

Astra Linux

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:

- Astra Linux Special Edition .10015-01 (1.7)
- Astra Linux Special Edition .10152-02 (4.7)
- Astra Linux Special Edition .10015-01 (1.6)
- Astra Linux Special Edition .10015-16 .1 .2
- Astra Linux Special Edition .10265-01 (8.1)
- Astra Linux Common Edition 2.12



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(ntp chrony) . systemd-timesyncd:

```
sudo apt purge ntp
sudo apt purge chrony
sudo timedatectl set-ntp true
sudo systemctl start systemd-timesyncd
```

:

```
systemctl status systemd-timesyncd
```

. [systemd-timesyncd](#).



chrony ntp

, - . :

- Astra Linux Special Edition x.7 — chrony;
- Astra Linux Special Edition Astra Linux Common Edition — ntp.

:

```
sudo systemctl stop ntp chrony
sudo ntpdate -u <_>
sudo systemctl start ntp chrony
```

<_>:

- IP- (,);
- IP-/ .

, ntp1.vniiftri.ru (IP- 89.109.251.21) :

```
sudo systemctl stop ntp chrony
sudo ntpdate -u 89.109.251.21
sudo systemctl start ntp chrony
```

systemd-timesyncd

systemd-timesyncd :

```
sudo systemctl restart systemd-timesyncd.service
```

Astra Linux , NTP:

- **chronyd** (chrony). Astra Linux Special Edition .10015-01 1.7 Astra Linux Common Edition 2.12.43. Astra Linux (PTP timedatectl, .) . , . FreeIPA ([FreeIPA Astra Linux](#)) FreeIPA 4.8.5.

- **ntp** (ntp ntpdate). , .

! ntp 123 .

```
- 123 , :
  o Astra Linux Special Edition x.7 - chronyd;
  o ;
  o ntp , 123 ;
  o ntpdate (. );
  o openntpd (. );
  o systemd-timesyncd (. );
```

- **openntpd** (openntpd). , . **Astra Linux Common Edition 2.12.26** NTP. Astra Linux Special Edition Astra Linux Common Edition. NTP:
 - o 123, , ntp -, 123, , ;
 - o , , NTP. . [openntpd](#);
 - o NTP;

- **timedatectl / systemd-timesyncd.service**. , .

, .



ntp, chronyd timesyncd, .



timesyncd . .


systemd-timesyncd.service , :

- NTP ();
- openntpd ();
- chronyd ();
- Oracle Virtual Box (,).

- **PTP (Precision Time Protocol)** - .

, :

Universal time, UTC	UTC — , , . UTC . UTC (GMT). UTC Coordinated Universal Time (-) Temps universel coordonné (-). , , : • : • : • :	Universal time: 2019-02-20 07:51:49 UTC
Time Zone	. (/) .	Time zone: Europe/Moscow (MSK, +0300)
Local time	, , . +3 (Time zone: Europe/Moscow (MSK, +0300)). .	Local time: 2019-02-20 10:51:49 MSK
RTC time	. , (Real Time Clock, RTC, CMOS BIOS time). . , . (UTC) (UTC) , (UTC) , (. man timedatectl).  UTC. , . Linux- , UTC. Windows , . , . Astra Linux Special Edition .10015-01 (1.5) Windows RTC . RTC , Astra Linux , UTC.	RTC time: 2019-02-20 07:51:49  , (, Raspberry Pi) , .

chrony

Astra Linux Special Edition x.7 Astra Linux Common Edition 2.12.43 chrony (chronyd) - , ntp. Astra Linux chrony Debian.

, chronyd, ntp:

1. , , ;
2. ;
3. , IP- 123 (.. , ntp 123).

chrony :

```
sudo apt install chrony
```



chrony ntp.
FreeIPA (4.8.5 .. [FreeIPA Astra Linux](#)) chrony , ntp.

chronyd "" , .



FreeIPA chronyd .

chronyd /etc/chrony/chrony.conf. .

"" chronyd . (..), , - :

allow

chronyd:

```
sudo systemctl restart chronyd
```

.. :

```
man chrony.conf
```

chronyd

IPv6

, chronyd IPv6 (, IPv6):

1. /etc/default/chrony DAEMON_OPTS -4. :

```
DAEMON_OPTS="-F -1 -4"
```

2. chronyd:

```
sudo systemctl restart chronyd
```

ntp

Astra Linux, , . :

```
systemctl status ntp
```

, . :

```
sudo systemctl enable ntp
sudo systemctl start ntp
```

, , , .



ntp , , .

fly-admin-ntp, , :

```
sudo apt install fly-admin-ntp
```

:



-> -> -> (NTP).

,
/etc/ntp.conf.

"" ntpd , , . ntp (/etc/ntp.conf):

/etc/ntp.conf, configuration for ntpd; see ntp.conf(5) for help

driftfile /var/lib/ntp/ntp.drift

Enable this if you want statistics to be logged.
#statsdir /var/log/ntpstats/

statistics loopstats peerstats clockstats
filegen loopstats file loopstats type day enable
filegen peerstats file peerstats type day enable
filegen clockstats file clockstats type day enable

You do need to talk to an NTP server or two (or three).
#server ntp.your-provider.example

pool.ntp.org maps to about 1000 low-stratum NTP servers. Your server will
pick a different set every time it starts up. Please consider joining the
pool: <<http://www.pool.ntp.org/join.html>>
pool 0.debian.pool.ntp.org iburst
pool 1.debian.pool.ntp.org iburst
pool 2.debian.pool.ntp.org iburst
pool 3.debian.pool.ntp.org iburst

Access control configuration; see /usr/share/doc/ntp-doc/html/acconf.html for
details. The web page <<http://support.ntp.org/bin/view/Support/AccessRestrictions>>
might also be helpful.

Note that "restrict" applies to both servers and clients, so a configuration
that might be intended to block requests from certain clients could also end
up blocking replies from your own upstream servers.

By default, exchange time with everybody, but don't allow configuration.
restrict -4 default kod notrap nomodify nopeer noquery limited
restrict -6 default kod notrap nomodify nopeer noquery limited

Local users may interrogate the ntp server more closely.
restrict 127.0.0.1
restrict ::1

Needed for adding pool entries
restrict source notrap nomodify noquery

Clients from this (example!) subnet have unlimited access, but only if
cryptographically authenticated.
#restrict 192.168.123.0 mask 255.255.255.0 notrust

If you want to provide time to your local subnet, change the next line.
(Again, the address is an example only.)
#broadcast 192.168.123.255

If you want to listen to time broadcasts on your local subnet, de-comment the
next lines. Please do this only if you trust everybody on the network!
#disable auth
#broadcastclient

, :

```
i # IPv4
restrict -4 default kod notrap nomodify nopeer noquery limited

# IPv6
restrict -6 default kod notrap nomodify nopeer noquery limited
```

```
:
• kod —, (, kiss of death),
• notrap —
• nomodify —,
• nopeer —
• noquery —
• limited —

, ., 192.168.0.0
```

```
i # 192.168.0.0,
restrict 192.168.0.0 mask 255.255.255.0 nomodify notrap

#
restrict 127.0.0.1
restrict ::1
```

```
sudo service ntp restart
```

ntp

```
ntp ntpq, .
:
```

```
ntpq -p
```

```
i
=====
remote          refid          st t when poll reach  delay  offset  jitter
=====
0.ru.pool.ntp.o .POOL.         16 p   -   64    0    0.000    0.000    0.000
1.ru.pool.ntp.o .POOL.         16 p   -   64    0    0.000    0.000    0.000
2.ru.pool.ntp.o .POOL.         16 p   -   64    0    0.000    0.000    0.000
3.ru.pool.ntp.o .POOL.         16 p   -   64    0    0.000    0.000    0.000
127.127.1.0     .LOCL.         10 l 1101   64    0    0.000    0.000    0.000
+185.209.85.222 195.91.239.8   2 u   20   64  377   10.631    0.690    0.355
*195.91.239.8   .PPS.          1 u   19   64  377    1.256    0.081    0.065
+192.36.143.130 .PPS.          1 u   18   64  377   19.755    0.129    0.330
-37.193.156.169 80.242.83.227  2 u   12   64  377   44.877   -0.832    2.427
-95.165.138.248 89.109.251.24  2 u    7   64  377    3.118    0.241    0.140
```

```
:
• - :
  o * — ;
  o + — ;
  o o — PPS- ( ) ;
  o — ;
  o — x . — «» ( ) .
• remote - ;
• refid - , .
  ( (pool) ), .
, ;
• st- ( ) . 0 16. - .
  16 , ;
• t- (u - unicast, m - multicast, l - local, p - pool ..);
```

- when - , (), , , ;
- poll - ();
- reach - :
, 100% 0, 1, 3, 7, 17, 37, 77, 177, 377 377;
- delay - ();
- offset - ;
- jitter - ()

ntpd

ntpd.

, :

- no server suitable for synchronization found - , , ntpd, , , ;
- leap not in sync - , . , , .

(, cron).

ntpd , :

```
sudo apt install ntpdate
```

:

- (-q):

```
sudo ntpdate -q 0.ru.pool.ntp.org
```

- (-d , ,):

```
sudo ntpdate -d 0.ru.pool.ntp.org
```

- IP- 123 (). , 123 :

```
sudo ntpdate -u 0.ru.pool.ntp.org
```



ntpdate IP- (123) ntpd, , ntpd , ntpdate , :

```
sudo ntpdate -q 0.ru.pool.ntp.org
```

```
ntpdate[1421]: the NTP socket is in use, exiting
```

, IP-, 123, -u.

IP- 123 , ntpdate -u ntpd (, ntpd):

```
sudo service ntp stop
sudo ntpdate -q 0.ru.pool.ntp.org
sudo ntpdate -qu 0.ru.pool.ntp.org
sudo service ntp start
```

ntpdate ("-q") , ("-qu") , IP- 123 , NTP , OpenNTPD, chrony, systemd-timesyncd).

- ntpdate :

```
sudo ntpdate -ubv 0.ru.pool.ntp.org
```

.. ntpdate

ntp ntpq

ntp :

```
sudo ntpq -c sysinfo
```

():

```
associd=0 status=c016 leap_alarm, sync_unspec, 1 event, restart,
system peer:      0.0.0.0:0
system peer mode: unspec
leap indicator:    11
stratum:          16
log2 precision:    -24
root delay:        0.000
root dispersion:   0.300
reference ID:      INIT
reference time:     (no time)
system jitter:     0.000000
clock jitter:      0.000
clock wander:      0.000
broadcast delay:   -50.000
symm. auth. delay: 0.000
```

():

```
associd=0 status=0614 leap_none, sync_ntp, 1 event, freq_mode,
system peer:      ntp3.vniiftri.ru:123
system peer mode: client
leap indicator:    00
stratum:          2
log2 precision:    -24
root delay:        5.638
root dispersion:   187.866
reference ID:      89.109.251.23
reference time:     e8188920.f000d2a1 Wed, May 24 2023 16:01:20.937
system jitter:     0.000000
clock jitter:      0.997
clock wander:      0.000
broadcast delay:   -50.000
symm. auth. delay: 0.000
```

ntp DNS

DNS-. . [DNS- BIND9](#)

:

•
•
•

,
:



pool 0.debian.pool.ntp.org iburst
pool 1.debian.pool.ntp.org iburst
pool 2.debian.pool.ntp.org iburst
pool 3.debian.pool.ntp.org iburst



, ntp , (), , DNS.
DNS , IP-
, DNS , .

:



pool 0.ru.pool.ntp.org iburst
pool 1.ru.pool.ntp.org iburst
pool 2.ru.pool.ntp.org iburst
pool 3.ru.pool.ntp.org iburst

, , : <http://vniiftri.ru/ru/uslugi-serverov>

, , :



server <IP__1>
server <IP__2>

openntpd

Astra Linux Common Edition :

```
sudo apt install opnntpd
```

, , .

openntpd /etc/openntpd/ntpd.conf. openntpd ntp. :

```
# $OpenBSD: ntpd.conf,v 1.14 2015/07/15 20:28:37 ajacoutot Exp $
# sample ntpd configuration file, see ntpd.conf(5)

# Addresses to listen on (ntpd does not listen by default)
listen on *
#listen on 127.0.0.1
#listen on ::1

# sync to a single server
#server ntp.example.org

# use a random selection of NTP Pool Time Servers
# see http://support.ntp.org/bin/view/Servers/NTPPoolServers
#servers pool.ntp.org

# Choose servers announced from Debian NTP Pool
servers ntp21.vniiftri.ru
#servers 0.debian.pool.ntp.org
#servers 1.debian.pool.ntp.org
#servers 2.debian.pool.ntp.org
#servers 3.debian.pool.ntp.org

# use a specific local timedelta sensor (radio clock, etc)
#sensor nmea0

# use all detected timedelta sensors
#sensor *
```

ntp21.vniiftri.ru , .
, 123 :

```
# Addresses to listen on (ntpd does not listen by default)
listen on *
```

, , :

```
sudo systemctl restart openntpd
```

openntpd NTP, openntpd ntpq ntpdate (ntpq , ntp).

systemd-timesyncd

timesyncd "" ntp. , , .

 timesyncd , .

timesyncd , , , ntp chronyd, ().

:

```
sudo timedatectl set-ntp false
```

, , (ntp (openntpd chronyd), timesyncd):

```
sudo timedatectl set-ntp true
```

timesyncd ntp openntpd ():

```
sudo apt purge ntp openntpd
```

chronyd :

```
sudo apt purge chrony
```

timesyncd:

```
sudo systemctl start systemd-timesyncd
```

:

```
systemctl status systemd-timesyncd
```

:

```
sudo timedatectl status
```

:

 Local time: 2018-12-26 11:08:12 MSK
Universal time: 2018-12-26 08:08:12 UTC
RTC time: 2018-12-26 08:08:12
Time zone: Europe/Moscow (MSK, +0300)
Network time on: yes
NTP synchronized: yes
RTC in local TZ: no

timesyncd . /etc/systemd/timesyncd.conf. Astra Linux Special Edition x.7 :

```
#FallbackNTP=0.ru.pool.ntp.org 1.ru.pool.ntp.org 2.ru.pool.ntp.org 3.ru.pool.ntp.org ntp3.vniiftri.ru ntp4.vniiftri.ru ntp21.vniiftri.ru vniiftri2.khv.ru ntp2.niiftri.irkutsk.ru ntp3.stratum2.ru ntp2.stratum2.ru
```

, (.) , .

timesyncd systemd-networkd, systemd-networkd ,.. (/lib/systemd/network/, /run/systemd/network/, /etc/systemd/network/ /lib/) NTP, (. man systemd.network).

timesyncd

 /etc/systemd/timesyncd.conf
/etc/systemd/timesyncd.conf.d/*.conf
/run/systemd/timesyncd.conf.d/*.conf
/usr/lib/systemd/timesyncd.conf.d/*.conf

:

- NTP= - NTP-. systemd-networkd. .
- FallbackNTP= NTP-.

TIMESYNCD , , , .

(RTC)

Astra Linux Common Edition 2.12 " ", " ":



Операционная система
общего назначения
Релиз «Орёл»

Дополнительные настройки ОС

Вы можете отключить автоматическую настройку сети.

Дополнительные настройки ОС

- ☐ Использовать по умолчанию ядро Hardened
- ☐ Включить блокировку консоли
- ☐ Включить блокировку интерпретаторов
- ☐ Включить межсетевой экран ufw
- ☐ Включить системные ограничения ulimits
- ☐ Отключить возможность трассировки ptrace
- ☐ Запретить установку бита исполнения
- ☐ Использовать sudo с паролем
- ☒ Системные часы установлены на местное время
- ☐ Включить автологин в графическую сессию
- ☐ Отключить автоматическую настройку сети
- ☐ Установить 32-х битный загрузчик

Снимок экрана

Справка

Продолжить

, , (UTC).

RT UTC, , timedatectl status .

UTC :

```
sudo timedatectl set-local-rtc 0
```

RTC --adjust-system-clock.

:

```
sudo timedatectl set-local-rtc 1
```

RTC Windows



Windows UTC, [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\TimeZoneInformation] "RealTimeIsUniversal", :



[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\TimeZoneInformation] "RealTimeIsUniversal"=dword:00000001



[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\TimeZoneInformation] "RealTimeIsUniversal"=qword:00000001

Ansible Puppet

[Ansible](#) [Puppet](#)