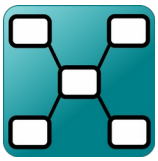
HEXAPOLE
IntoAccess BV
The Integrators



Net2MultiSyncServer

Manual 1.10

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Hexapole IntoAccess BV- The Integrators
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Principle

The Net2MultiSyncServer allows you to synchronize users from one Net2 server (the master/main server) to one or more other Net2 servers (slave/child servers). With this functionality, you can manage your users in one instance of Net2, instead of separately on all Net2 servers.

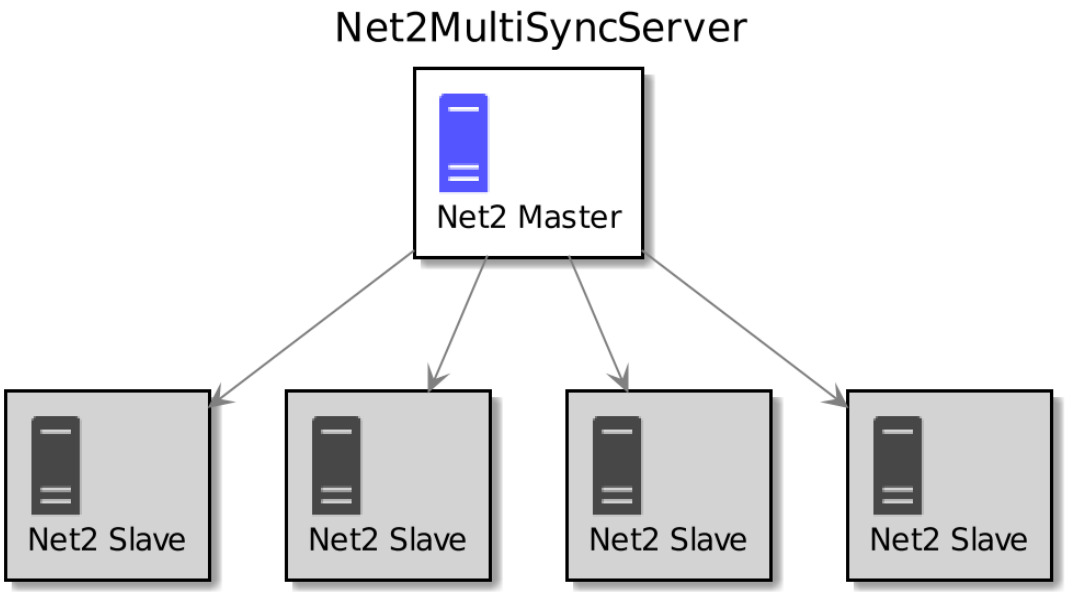

Image 1

If you have multiple buildings that use Net2 Access Control, and users need access to multiple buildings, maintaining your users in a single place will save time and will be less error prone. You just add a user to the main server and let the synchronization add the user to the child servers. Changes to a user in the main server will be synchronized towards the child servers. Changes made to a synchronized user in a child server, will be overridden by the main server. This allows control from one single location, with the flexibility of refining access control locally.

Blacklisting

Every time the service is trying to synchronize the master server with the slave servers, the Net2 settings will be checked for equality. Not only settings are source of errors, but also other problems can make synchronization impossible for a server. If any errors are encountered, the slave server will be put on a 'blacklist'. This server will be taken out of the synchronization process, so that other servers can still be synchronized. Once you have fixed the errors, and you have restarted the service (an automatic reset of the blacklist is also possible), the blacklist will be reset. An error can be caused by the following:

- The Net2 settings on the master server are different then those on the slave server. Settings that are of importance, are:

  - Language settings (needed for comparing access levels);
  - Enabled or disabled advanced permissions;
  - PIN length;
  - Duplicate PINs are (dis)allowed;
  - 50.000 user mode is enabled/disabled;
  - Security lockdown integration settings (optional).
- Access levels are present on the master server, but not on the slave server;
- Advanced permissions cause a conflict on the slave server.

The log files will show if any errors have occurred during the synchronization. We recommend that you make use of the e-mail functionality, which you can configure with the Manager application. When an error occurs, you will get an e-mail with details about the error. This way, you will know when an error occurs and what you have to do to solve it. If you don't use the e-mail functionality, you will have to check the log settings page on the Manager application.

As as a safety measure, for a rare incident where querying the master for users or access levels returns no results, the application will refuse to synchronize. This implies that **you should have at least 1 user record defined on the master, for the synchronization to work**. Note that this will automatically be the case for access levels.

Installation

The application can be installed, using a single setup file: **Net2MultiSyncServer.msi**

It is not mandatory to install the software on the Net2 server, but we advise you to do so in order to have the most robust configuration.

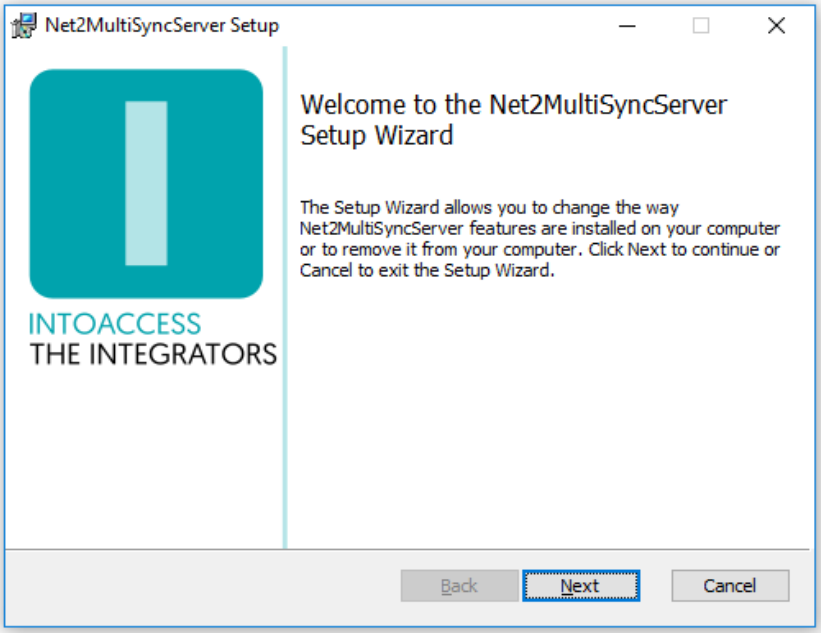

Image 2

The fist dialog window will display what application version you will install.

Note: the version number you see will most likely be different from the one displayed in Image 2.

Updates

Although a newer version should automatically replace any older version that may be present, you can choose to uninstall the existing version first. The configuration settings are not removed during this process, so after installing the new version, you do not have to configure everything all over again.

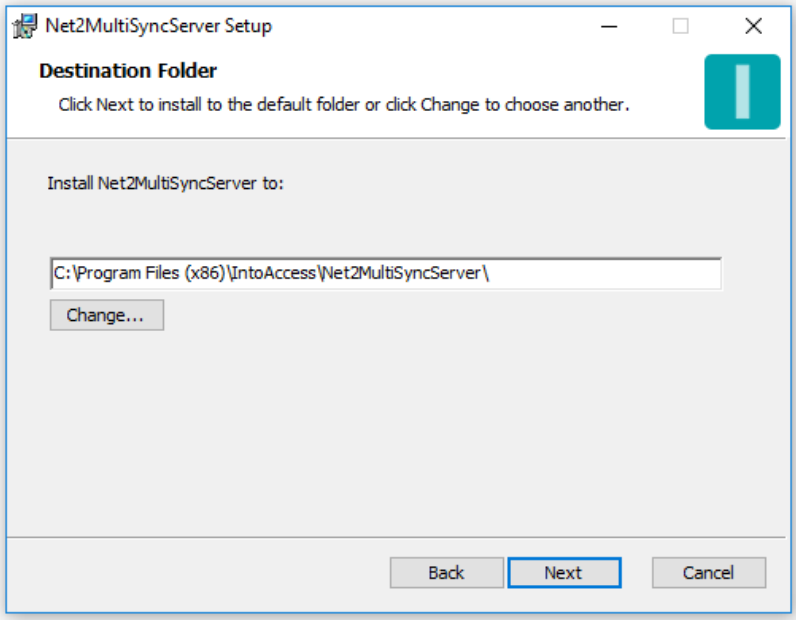

Image 3

The second dialog window shows where the application will be installed. The default value is typically fine.

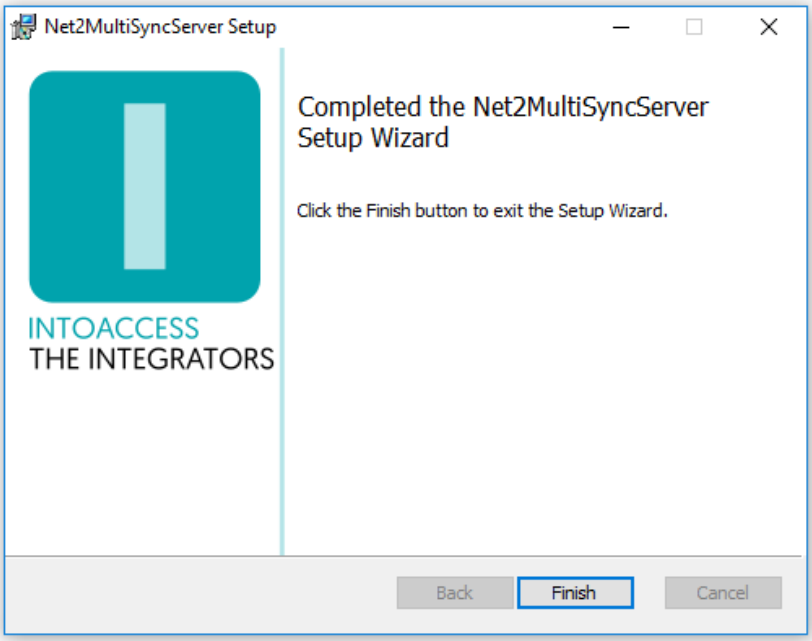

Image 4

The final dialog window will indicate whether the installation was successful.

Configuration

To help with the configuration, the *Net2MultiSyncServer manager* application is available and allows you to configure:

- how the application should connect to Net2;
- how the service should be configured;
- if you require emails of application starts/stops/errors;

When the manager application is started, a splash screen is displayed for a short period. After that, the application will minimize to a 'tray icon' in the bottom right corner of the screen.

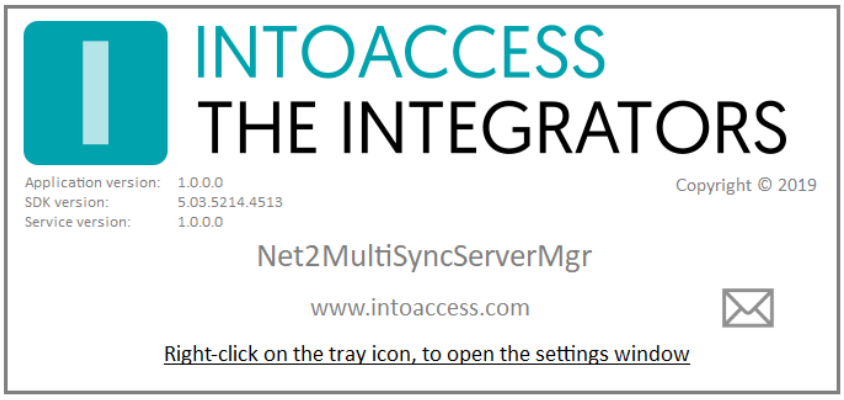

Image 5

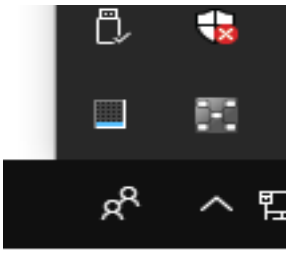

Image 6

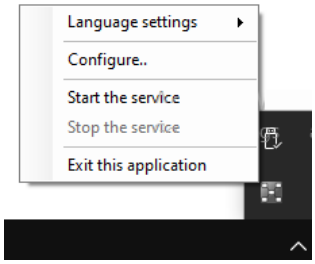

Image 7

By right clicking on the tray icon, the following pop-up menu will appear :

- Language settings: Pick your language;
- Configure (first): Start application configuration;
- Start the service: Start the service (allowed after configuration);
- Stop the service: Stop the service (allowed after configuration);
- Exit this application: Exit the manager application.

The color of the tray icon is indicative of the service state. When the service is not running, its color is gray. The icon gets colored when the service is running.

Net2 Connection

The first configuration page is for configuring the Net2 connection. This is the Net2 connection for the main server, which holds the data that will be synchronized towards the child servers. When you start the configuration for the first time, this will require a few steps, but after the settings are saved, the next time it will connect automatically.

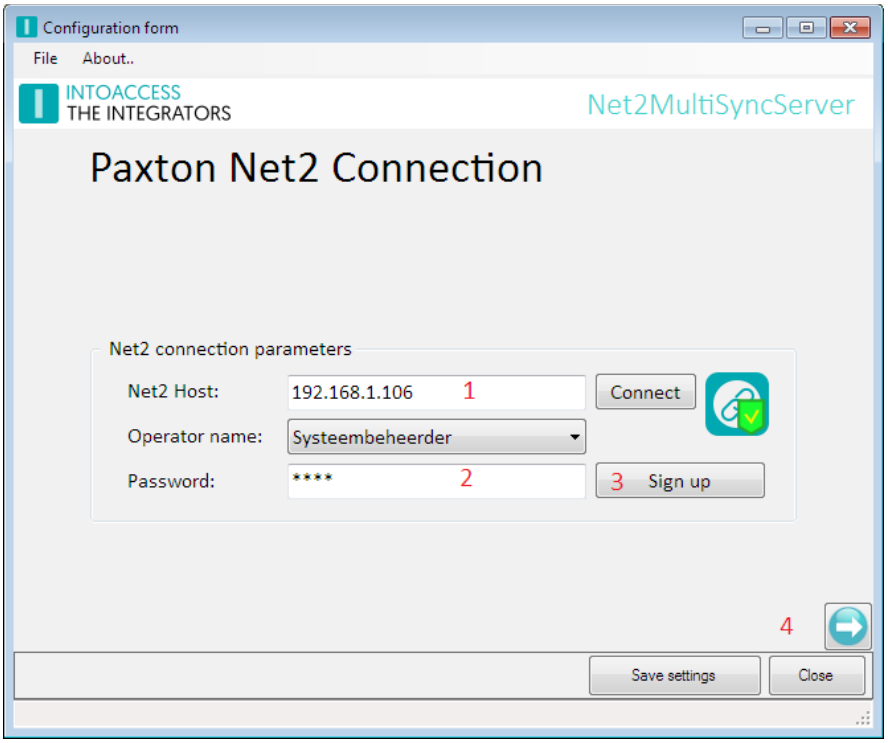

Image 8

- Enter the (ip)address of the main Net2 server (1). If you have installed the Net2MultiSyncServer on the Net2 server, you can use the default 'localhost' value. Do not use an external adapter ip address in this case!!
- Click the Connect button; the application now tries to fetch the Net2 operators. (these users you can find under “Net2 operators” of the standard Net2 application)
- Select an operator with which the application should log on. It is required that this user has the “System Engineer” role.
- Enter the proper password (2).
- Click the Sign up button (3). If signing up succeeds, a confirmation message will be given and the 'Next Page button' (4) will become enabled. If it doesn't succeed, an error message will be given with information about the (possible) cause.

Net2 Child Connections

On this page, you can manage the Net2 child servers. The main server will synchronize its data to the servers that are configured here.

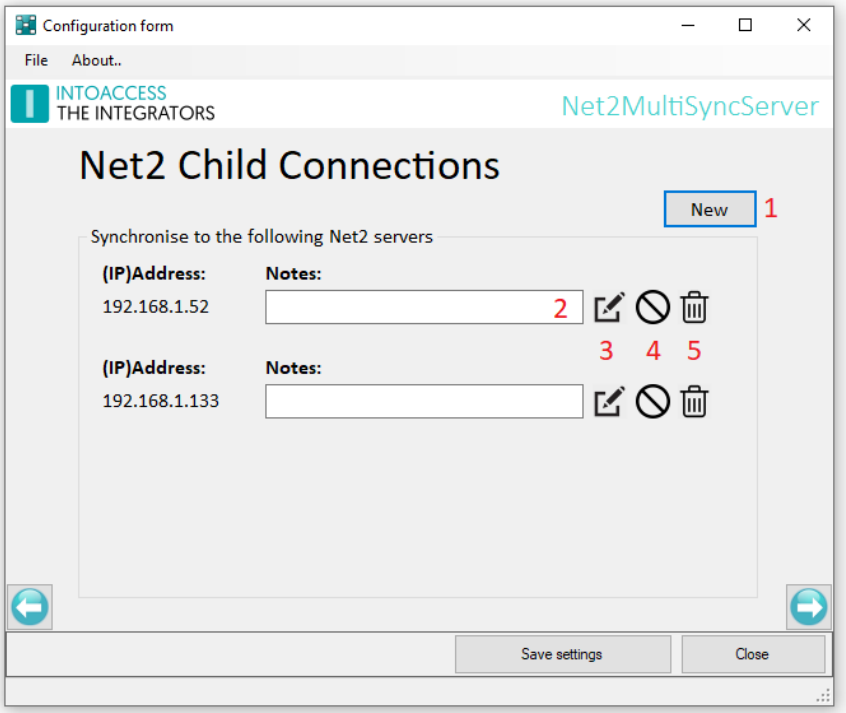

Image 9

Use the button 'New' (1) to add a new child server. All configured child servers are visible in the list. Once you've added a child server, you can add notes (2) to describe extra information about the child server. Behind the child server are three icons. The first (3) allows you to edit the server connection. The second (4) lets you enable or disable the child server. The third icon (5) is used to remove the child server from the list.

Adding a child server is almost the same as configuring the main server. The extra option is that you can *enable a less strict SDK version and server version check*. Normally, the application will check if the SDK version is not higher than the server version. This is known to cause issues. However, it might be too much work if you would have to manage this for all the child servers. This is why we added the option to ignore minor version differences.

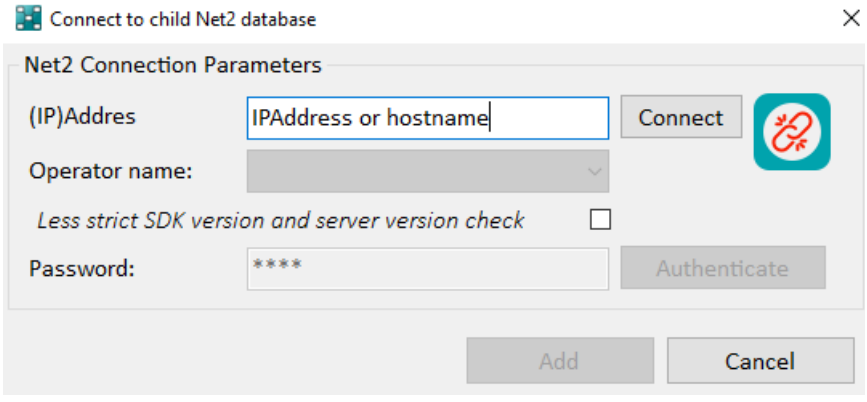

Image 10

Sync Settings

There are multiple options that you can configure for the synchronization.

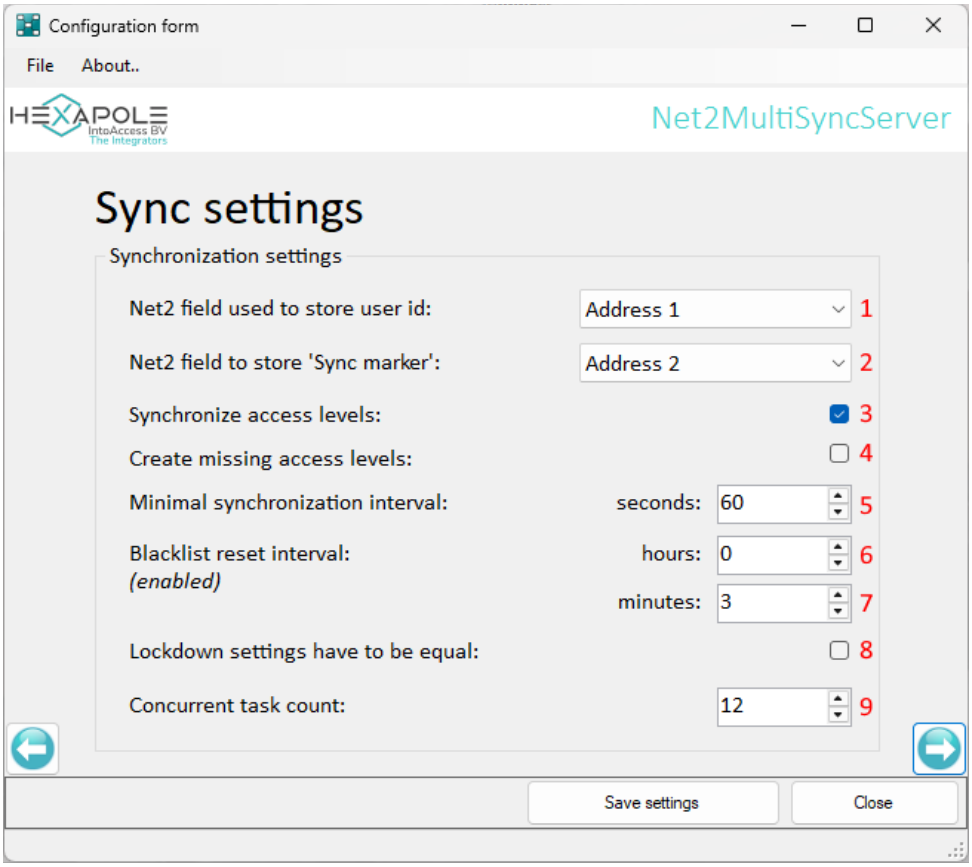

Image 11

The main server contains users that are synchronized to the child servers. In order to connect the user from the main server to the user in the child server, the user id from the main server has to be stored in a Net2 field on the child server. You can choose which Net2 field should be used for storing this unique id number (1).
Please keep in mind that, depending on which field you choose, the value in that Net2 field on the main server will not be synchronized to the child server.

It is also required that the synchronized users in the child server will get a 'sync marker', which will be stored in a Net2 field of choice (2). This marker tags the user as a user that has to be kept in sync with the corresponding user on the main server.
P*lease keep in mind that, depending on which field you choose, the value in that Net2 field on the main server will not be synchronized to the child server.*

You can enable or disable the synchronization of access levels for users (3). If access levels are not synchronized, the access levels can be configured separately for the child servers. If access levels are synchronized, the application will check if the access levels exist. In case of advanced access levels, the combination of access levels has to be allowed on the child server. If not, the child server will be blacklisted and you will have to solve any problems with the access levels.

It is possible to have all access levels that exist on the main server, automatically created on the child servers (4), if not present yet. Beware that these access levels will be created **without rights** and have to be manually 'populated'.

The synchronization interval (5) describes how often a synchronization has to be done.
Please keep in mind that if you have a lot of child servers and/or a slow machine, a high interval might not be accomplished.

If you don't want to restart the service every time an error occurs on one of the child servers, you use the automatic reset functionality for the blacklist (6/7). The interval describes how often the blacklist will be reset. When the reset is enabled and you are making use of the mail functionality, mails about errors will be sent once a day. If no reset is applied, e-mails are sent when an error is encountered.

One of the features of Net2 is that you can enable or disable a lock down. This option is found in the server configuration tool under 'Features' > 'Security Lockdown integration'.
If you want the lock down settings to be the same on the main server and the child servers, you should check this option (8). A child server will be blacklisted when the settings don't match.
Please note that the service only checks if the Net2 feature is enabled or disabled. In order for a lock down to work, certain Triggers and Actions also have to be configured. In other words: this check does not guarantee that a lock down is actually possible if a child server has the feature enabled.

The concurrent task count (9) is intended for multi-threading purposes. With a concurrent task count of 1, the synchronization is performed synchronously and all child servers are synchronized one by one.
With a concurrent task count of 2 or higher (max 12), x child servers are synchronized at the same time. This results in a faster full sync cycle.
Note: This feature reserves and starts multiple threads on the system CPU. Take the number of CPU cores of your system into account.



Mail Settings

This page offers the possibility to configure the application such that possible problems can be reported by mail. It is strongly advised to activate this option because the application is running as a 'Windows service' and hence not capable of showing error messages on screen. If this mail option is activated, the application will send an e-mail when it encounters a fatal error for (one of) the child servers.

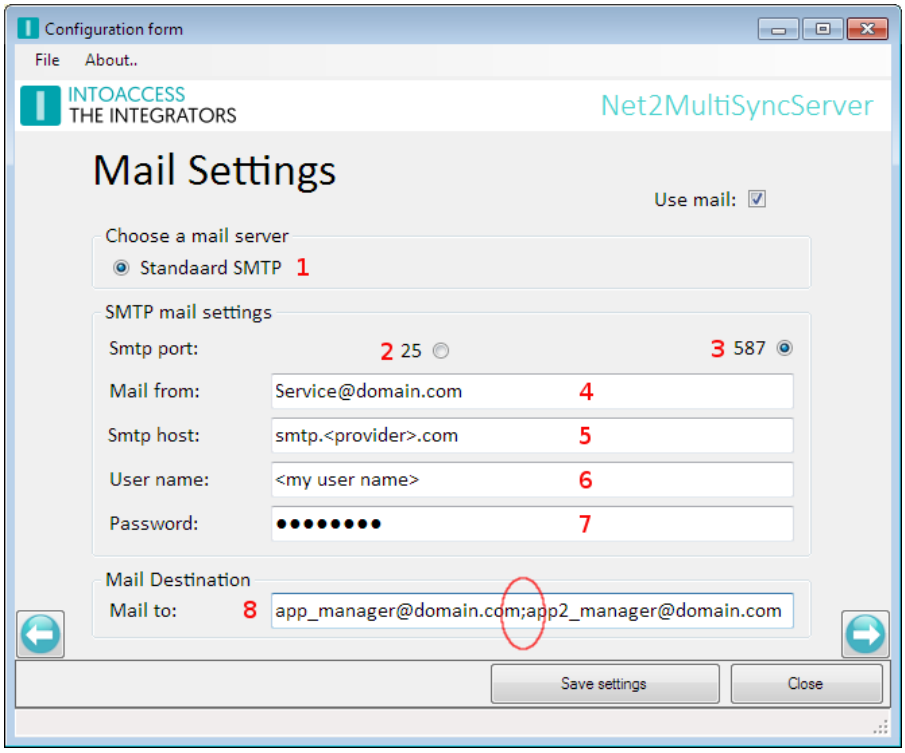

Image 12

The application can utilize a company SMTP server (1) or a web mail account (like GMail) for sending mail. In case of a web mail provider, it is recommended to create a separate account with minimal safety rules applied, otherwise the web mail provider won't accept messages sent by the application. Note that (free) web mail providers have been making it increasingly harder (if not impossible) to use SMTP via their servers.

Some notes:

- There is no real difference in the settings between using webmail and a SMTP server using the STARTTLS protocol over port 587.
- Mail providers using SMTPS (port 465) are not supported.

Input fields:

- Select the desired port number, and hence the applied security, at (2) or (3);
- Enter the senders address at (4);
- Enter the address of the mail provider at (5);
- The fields for entering the user name (6) and password (7) are only relevant if a secure connection over port 587 is selected;

- Enter the recipient address(es) at (8). Multiple addresses can be entered here separated by a semicolon.

Application Licence

The trial/test version as it can be downloaded from the IntoAccess website, is fully functional but will stop working after a certain date when it is not licenced.

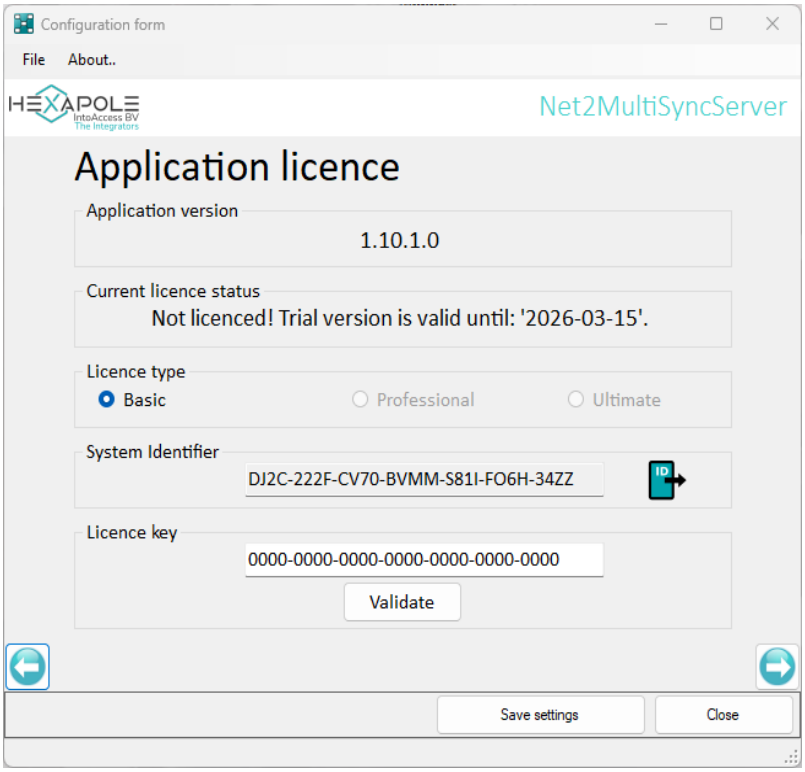

Image 13

After buying a licence, you can create a “System identifier” export file (click on the icon), send it to IntoAccess (intoaccess@hexapole.com) and receive your licence code.

Note: the System identifier differs per PC and therefore also the required licence code.

Service Control

The service control window offers a way to stop and start the background service.

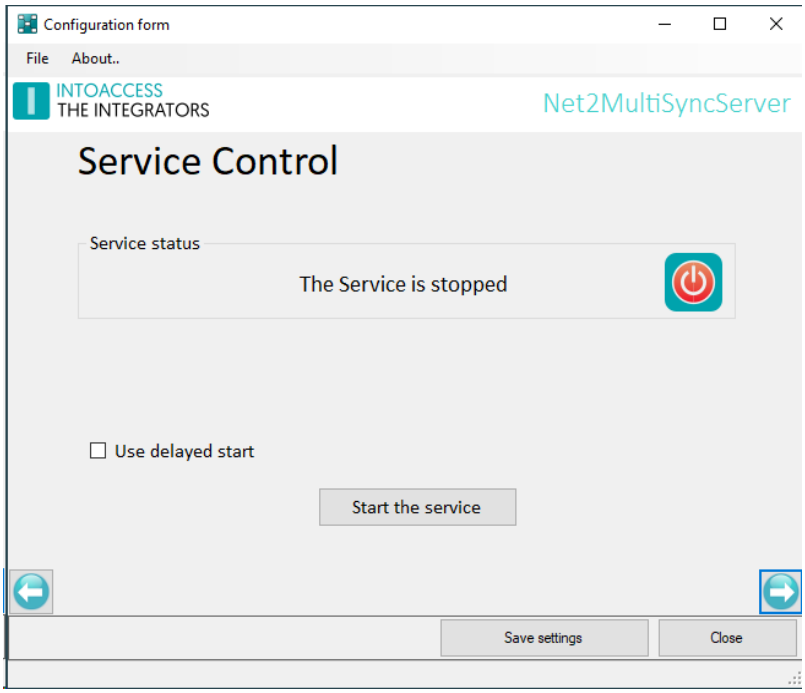

Image 14

The starting- and stopping- of the service may take a few seconds, so please be patient.

In rare cases the Service may refuse to start. If this happens to you please have a look at the end of the log-file to find out what might caused it. In case the reason is not obvious, please send all log files to info@intoaccess.com with a short description of what went wrong. The development team will investigate your problem with the highest priority.

By default, the Net2MultiSyncServer has a service dependency on Net2, in order to make sure that it will only start after Net2 is up and running. This dependency can cause problems with some Net2 configuration tools, that attempt to restart the Net2 service. Temporarily switching off the Net2MultiSyncServer is typically enough to use the tools without issues. If this is inconvenient for you, you can select the **Use delayed start** option, which will remove the Net2 dependency and replace it by a 'delayed' service start. Note that you have to reboot the PC in order to have the service show up with a 'delayed' startup type in the Windows service manager.

Also note that this setting is only relevant when the service is running on the same PC as Net2.

Log Settings

This page, see image 25, offers the possibility to review the last (max. 500) lines of the log file. The application will log it's activity with a high level of detail. Especially when the application encounters an unexpected problem this log file might contain invaluable information, even for you as an end user.

Please have a look at the last lines of this file if the application refuses to start or otherwise behaves unexpectedly.

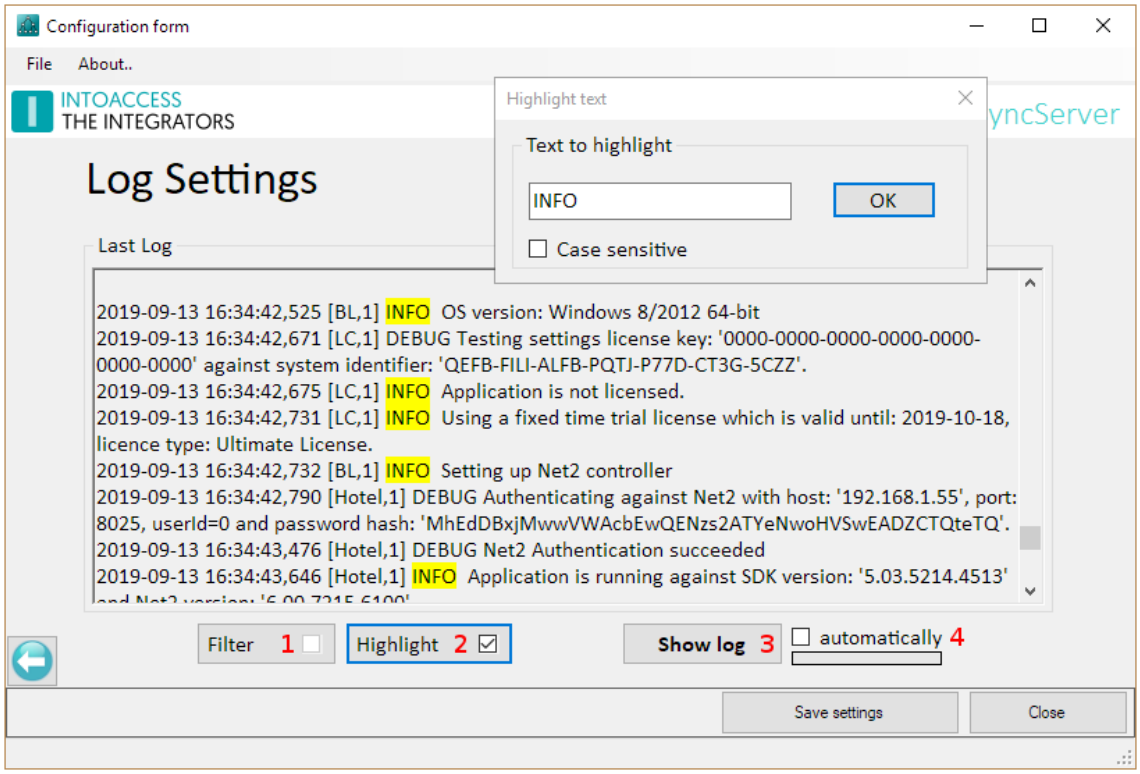

Image 15

You can resize the window in order to get a better overview of the content.

This page also offers the possibility to filter the log file on certain terms (1) and/or to mark certain terms (2). An obvious 'filter term' could be the word 'ERROR' or 'WARN'. If the application works properly, both terms should not appear in the log file.

Option (4) offers the possibility to automatically reload the log file at a fixed interval.

The log files are located in the folder:

c:\IntoAccess\Logging\Net2MultiSyncServer

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