Installation and Administration FNE/FNX server

How to check if the FNE server is running

FNX proxy setup questions

Terminal commands questions

- Which FNE commands are available?
- How do I get a list of FNE licenses available on my FNE license server?
- How to set up a simple hostname- fne-failover-setup ERROR: The simple hostname (<hostname>) may not contain dots

- How to check if the FNE server is running
- FNX proxy setup questions
- Terminal commands questions

- What is the IP address of the Advantest Licensing Back-Office (license.advantest.com/FNO)
- Can I run FNP and FNE license server on one server
- Can I use a VM for FNE or FNX license server setup
- Can I use another port than 7070 for the FNE server
- Can I use another port than 7077 for the FNE server viewer
- Can I use another port for the proxy server
- How to make an online FNE server offline
- No active time synchronization daemon found on this system (ntpd/chrony)

- RHEL9 upgrade and the licensing software - recommendation for existing setups
- Can I install FNE or FNX on a dual boot workstation
- How to find available registration keys for a parent organization?
- How to find which sub-organization a license server is registered under?
- What is the process for customers after replacing the motherboard?
- Can Advantest's license software be installed together with other companies' license software?
- Does FNE for Windows support FNP proxy?
- Is the FNX Server Installation possible with other FlexNet software running in parallel?

How to check if the FNE server is running

You can check the following:

1. Is the FNE server running?

   > Note: if you have an **FNE failover setup**, you need to check this both for the **FNE primary and the FNE failover** servers.

2. Are licenses provided?

   > Note: Using both tools provided in the sections "1. Is the FNE server running" and "2. Are licenses provided?" below, your customer can use a monitoring tool to check, if the FNE license server(s) are okay and providing licenses.

3. For failover setup: when is the maintenance end reached?
   This is an **optional check**, for the case you want to know when the maintenance end is reached by the failover, when the primary server is down.

---

1. Is the FNE server running?

If you want to check, if the FNE server is running, you can use the :7070/ping REST API. In a browser enter

```
http://<FNE_hostname>:7070/ping
```

> For a **failover setup** you have to do this for the **primary and** the **failover** FNE server!

Output in the browser, if the server is running:

```
{
  "LLS" : {
    "version" : "2023.03.1",
    "buildDate" : "2023-03-30T16:08:29Z",
    "buildVersion" : "266223",
    "branch" : "release/2023.03.1",
    "gitHash" : "e9cab6824014140724a1d22ba654ec5faafd5a59",
    "patch" : "1",
    "fneBuildVersion" : "54",
    "serverInstanceID" : "L8CHEVA4PV78",
    "trustStatus" : true,
    "database" : {
      "connectionCheck" : "success"
    },
    "security" : "enabled",
    "httpAuth" : "enabled",
    "licensingSecurityJSON" : "enabled",
    "diskspace" : "ok"
  }
}
```


If it is not working, then you get an error page.

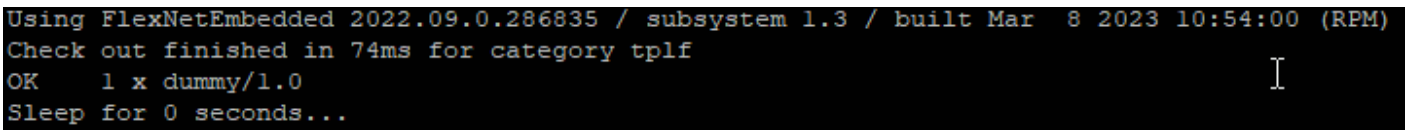
2. Are licenses provided?

> Note: the tool `test_license_checkout` can be used **after** FNE server registration.

In order to check, if the license checkout is working, you should use the tool `test_license_checkout`, which is also available on the FNE license server. Just checkout the dummy license with

```
test_license_checkout -f dummy -t 0
```

Example for a successful checkout:



Check for the "OK 1 x dummy" line. If it is available, the checkout was successful.

3. For failover setup: when is the maintenance end reached

With the following command executed on the failover server you can get the date/time when the maintenance of the failover ends.

```
/opt/flexnetls/socbu/fne-get-config -1 maintenanceEndTime
```

If you get as output

`1970-01-01T00:00:00.000Z`

then the failover is not (yet) active.

Example output for an active failover executed on August 7th, showing that the maintenance will end on August 17th:

`2023-08-17T13:02:28.000Z`

FNX proxy setup questions

Installation questions

If option fnx is used, why is also v93000-fne-client installed?

The `fne-client` is part of the license software (The client needs to correctly configure the configuration file `/etc/fne/client.conf` before establishing the connection to the server.).

How to check if proxy related packages are installed or not?

The **`fne-status`** command gives you a list of installed packages (requires advantest-fne-server package to be installed).

Are the hostnames for command `fne-proxy-setup` case-sensitive?

Yes. For example if the hostnames of the second license server is HostX2 and for the third license server is HostY3 then you need to enter the following command for setting up the proxy connection on the primary server.

```
/opt/flexlm/bin/fne-proxy-setup HostX2 HostY3
```

The hostnames are case-sensitive here. So you need to take care to use the correct upper and lower letters.

Option file usage information with FNX

With FNX environemnt, FNP clients can use an option file as for FNP. There are two important differences:

1. The option file is only valid for FNP-clients.
2. Please put the option file to folder /opt/flexlm/bin. Ideally you use the default option file name socbu.opt. If you do not use the default name, you need to define the name in license file proxy.lic in folder /opt/flexlm/bin as known for FNP.

If the FNE proxy already runs and you installed a new option file or changed an option file you need to restart the proxy with

```
sudo systemctl restart advantest-fne-proxy
```

to make the new / changed option file effective.

Problem with using MAX 0 in option file - Message "FATAL ... internal error" in the license server log file

Do not use **MAX 0** in the option file but use the **EXCLUDE** keyword.

Reason: if you use **MAX 0** in the option file you will get a **"FATAL ... internal error"** error message in the log file with trying to checkout this license with the user / host which shall not be able to do it. In this case the search algorithm tries to check out -1 licenses and fails and therefore the **"FATAL ... internal error"** is written to the log file.

Positive is that the license cannot be checked out as defined with the option file. Therefore, the functionality is working, but there are unnecessary and incomprehensible error messages in the log file.

The use of **EXCLUDE** instead prevents these error messages.

Terminal commands questions

Subtopics

- What FNE commands are available?
- How do I get a list of FNE licenses available on my FNE license server?
- How to set up a simple hostname- fne-failover-setup ERROR: The simple hostname (<hostname>) may not contain dots

What FNE commands are available?

FlexNet Embedded license administration

How do I get a list of FNE licenses available on my FNE license server?

You can use the **FNE server viewer > Features.**

Alternatively you can use the command `fne-list-licenses`

There are a bunch of options like providing the output with a separator like comma possible, please check with `man fne-list-licenses` the manual page.

Examples:

Without any options you get all licenses:

```
/home/heikek >fne-list-licenses
Server: FNE on localhost
 \-URL: http://localhost:7070/fne/bin/capability
    1000 x Company_Details/1.0 starts 2017-10-31
           Company=NXP
           Entity=Taiwan
       1 x S&S_EM360/1.0 starts 2020-01-14
           Locked to SERIALNUMBER=MY04704321
       1 x S&S_EM360_Plan/1.0 starts 2020-01-14
           Locked to SERIALNUMBER=MY04704321
       1 x S&S_EM360_Quality/1.0 starts 2020-01-15
           Locked to SERIALNUMBER=DE12345678
       1 x S&S_EM360_Quality/1.0 starts 2020-01-15
           Locked to SERIALNUMBER=MY12345678
       1 x SmarTestOffline_SOC/1.0 starts 2020-01-09
       1 x Smartest_SOC/2018.05 starts 2020-01-14
           Locked to SERIALNUMBER=MY04602663
```

With option --feature you can look up a special license:

```
/home/heikek >fne-list-licenses --feature=Smartest
Server: FNE on localhost
 \-URL: http://localhost:7070/fne/bin/capability
       1 x Smartest_SOC/2018.05 starts 2020-01-14
           Locked to SERIALNUMBER=MY04602663
```

> Features are case-sensitive. If you enter fne-list-licenses --feature=smartest you will not get an output.

See the manual page for more examples.

How to set up a simple hostname - fne-failover-setup ERROR: The simple hostname (<*hostname*>) may not contain dots

if you enter the command `hostnamectl status`

you should get for the simple/**static** hostname only the simple hostname like licfne01 on the appropriate server. (warning) The simple/static hostname must not contain a dot when setting up an FNE failover setup. Example for a good output:

```
/home/heikek >hostnamectl status
   Static hostname: socbu216
         Icon name: computer-server
           Chassis: server
        Machine ID: 6837d3e1d4c8479e8ade29a9c5f8feee
           Boot ID: dec8f1bd3d6d4200a928e802f9a7aef4
  Operating System: Red Hat Enterprise Linux Workstation 7.4 (Maipo)
       CPE OS Name: cpe:/o:redhat:enterprise_linux:7.4:GA:workstation
            Kernel: Linux 3.10.0-862.3.2.el7.x86_64
      Architecture: x86-64
```

In the screenshot above the simple/static hostname is socbu216 only.

If there is a dot in the simple hostname, then you can change it with `hostnamectl set-hostname <name>`

Check with command `hostnamectl status`

afterwards, if the name changed. Please also check, that the fully qualified hostname is still available with `hostname -f`

Example for good hostname -**f** output:

```
/home/heikek >hostname -f
socbu216.bbn.verigy.net
```

> Note: Do not use localhost or localhost.localdomain as hostname for an FNE license server!

What is the IP address of the Advantest Licensing Back-Office (license.advantest.com/FNO)

Do not use the IP address to allow the access to the Advantest Licensing Back-Office at license.advantest.com. Instead of that please use DNS to allow the access to license.advantest.com .

Reason is that in January 2026 the IP address will not be fix anymore because of various reasons like using Akamai WAF for license.advantest.com (Akamai WAF is a security solution that protects web applications from online threats).

The formerly used fix IP address 8.31.43.39 for license.advantest.com shall not be used for example at the customer firewall or in file /etc/hosts anymore starting with January 2026.

Can I run FNP and FNE license server on one server

This is **not possible**. You need to de-install the FNP license server in order to run an FNE license server and vice-versa.

Can I use a VM for FNE or FNX license server setup

Yes, **this is possible**. The hardware / software prerequisites and the installation setup is the same for VM as for bare metal servers.

(see LHC chapter of FlexNet Embedded license server setup - Prerequisites for the prerequisites and subchapters / links for the installation set up).

Only if you have a local license server serving only the local SmarTest client, then the hard disk space can be less.

Z4G5 is only allow one instance for local FNE/FNX license server: either on the HV instance or on the bare metal instance; parallel installation will corrupt database.

> **Note**: if you have a failover FNE setup or a triad FNX server setup it is risky to use the VMs available on the same server. If this server goes down, all VMs go down.

Can I use another port than 7070 for the FNE server

Yes, **this is possible** since FNE software 2022.04.0.0/2019.07.1.0-22144. You can change the port in file

`/etc/systemd/system/advantest-fne-server.service.d/flexnetls-socbu.conf`,

edit

`Environment=PORT=7070.`

> **Note**: However, initial installation must ensure port 7070 is open. The port number can be modified after initial installation is complete.

> **Note**: you need to take care that the new port is also opened in the firewall of the server.

Can I use another port than 7077 for the FNE server viewer

No. This port is fixed.

Can I use another port for the proxy server

> **Note**: The license files for the proxy are in folder `/opt/flexlm/bin`. There are two license files: `atflexd-proxy.lic` and `proxy.lic`. Via these license files the license server process `lmgrd` starts two vendor daemons:

1. **`atflexd`** for the T2K licenses
2. **`socbu`** for the 93k licenses

If the customer wants to use another port for the `lmgrd` process of the proxy server or another port for the `socbu` / `atflexd` vendor daemon, then the files in folder `/opt/flexlm/bin`

- `atflexd-proxy.lic`
- `proxy.lic`

need to be adapted with the appropriate port number on the SERVER line(s) for the lmgrd process and on the VENDOR line for the appropriate vendor daemon process on all used proxy license servers. So if the setup is an FNX triad, the port numbers need to be adapted on all three license servers.

Please always adapt both license files. The license server will run into errors, if you use for example different port numbers for the `lmgrd` process in file `proxy.lic` than in `atflexd-proxy.lic`.

How to make an online FNE server offline

Add the following line to `/etc/hosts` on the FNE license server at the end of the file:

0.0.0.0 license.advantest.com

> **Note**: the line 0.0.0.0 license.advantest.com is sometimes not working because of individual customer IT setup. Then you need to talk to customer ID.

No active time synchronization daemon found on this system (ntpd/chrony)

NTPD:

Make sure the service is running.

Chrony:

Un-comment the line "local stratum 10" in the `/etc/chrony.conf` and restart `chrony` service

Reference:

Configuration about ntpd/chronyd

RHEL9 upgrade and the licensing software - recommendation for existing setups

In any case using a emergency standby license server is advised to ease the process of upgrading the setup.
Please be reminded, that an emergency server is mandatory for any FNE/X related setup.

For upgrading from RHEL7 to RHEL9 and how to handle the licensing software on single/standalone FNE server:

1. uninstall licensing software while OS is still RHEL7
   1.1 With release 2023.11.0.0-23324 and newer use:

```
sudo sh install-fne-<year> uninstall
```

   1.2 For older releases find the installed packages (`rpms`) with **`fne-status`** command under Installed components
   1.3 Use the list entries with: (example)

```
sudo yum remove advantest-fne-server advantest-fne-server-viewer
```

2. update OS to RHEL9
3. download and install latest FNE software

```
sudo sh install-fne-2024.01.0.0-24043-rhel9.sh server
```

for a proxy setup use **`fnx`** instead of **`server`**

This would obviously mean some downtime if there is no failover/backup or emergency standby server in place.
An emergency server is mandatory and set up will prevent any downtime.

For upgrading from RHEL 7 to RHEL 9 and how to handle the licensing software with a failover setup and triad setup:

Failover setup must be in place beforehand! It cannot be added afterwards without a completely new setup including the registration for the back office.

On Primary server:
1. uninstall licensing software while OS is still RHEL7
   1.1 With release 2023.11.0.0-23324 and newer use:

```
sudo sh install-fne-<year> uninstall
```

   1.2 For older releases find the installed packages (`rpms`) with `fne-status` command under Installed components
   1.3 Use the list entries with: (example)

```
sudo yum remove advantest-fne-server advantest-fne-server-viewer
```

2. update OS to RHEL9
3. download and install latest FNE software

```
sudo sh install-fne-2024.01.0.0-24043-rhel9.sh server
```

for a proxy setup use `fnx` instead of `server`
4. run as normal user

```
fne-failover-setup repair primary <failover host>
```

During primary downtime the clients will switch to the failover.
Once the primary is finished upgrading and has a running licensing software, clients will automatically reconnect to primary within 2-20mins.

On Failover server:
1. uninstall licensing software while OS is still RHEL7
   1.1 With release 2023.11.0.0-23324 and newer use:

```
sudo sh install-fne-<year> uninstall
```

   1.2 For older releases find the installed packages (rpm's) with `fne-status` command under Installed components
   1.3 Use the list entries with: (example)

```
sudo yum remove advantest-fne-server advantest-fne-server-viewer
```

2. update OS to RHEL9
3. download and install latest FNE software

```
sudo sh install-fne-2024.01.0.0-24043-rhel9.sh server
```

for a proxy setup use **fnx** instead of **server**
4. run on primary as normal user!

```
fne-failover-setup repair failover <failover host>
```

HostIDs of primary and failover servers must not be changed!

On Tertiary server:

1. uninstall licensing software while OS is still RHEL7
   1.1 With release 2023.11.0.0-23324 and newer use:

```
sudo sh install-fne-<year> uninstall
```

   1.2 For older releases find the installed packages (rpms)

```
rpm -qa | grep fne-proxy
```

   1.3 Use the list entries with this command: (example)

```
sudo yum remove advantest-fne-proxy advantest-fne-proxy-base advantest-fne-proxy-features
```

2. update OS to RHEL9
3. download and install latest FNE software

```
sudo sh install-fne-2024.01.0.0-24043-rhel9.sh tertiary
```

Afterwards the proxy setup can be run on primary:

```
/opt/flexlm/bin/fne-proxy-setup <secondary> <tertiary>
```

Important links:
Softwarecenter Download FNE licensing software
https://softwarecenter.advantest.com/download/93ksw/builds/smartestaddons/smartestaddons:fne

Can I install FNE or FNX on a dual boot workstation

A dual boot workstation is currently the set up of two boot instances on the workstation with

- Hypervisor and VM setup for the one instance
- Bare metal setup for the other instance

This setup is available for the following workstations:

- Z640
- Z4G4
- Z4G5

Question: Can I install FNE / FNX on a dual boot workstation?

Short answer: No

Recommendation: Please use a central license server with FNE / FNX setup to provide the appropriate licenses.

Reason for the short answer and the recommendation: The host ID of the hypervisor and the bare metal system is the same. From FNE point of view it would be the same database on both instances, but the access to the database is different and therefore the databases will differ and corrupted in the end. So it is not possible to run FNE / FNX on both instances.

What is possible: If you use only one instance of the workstation, then you can install there a license server. So it is possible to install the FNE/FNX server either on the hypervisor OR on the bare metal system, but it is not possible to install it on both!

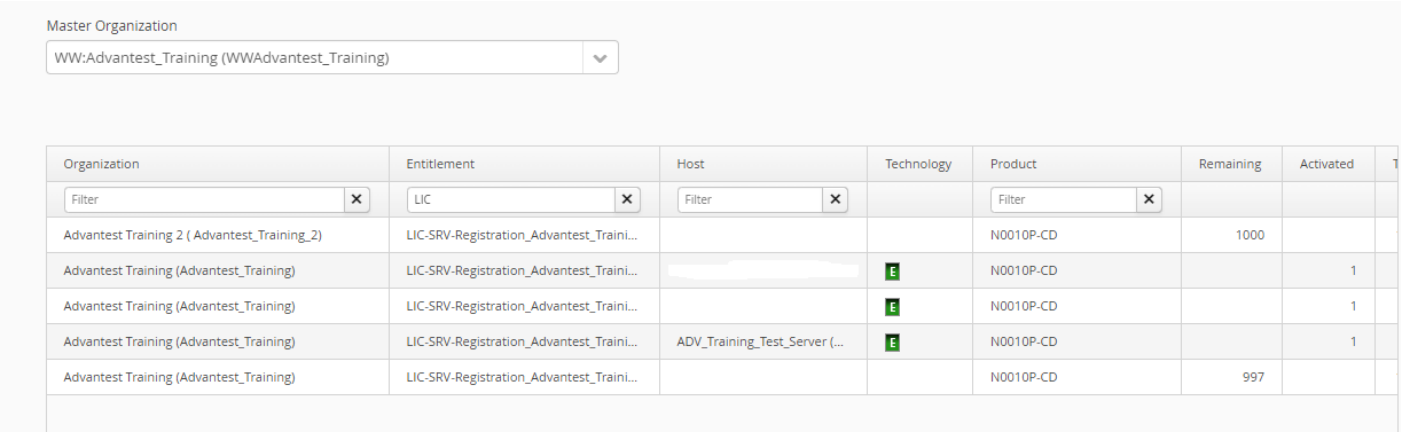
Special for Z4G5: The hypervisor with PDB 702.0 or older for Z4G5 does not have the necessary software to run an FNE / FNX license server. Therefore it is allowed to install the FNE / FNX license server on the VM as workaround. If the VM needs to be re-installed a rehosting to the new VM host ID of the licenses is needed. Please open then a LIST ticket in WeTrack to be supported with the rehosting (you will not be able to return the licenses anymore, if the old VM is dead). With PDB 703.0 officially the installation on the VM is allowed. PDB 703.0 the hypervisor will provide a static MAC address for the VM, so if it needs to be re-installed, the same static MAC address will be used for the newly installed VM. A rehosting of the licenses is then not necessary.

For FNP installation on a dual boot workstation: see Can I install FNP on a dual boot workstation?

How to find available registration keys for a parent organization?

Please go to **License Portal → License management → Overview → Select master organization → Input keyword "LIC-SRV-Registration" in Entitlement filter → Find the lines in the "remaining" column that are not blank.**

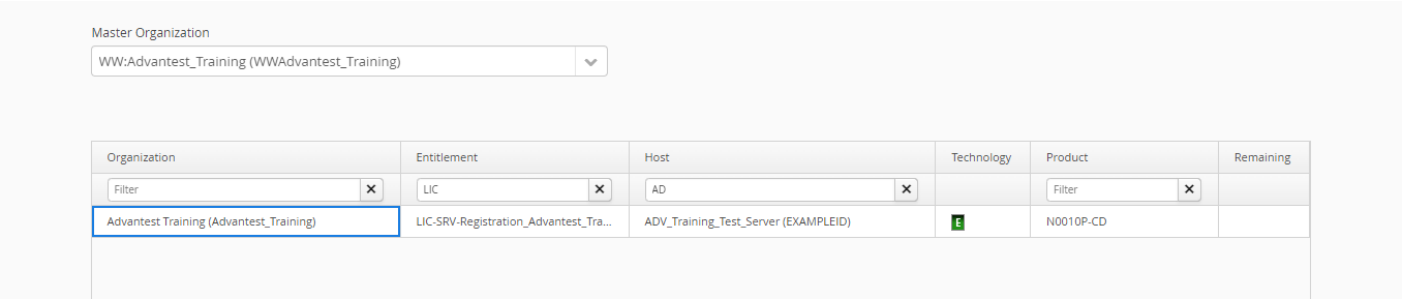
Example: Under master organization *Advantest_Training* sub-organizations *Advantest Training 2* and *Advantest Training* have available keys for registration.



How to find which sub-organization a license server is registered under?

Please go to **License Portal → License management → Overview → Select master organization → Input keyword "LIC-SRV-Registration" in Entitlement filter → Input server name or server host id as the keyword in Host filter**

Example: Server *ADV_Training_Test_Server(EXAMPLEID)* is registered under organization *Advantest Training*



What is the process for customers after replacing the motherboard?

1. Reset the database with following command

   ```
   cd /opt/flexnetls/socbu
   sudo ./reset-fne-server -a
   sudo systemctl start advantest-fne-server
   ```

2. Download the overview Excel via License Portal

3. Create a ticket and request the removal of the previous server's registration.
   - **The customer cannot perform self-rehosting after the motherboard is damaged** and requires GLPT support to remove the registration and return the licenses to entitlement.

4. Proceed server registration after receiving removal confirmation from GLPT, then activate licenses according to overview.

Can Advantest's license software be installed together with other companies' license software?

Advantest's license software can theoretically be installed on the same OS as other companies' license software.

However, we **will not** support any issues arising from these installations.

Does FNE for Windows support FNP proxy?

No.

FNE on Windows only support FNE, FNP proxy is not supported. Please do not use FNE for Windows if you have any FNP clients.

Is the FNX Server Installation possible with other FlexNet software running in parallel?

Parallel installation with other companies' license software **would be possible.** However, we **won't support any issues under this situation**.