

Floating licenses of HEAT2/HEAT3/EED

March 13, 2019. Revisions: Sept 30, 2019; Feb 4, 2020;

Floating licenses can be shared between anyone within a company, with the limit of the number of users (that has been purchased for the license) using it at the same time.

See quick start example for HEAT3 below:

How to install floating licenses, example for HEAT3 – quick start

See short list below how to install and use floating licenses of HEAT3. A complete description is shown in <https://www.buildingphysics.com/download/floatinglicenses.pdf>

1.

Download zip-file with server tools (link to be emailed).

Extract all files to a folder, e.g. "C:\heat3_server".

(For HEAT2: Extract all files to a folder, e.g. "C:\heat2_server")

(For EED: Extract all files to a folder, e.g. "C:\eed_server")

2.

Edit the file "ActivateServer.cmd"

Change the line

TurboFloatServer.exe -a="ABCD-EFGH-IJKL-MNOP-QRST-UVWX"

to your product key:

TurboFloatServer.exe -a="..."

3.

Activate the server:

Right-click "ActivateServer.cmd" and choose "Run as admin..."

4.

Install server as a windows service:

Right-click "InstallServer.cmd" and choose "Run as admin..."

5.

Install clients:

On each client, download and run (with admin properties) the setup file (link to be emailed).

Whenever a client is started it will try to get a lease. The client needs to be on the same network as the server. For details, see the log file "tfs-log.txt" in folder "C:\heat3_server".

Note that HEAT3 listens on port 13 as defined in "TurboFloatServer-config.xml" in folder "C:\heat3_server".

If you later want to move the server to another machine, do as follows (choose "Run as admin..."):

1. Uninstall the server using "UnInstallServer.cmd"

2. Deactivate the server using "DeactServer.cmd"

3. Activate and install the server on new machine.

Floating license server

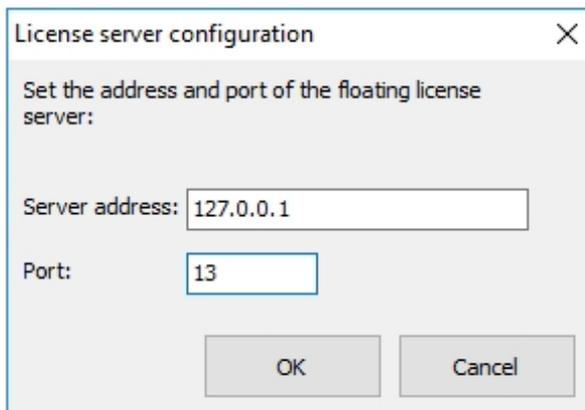
The floating license server is the application that handles the floating license “leases” for HEAT2/HEAT3/EED.

In a floating license setup, only the floating license server requires activation, while the end-user clients do not: instead they get a lease from the floating license server when a user opens the software.

Floating licenses can be installed on any number of computers. The floating license server needs to be installed on an accessible server and will be responsible for leasing the licenses to HEAT2/HEAT3/EED users on the same network.

Activating the floating license server requires an Internet access to connect to the license server. Once activated, the floating license server will check the license server from time to time. If it can't connect to the license server, it will keep working for a certain period of time (configurable with a maximum of 90 days). Once this period is over, it won't run anymore and will require access to the license server. The client (running HEAT2/HEAT3/EED) will only need to connect to the floating license server, it won't need to be connected to the Internet.

Floating licenses of HEAT2/HEAT3/EED can be installed anywhere as long as it has network access to the floating license server. When first run, it will request for the floating license server address and port:



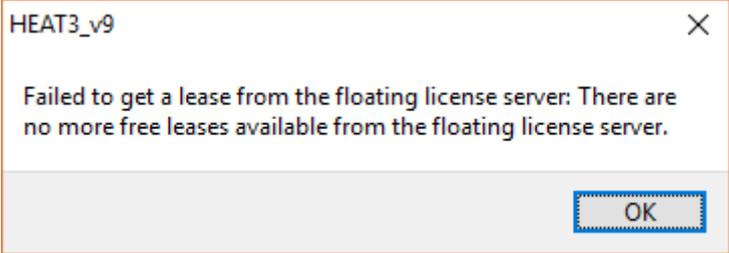
A screenshot of a dialog box titled "License server configuration" with a close button (X) in the top right corner. The dialog contains the text "Set the address and port of the floating license server:". Below this, there are two input fields: "Server address:" with the value "127.0.0.1" and "Port:" with the value "13". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

This configuration will be saved for later use. If for some reason the server is not accessible, HEAT2/HEAT3/EED will display a message with options to try again or

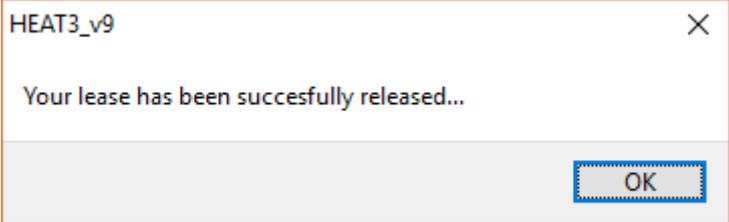
change the server address or port:



Once connected to the server, it is possible that all leases are already taken: if for example you have purchased 3 floating licenses of HEAT3 and you are trying to launch a 4th instance. When that happens, an error message will be shown. You'll need to close another instance of HEAT3 or purchase additional floating licenses to launch another instance of HEAT3:



If a client gets a lease the following message will appear when the client is closed:



Step-by-step guide: How to install and activate the floating license server

Note: Make sure that the following domains are accessible from your server (e.g. white-listed on your Firewall / Proxy) for both HTTP and HTTPS protocols:
wyday.com; limelm.com;

The example below shows how to install and use a floating license.

For HEAT3: Make a folder e.g. "C:\HEAT3_server"

For HEAT2: Make a folder e.g. "C:\HEAT2_server"

For EED: Make a folder e.g. "C:\EED_server"

and place copies of the following files in each folder:

- TurboFloatServer.exe
- TurboFloat.dll
- TurboFloatServer-config.xml

Note that you need administrator privileges to run the example scripts below.

Activating the TurboFloat Server

Before you can use TurboFloat Server it must be activated. To activate the TurboFloat Server online simply pass the product key like this (using your own product key):

```
TurboFloatServer.exe -a="ABCD-EFGH-IJKL-MNOP-QRST-UVWX"
```

Online activation connects to the activation servers using port 80 (HTTP) or port 443 (HTTPS). If you specify a [proxy in the configuration](#) then the TurboFloat Server instance will try to connect to the activation servers through that.

If you've already activated and you want to re-activate (e.g. to update a new license period), then you don't need to pass a new product key. You can just call TurboFloat Server with the "-a" commandline argument:

```
TurboFloatServer.exe -a
```

Deactivating the TurboFloat Server

If you want to move the TurboFloat Server from one computer to another computer you will have to deactivate from the first computer before you can activate on the second computer. To deactivate the TurboFloat Server instance you must use the "-deact" commandline switch:

```
TurboFloatServer.exe -deact
```

Installing the TurboFloat Server

You can use a simple commandline switch "-i" to setup your TurboFloat Server. On success, "TurboFloatServer" returns 0, on failure it returns non-zero.

This "installation" does three things:

1. It installs the TurboFloat Server instance as a Windows Service set to start with the computer and run silently in the background.
2. It configures the TurboFloat Server to allow inbound connections in the Windows Firewall (unless the Windows Firewall service is disabled, in which case it skips this step).
3. It starts the TurboFloat Server immediately.

The process of installing the TurboFloat Server is: First put the TurboFloatServer.exe, TurboActivate.dat, and TurboFloatServer-config.xml files in their final locations. Then simply use the -i commandline switch:

```
TurboFloatServer.exe -i
```

Uninstalling the TurboFloat Server

To uninstall the TurboFloat Server simply use the "-u" commandline switch:

```
TurboFloatServer.exe -u
```

On success, TurboFloatServer.exe returns 0, on failure it returns non-zero.

This "uninstallation" does three things:

1. It stops the TurboFloat Server immediately.
2. It removes the Windows Firewall configuration settings for the TurboFloat Server instance if both of the following conditions are met:

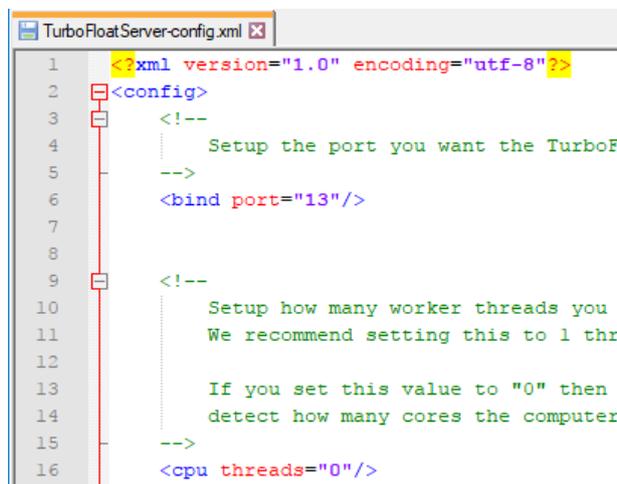
- a. The Windows Firewall settings were setup during the installation.
- b. The Windows Firewall service is running at the time the uninstallation is taking place.

If either one of those conditions isn't true, then the uninstallation process simply skips this step.

3. It removes the TurboFloat Server instance from the Windows Services.

Configuring the TurboFloat Server

The configuration file for the TurboFloat Server is a simple XML file with UTF-8 encoding. Included is an example of this configuration file. For most end-users almost all of the configuration settings will be good out of the box.



```
TurboFloatServer-config.xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <config>
3      <!--
4          Setup the port you want the TurboF
5      -->
6      <bind port="13"/>
7
8
9      <!--
10         Setup how many worker threads you
11         We recommend setting this to 1 thr
12
13         If you set this value to "0" then
14         detect how many cores the computer
15     -->
16     <cpu threads="0"/>
```

Optional: Open and edit the *TurboFloatServer-config.xml* file to define various server configuration settings such as the listening port, proxy address...

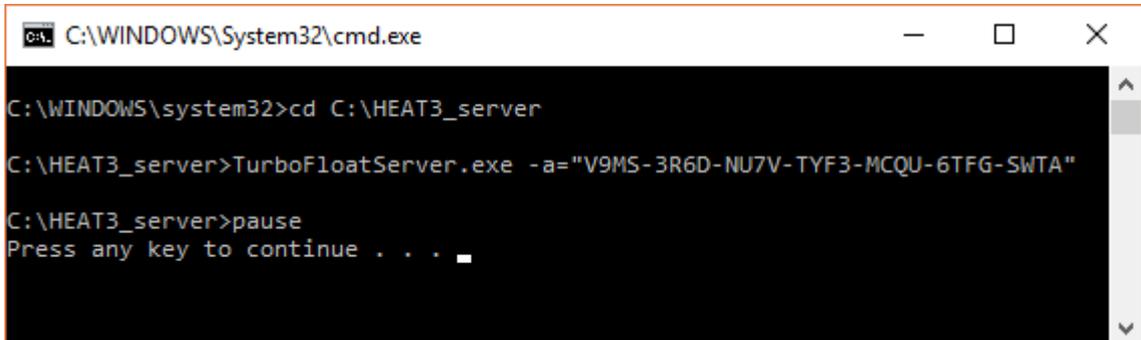
If you are using both HEAT2 and HEAT3 and EED you will have two/three different servers running. Make sure that they have different ports in each configuration file, e.g.

port="13" for HEAT3
port="14" for HEAT2
port="15" for EED

The log file ("tfs-log.txt") will contain details about when leases are created, removed, expired, and warnings/errors. For more info about the configuration file, see Appendix 1: Configuring the TurboFloat Server.

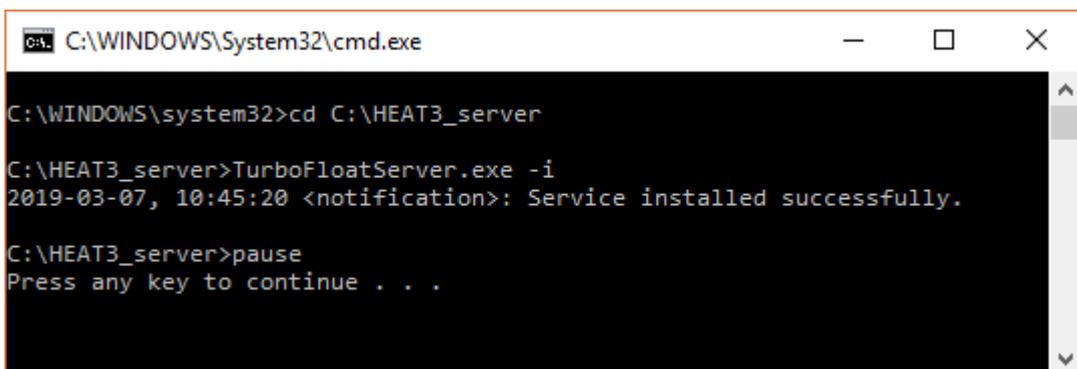
Example to activate and install the floating server for HEAT3:

1. Edit the script "**ActivateServer.cmd**" and put down your own product key. Then run the script using "Run as administrator":



```
C:\WINDOWS\System32\cmd.exe
C:\WINDOWS\system32>cd C:\HEAT3_server
C:\HEAT3_server>TurboFloatServer.exe -a="V9MS-3R6D-NU7V-TYF3-MCQU-6TFG-SWTA"
C:\HEAT3_server>pause
Press any key to continue . . .
```

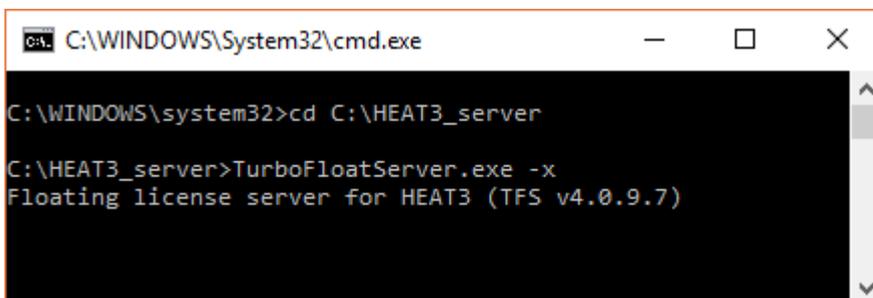
2. It is possible to install the floating license server as a Windows service using the script "**InstallServer.cmd**" using "Run as administrator":



```
C:\WINDOWS\System32\cmd.exe
C:\WINDOWS\system32>cd C:\HEAT3_server
C:\HEAT3_server>TurboFloatServer.exe -i
2019-03-07, 10:45:20 <notification>: Service installed successfully.
C:\HEAT3_server>pause
Press any key to continue . . .
```

The floating license server is now installed as a Windows service. It will automatically start when the computer boots and it will be listening on the port specified in the configuration XML file (13 by default for HEAT3).

Alternatively, the floating license server can be run upon request using the script "**RunServer.cmd**" using "Run as administrator":



```
C:\WINDOWS\System32\cmd.exe
C:\WINDOWS\system32>cd C:\HEAT3_server
C:\HEAT3_server>TurboFloatServer.exe -x
Floating license server for HEAT3 (TFS v4.0.9.7)
```

(Note that your firewall may ask for permission to start the server)

The following scripts files are provided:

ActivateServer.cmd

InstallServer.cmd (or RunServer.cmd)

ReactivateServer.cmd (e.g. to update a new license period)

To move the server to another PC: use

UnInstallServer.cmd

and then

DeactServer.cmd

After that, activate and install the server on the new machine.

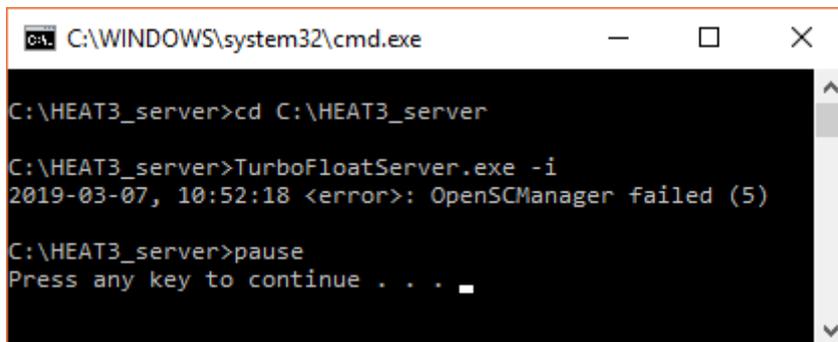
To install the client software, use the setup file provided by email:

heat3_setup_float.exe

heat2_setup_float.exe

EED_setup_float.exe

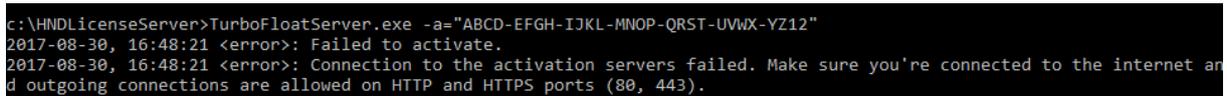
Troubleshooting



```
C:\WINDOWS\system32\cmd.exe
C:\HEAT3_server>cd C:\HEAT3_server
C:\HEAT3_server>TurboFloatServer.exe -i
2019-03-07, 10:52:18 <error>: OpenSCManager failed (5)
C:\HEAT3_server>pause
Press any key to continue . . . █
```

Symptom: An error occurs when installing the server as a Windows service (e.g. "OpenSCManager failed").

Solution: This is most probably due to the fact that you are not running the command prompt or PowerShell prompt as an administrator. Make sure you type those commands as a user with administrator privileges. See previous steps for more details.



```
c:\HNDLicenseServer>TurboFloatServer.exe -a="ABCD-EFGH-IJKL-MNOP-QRST-UVWX-YZ12"
2017-08-30, 16:48:21 <error>: Failed to activate.
2017-08-30, 16:48:21 <error>: Connection to the activation servers failed. Make sure you're connected to the internet and outgoing connections are allowed on HTTP and HTTPS ports (80, 443).
```

Symptom: An error occurs when activating the server saying that the connection to the activation servers failed.

Solution: Make sure that the server is connected to the Internet and that the following domains are accessible from your server (e.g. white-listed on your Firewall / Proxy) for both HTTP and HTTPS protocols: wyday.com ; limelm.com ; ibe-software.com

Alternative: If you are behind a proxy, make sure that the proxy address is correctly specified in the *TurboFloatServer-config.xml* file.

```
C:\Users\john\Desktop\HNDLicenseServer>TurboFloatServer.exe -a="ABCD-EFGH-IJKL-MNOP-QRST-UVWX-YZ12"  
2017-08-30, 16:53:47 <error>: Failed to activate.  
2017-08-30, 16:53:47 <error>: The product key has already been activated on the maximum number of computers.
```

Symptom: An error occurs when activating the server saying that it has already been activated on the maximum number of computers.

Solution: A floating license key can only be activated on one computer. To activate the floating license server on another computer, the previously activated computer needs to be deactivated first.

Dead leases

If for some reason an instance of EED/HEAT2/HEAT3 crashes without releasing its lease, the license server will think that the lease is still in use and will now issue another lease when requested. Leases are usually updated every 30 minutes (configurable on the server side) and dead leases will be eliminated then. If that happens often due to hardware or software failure, it is possible to speed up the process by lowering the lease time from the server.

Appendix 1: Configuring the TurboFloat Server

The configuration file for the TurboFloat Server is a simple XML file with UTF-8 encoding. For most end-users almost all of the configuration settings will be good out of the box. And because the configuration file is an XML file, some characters can't be used because they have a special meaning in XML files. The appropriate "XML entities" must be used in their place:

Use this...	...in place of this
&	&
<	<
>	>
"	"
'	'

The configuration file is only loaded at the start of TurboFloat Server. If you make any changes to the configuration file while the TurboFloat Server is running they'll be ignored until the next time the TurboFloat Server is started.

<log .../> (Required)

This element configures the log file to write errors, warnings, and any information. For example:

```
<log file="tfs-log.txt" level="warning"/>
```

"file" attribute

Where the log file will be written / appended to. The floating license server must have access to this file and the directory must exist.

You can use either absolute path or a relative path. If you use a relative path then the log file will be written relative to the TurboFloat Server executable file.

"level" attribute

The amount of information you want TurboFloat Server to output to the log file. These are the possible level settings:

- **notification**: Records when leases are created, removed, expired, and other nonessential, but possibly interesting information. This level also includes all other level outputs (warning, error).
- **warning**: Records things that are wrong with your configuration or other things that need to be fixed. This level also includes the next level of output (error).
- **error**: Records when TurboFloat Server fails to do things it needs to do. For example, failures to load configuration data, failure to process data, etc.
- **none**: No log file will be written.

<bind .../> (Required)

Setup the port you want the TurboFloat Server to bind to. For example:

```
<bind port="13"/>
```

The TurboFloat Server instance will listen for TCP connections on this port for both IPv4 and IPv6. If the system doesn't support IPv6, then the TurboFloat Server instance will only listen on IPv4.

<cpu .../> (Required)

Setup how many worker threads you want the server to use. We recommend setting this to 1 thread per CPU "core". If you set this value to "0" then TurboFloat Server will automatically detect how many cores the computer has and use that value. For example:

```
<cpu threads="0"/>
```

<lease .../> (Required)

Setup how long a license lease should last. The time is in seconds. We recommend 30 minutes (i.e. 1800 seconds):

```
<lease length="1800"/>
```

The shorter you make this time the more often the "client" programs will have to contact this server, and thus the more load on the server and the more traffic on the network. The only time "long" leases will be a problem is if the client programs end abruptly without first telling the server that the lease is no longer needed. Thus a "zombie" lease will take up one of the lease slots until it expires.

The absolute minimum time you can use is 30 seconds.

<isgenuine .../> (Required)

Set how often to recheck this TurboFloat Server's activation. This TurboFloat Server instance will contact the activation servers through wyday.com on port 443. (So, https://wyday.com must be whitelisted for this process so that it can contact those sites).

"days_between" attribute

How many days between check. Minimum 1. Maximum 90. We recommend 90.

"grace" attribute

The number of grace period days on an internet failure. Maximum 14.

```
<isgenuine days_between="90" grace="14"/>
```

<proxy .../> (Optional)

The proxy that this TurboFloat Server instance will need to use when it needs to contact LimeLM to activate, re-activate, and verify with the LimeLM servers.

```
<proxy url="http://user:pass@127.0.0.1:8080"/>
```

Appendix 2: “Silent” installation of clients

It is possible to install the clients silently, see

https://www.buildingphysics.com/download/silent_heat2.pdf

https://www.buildingphysics.com/download/silent_heat3.pdf

https://www.buildingphysics.com/download/silent_eed.pdf

Example for a silent installation of HEAT2:

Make a text file e.g. "h2silent.cmd" with this text

```
"heat2_float_client_setup /VERYSILENT /SUPPRESSMSGBOXES"
```

Open the file to run the installation.

Alternatively, you can just copy all folders and files that are installed by the setup file to another machines. The folders that are used are

C:\Program Files (x86)\BLOCON\HEAT2_v10.12_float

and

C:\Users\username\Documents\Blocon\HEAT2 10

(This is also convenient if you want to distribute your own material files).

You can also create an own desktop shortcut for HEAT2 and HEAT3, see example for HEAT3 in p. 5-6 in

https://www.buildingphysics.com/manuals/HEAT3_9_update.pdf

Specifying the license server's address and port on the clients PC

(This option was added in Jan 2020 to the client exe-files for HEAT2, HEAT3, and EED. If you have an older date shown in the client's About-box, you need to download the client setup file again. Make sure it says Jan 2020 or later. Since nothing else is changed besides this new option, the version numbers are the same.)

Make a text file named "server_ip_port.txt" in the same folder where the exe-file is located. As an example: "HEAT2_v10_12_float.exe" is normally located in "C:\Program Files (x86)\BLOCON\HEAT2_v10.12_float".

Give the server address and port in two rows in file "server_ip_port.txt", e.g.:

```
"
```

```
myserver
```

```
14
```

```
"
```

or with ip-address:

"
192.168.0.5
14
"

Note:

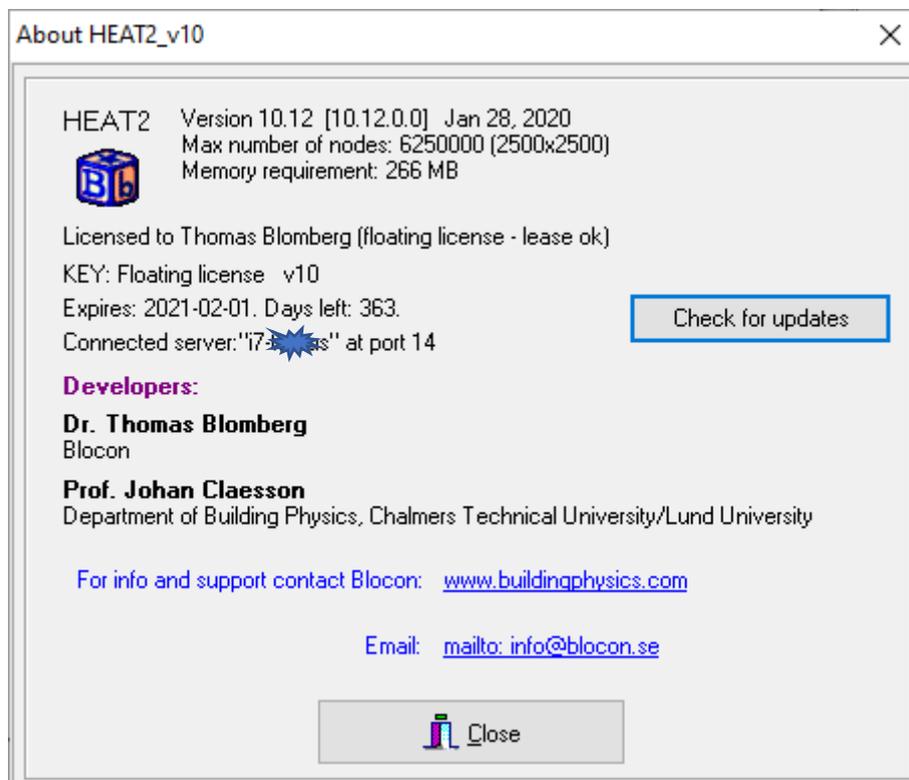
- port 13 is normally used by HEAT3
- port 14 is normally used by HEAT2
- port 15 is normally used by EED

(This can be changed in the "TurboFloatServer-config.xml" on the server).

If you have a floating license of more than one software (e.g. HEAT2 and HEAT3), you need to use different ports for each software.

Note: When the exe-file is opened it will read the content of this file if it exists. If the file does not exist, the server and port are used that was specified on the first startup by the user.

You can see the connected server and port in the About-box:



Appendix 3: Updating the server for a new license period

The server needs to be updated whenever a renewal of the subscription is made.

Please do this for the server:

1. Uninstall the server using "UnInstallServer.cmd"
2. Reactivate the server using "ReactivateServer.cmd"
3. Install server again as a windows service: Right-click "InstallServer.cmd" and choose "Run as admin..."

or

1. Uninstall the server using "UnInstallServer.cmd"
2. Deactivate the server using "DeactServer.cmd"
3. Activate the server: Right-click "ActivatetServer.cmd" and choose "Run as admin..."
4. Install server again as a windows service: Right-click "InstallServer.cmd" and choose "Run as admin..."

After that HEAT2/HEAT3/EED should work on the clients again. You can check the expiration date in the About-box for the clients.