Protocol (NTP) network.

What is the Network Time Protocol ? The Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks.

The pool.ntp.org project is a big virtual cluster of timeservers (See Page 5) providing reliable easy to use NTP service for millions of clients.

NTP is intended to synchronize all participating computers to within a few milliseconds of Coordinated Universal Time (UTC).

The NTP Pool DNS system automatically picks time servers which are geographically close for you, but if you want to choose explicitly, there are sub-zones of pool.ntp.org.

For the pool.ntp.org project visit : www.pool.ntp.org/en/ and for sub-zone Asia servers www.pool.ntp.org/zone/asia

Philippines — ph.pool.ntp.org
There are not enough servers in this zone, so we recommend you use the Asia zone (asia.pool.ntp.org):

For computer clock synchronization accuracy, it is better to find time servers near you to avoid network latencies also keeping the PC clock accurate will depend on how often are the time intervals that the PC clock with an internet time server.

It is recommended that you specify NTP pool servers appropriate for your geographic location. NTP pool servers are specified by geography.

The following shows the naming convention for servers specified by continent:

Worldwide - pool.ntp.org
Asia - asia.pool.ntp.org
Europe - europe.pool.ntp.org
North America - north-america.pool.ntp.org
Oceania - oceania.pool.ntp.org

Since some countries contain a very limited number of time servers. In these cases, it is best to use a mix of country and continent based pool servers.

If a country has only one time server, then it is recommended you use a time server pool based in another nearby country that supports more servers, or use the continent based server pools.

In most cases it's best to use pool.ntp.org to find an NTP server. The system will try finding the closest available servers for you.

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Some synchronizing software programs allow adding more than one time server, in the event that the first time server on the list cannot connect with that NTP server, it will automatically move to the next server on the list, example. 0.asia.pool.ntp.org : 1.asia.pool.ntp.org : 2.pool.ntp.org : 3.pool.ntp.org

Depending on the software, the time interval between each synchronization can be set to repeat from seconds, minutes, hours to 24 hours plus.

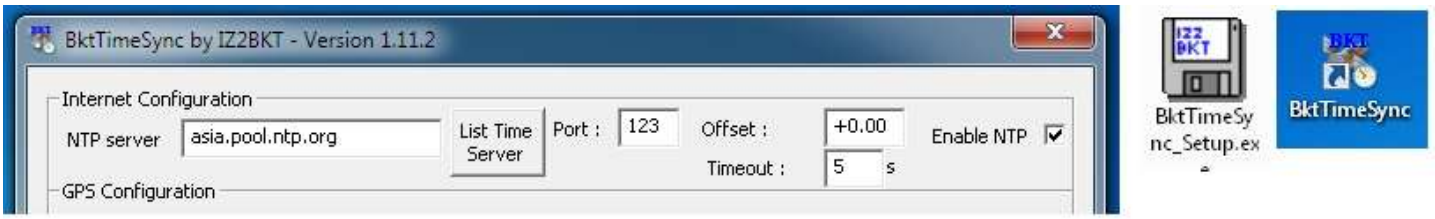
I installed / uninstalled one at a time the following and used NTP Asia zone asia.pool.ntp.org

BktTimeSync : Dimension 4 : Meinberg NTP : NetTime: Time-Sync :

Meinberg NTP : I wrote an article for Meinberg NTP which has Auto-Refresh every 10 seconds and can be found at…..

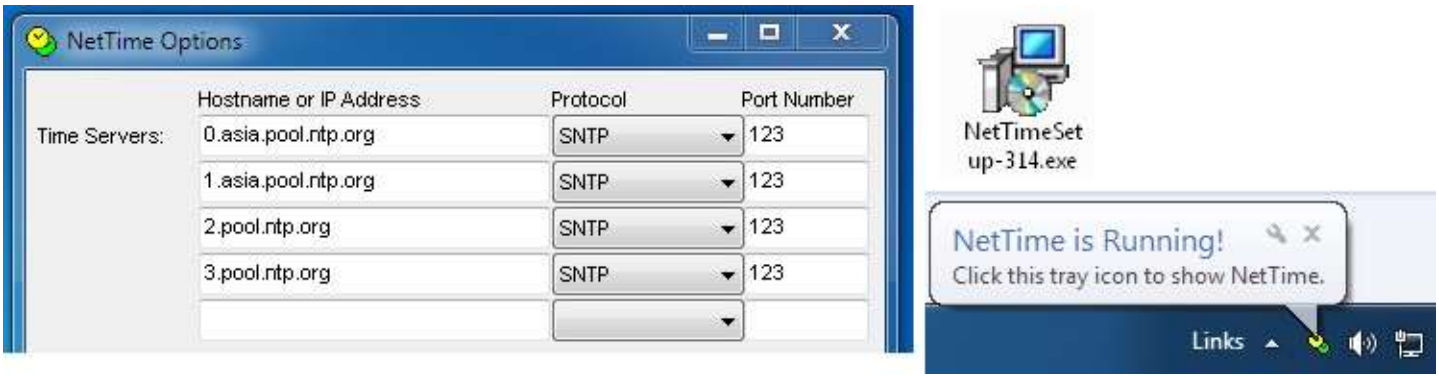
https://www.para.org.ph/docs/Meinberg%20NTP.pdf

BktTimeSync : Synchronizes the computer clock time using a NTP server or a GPS receiver connected to USB, serial port or Bluetooth. Has a minimum update interval 1 minute. Changed BktTimeSync NTP server to asia.pool.ntp.org



NetTime : The minimum update interval when using NTP servers is 15 minutes.

NetTime comes with 4 NTP time servers (nettime.pool.ntp.org), if unable to connect to the first time server on the list; it will automatically move to the second time server on the list and so on, replaced original NetTime time servers (settings) with the following.



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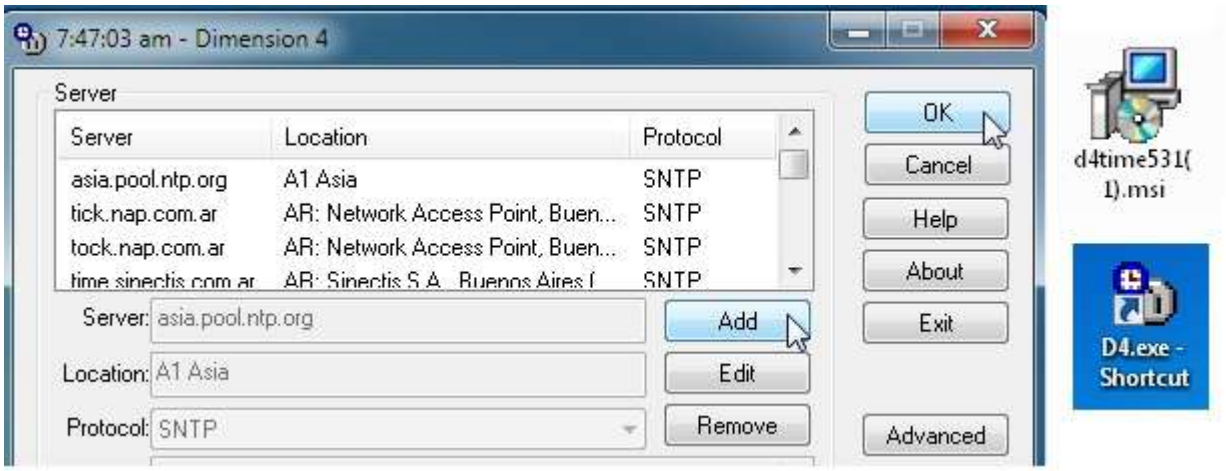
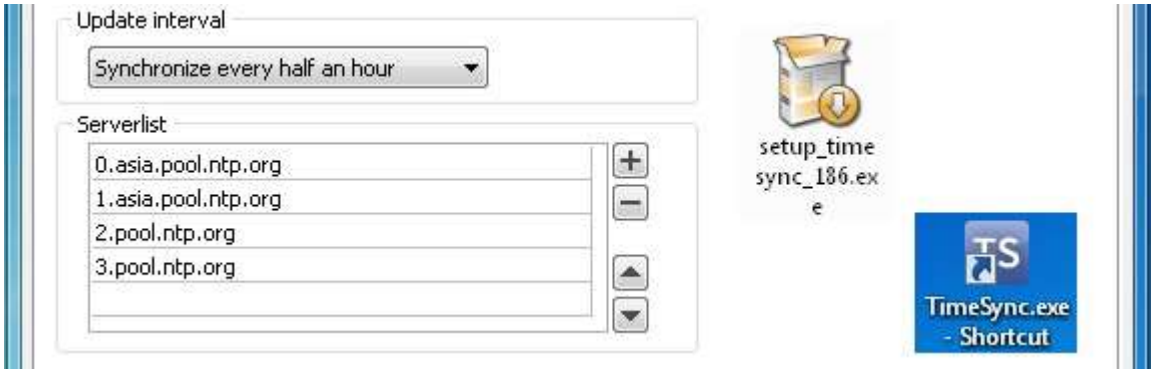
Dimension 4 : Can synchronize between a number of seconds and hours.
Added asia.pool.ntp.org



Time-Sync : The program has selectable update intervals from minimum 30 seconds to 24 hours.

Time-Sync comes with 4 NTP (pool.ntp.org) time servers, if unable to connect to the first time server on the list; it will automatically move to the second time server on the list and so on, replaced original Time-Sync time servers (settings) with the following.



BktTimeSync : https://www.maniaradio.it/en/bkttimesync.html

Dimension 4 : http://www.thinkman.com/dimension4/default.htm

Meinberg NTP : https://www.meinbergglobal.com/english/sw/ntp.htm

NetTime : http://www.timesynctool.com/

Time-Sync : https://www.speed-soft.de/index.php?language=en

Check that the time zone configuration of your computer is correct.

When using computer clock synchronization software with Windows disable the Windows Time Service.

Before downloading any software program check that the software is compatible with your version of Windows.

Uninstall any previously installed NTP Client/Server software prior to installing new time synchronizing software programs.

In the event of the computer failing to sync (connect) with a server, check that a firewall is not blocking the software.

NTP is implemented via UDP over port 123 to allow packets containing the time information through.

No internet access at home or operating /portable consider using a GPS dongle to keep your PC/Laptop clock accurate or a GPS Receiver to synchronize a PC Clock.

Download any of these free time synchronizing programs and try them out, if found not suitable uninstall the program.

This article is a guide to free computer clock time synchronization software, NTP time servers and the information could contain errors.

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