Table Of Contents

Home > Faq > FreeBSD

FreeBSD Install OpenNTPD NTP Server / Client To Synchronize The Local Clock

Posted by Vivek Gite <vivek@nixcraft.com>

How do I install OpenNTPD (a Unix system daemon implementing the Network Time Protocol) to synchronize the local clock of a FreeBSD computer system with remote NTP servers called ntp.myisp.com?

Accurate time is important for various UNIX applications such as BIND, Crond, Apache and others. OpenNTPD able to act as an NTP server and as an NTP server to NTP-compatible clients. The default ntpd server cannot bind to specific IP address. If you are planning to use FreeBSD jails, you must disable ntpd and use OpenNTPD.

OpenNTPD Installation

Type the following command to update FreeBSD ports [3] tree:

```
# portsnap fetch update
```

To install OpenNTPD server, enter:

```
# cd /usr/ports/net/openntpd
# make install clean
```

Configuration Files

1. **/usr/local/sbin/ntpd** OpenNTPD network server file.
2. **/usr/local/etc/rc.d/openntpd** - OpenNTPD startup scripts to start / stop OpenNTPD server.
3. **/usr/local/etc/ntpd.conf** - OpenNTPD configuration file.
4. **TCP / UDP port # 123** - OpenNTPD NTP port.

Open /usr/local/etc/ntpd.conf file, enter:

```
# vi /usr/local/etc/ntpd.conf
```

Update configuration as follows:

```
# Do not listen to all IP, just bind
# openntpd to Ipv4 203.11.22.33, 10.21.16.223, IPv6 2607:f0d0:3001:0009:0000:0000:0000:0001
# and loopback
listen on 203.11.22.33
listen on 10.21.16.223
listen on 2607:f0d0:3001:0009:0000:0000:0000:0001
listen on 127.0.0.1

# Sync to a single server
server ntp.myisp.com

# Use a random selection of 8 public stratum 2 servers
servers pool.ntp.org
```

Turn on OpenNTPD service

Enable OpenNTPD service:

```
# echo 'openntpd_enable="YES"' >> /etc/rc.conf
```

Task: Start OpenNTPD Service

```
# /usr/local/etc/rc.d/openntpd start
```

Task: Stop OpenNTPD Service

```
# /usr/local/etc/rc.d/openntpd stop
```

Task: Restart OpenNTPD Service

```
# /usr/local/etc/rc.d/openntpd restart
```

Task: Verify OpenNTPD Service

Find out the status:

```
# /usr/local/etc/rc.d/openntpd status
```

Sample output:

```
openntpd is running as pid 68596 68597.
```

Verify open port:

```
# sockstat -4 -p 123
```

OR

```
# sockstat -46 -p 123
```

Sample output:

```
_ntp     ntpd       68597 4   udp4   10.21.16.223:61228    10.0.1.22:123
_ntp     ntpd       68597 6   udp4   203.11.22.33:123      *:*
_ntp     ntpd       68597 7   udp4   10.21.16.223:123      *:*
_ntp     ntpd       68597 8   udp6   2607:f0d0:3001:9::1:123*:*
_ntp     ntpd       68597 9   udp4   127.0.0.1:123         *:*
_ntp     ntpd       68597 10  udp4   203.11.22.33:51829    69.31.43.10:123
_ntp     ntpd       68597 11  udp4   203.11.22.33:52453    67.159.5.90:123
_ntp     ntpd       68597 12  udp4   203.11.22.33:58929    71.6.202.221:123
_ntp     ntpd       68597 13  udp4   203.11.22.33:60272    198.144.194.12:123
_ntp     ntpd       68597 14  udp4   203.11.22.33:51298    216.45.57.39:123
```

Open Outgoing Port Port # 123 via PF firewall

Update your /etc/pf.conf as [4] follows:

```
 # Note $ext_if is your interface facing the Internet
# Useful for dedicated FreeBSD server #
# Ipv4 Open outgoing port TCP 123 (NTP)
pass out on $ext_if proto tcp to any port ntp

# Ipv6 Open outgoing port TCP 123 (NTP)
pass out on $ext_if inet6 proto tcp to any port ntp

# Ipv4 Open outgoing port UDP 123 (NTP)
pass out on $ext_if proto udp to any port ntp

# Ipv6 Open outgoing port UDP 123 (NTP)
pass out on $ext_if inet6 proto udp to any port ntp
```

Reload pf firewall [5] rules:

```
# /sbin/pfctl -nf /etc/pf.conf && /etc/rc.d/pf reload
```

Further readings:

- [ntpd man page](#) [6] the official OpenNTPD man pages.
- [OpenNTPD](#) [7] the official OpenNTPD website.

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[1] Image: **http://www.cyberciti.biz/faq/category/freebsd/**

[2] Image: **http://www.cyberciti.biz/faq/category/networking/**

[3] update FreeBSD ports: **http://www.cyberciti.biz/tips/howto-keep-freebsd-system-upto-date.html**

[4] /etc/pf.conf as: **http://bash.cyberciti.biz/firewall/pf-ipv6-ipv4-firewall-for-freebsd-openbsd-netbsd/**

[5] Reload pf firewall: **http://www.cyberciti.biz/faq/freebsd-openbsd-reset-pf-firewall-automatically/**

[6] ntpd man page: **http://www.openntpd.org/manual.html**

[7] OpenNTPD: **http://www.openntpd.org/**