

## NTP (Network Time Protocol)

The NTP system is based on Internet *time servers*, computers with access to atomic clocks such as those operated by the U.S. government. These NTP servers run a software service that provides the clock's time of day to client computers over UDP port 123. NTP supports a hierarchy of multiple server levels to handle a large load of client requests. The protocol includes algorithms to accurately adjust the time of day being reported to account for Internet network transmission delays.

Computers running Windows, Mac OS X and Linux operating systems can be configured to use an NTP server. Starting with Windows XP, for example, the Control Panel "Date and Time" option contains an Internet Time tab which allows choosing an NTP server and turning time synchronization on or off

The process name of the service            =        ntpd  
Name of the rpm                            =        ntpd

- First check to see if you OS has already service rpm package installed on the system

```
rpm -qa | grep ntp
ntp.x.x.x.x86_64
ntpdate.x.x.x86_64
```
- If the above rpms exist then you can proceed with the configuration
- If the rpms do not exist then download the package/rpm using yum command

```
yum install ntpd -y
```
- Once the package is installed make changes to the following configuration file:  
`/etc/ntp.conf`                           (Linux)  
  
Add NTP server IP or hostname where server parameters are defined  
`server ntp-hostname`
- Now start the service

```
systemctl restart ntpd
```
- Also in order to have the service startup at the boot time run the following command

```
systemctl enable ntpd
```
- NTP Logs location  
`/var/log/messages`
- **Commands**

```
ps -ef | grep ntp
OR
ntpq → peers → quit
ntpdate        =        Set date and time via ntp
ntpdate -v hostname        =        To manually force the time to sync with ntp server
```
- **List of NTP Servers on Web:**  
<http://www.pool.ntp.org/zone/north-america>