EasternGraphics Application Notes (2022-06-08)
SafeNet Sentinel LDK Network Licensing: Scenarios and Installation Manual

Contents

1   Introduction

Safenet Sentinel LDK is the license management system used for the protection of pCon.planner PRO. A valid license is necessary before the application can be used; this is available either in the network or on the local system.

This document serves as an introduction to the single user license and the network license scenarios together with the activation procedure for each. It also contains instructions on installing the driver software and describes how to operate the driver user interface.

There is a troubleshooting chapter at the end.

2   License types

In pCon.planner PR, a distinction is made between single user licenses and network licenses. Both license types are further distinguished by their duration: there is the possibility of a Perpetual License and an Expiration Licenses (for instance on lease) which have an expiry date.

2.1   Single user license

The single user license enables pCon.planner PRO to be used only one computer. Following activation, the license is tied to the system and can solely be used here.
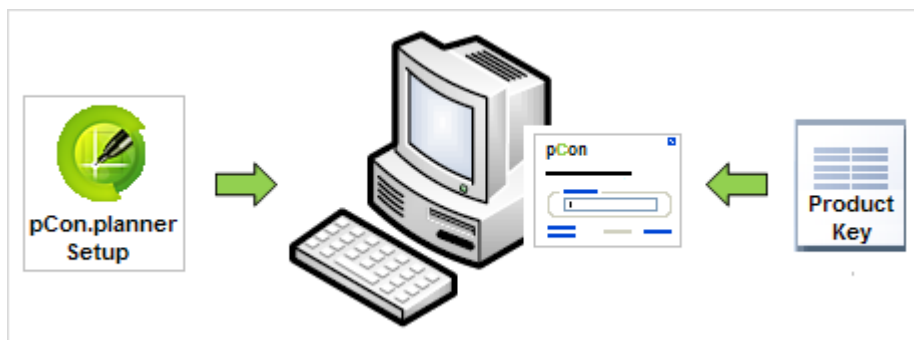
For the single user license, pCon.planner PRO setup must first be installed on the intended system. During setup, the license driver and a 30-day test license will be automatically installed in parallel with the application.

The trial period begins when the program is started for the first time. During the trial period, the program can be used without limitations. Once the trial period is over, the program will no longer start up until a full single user license has been enabled.

> Single user licenses can not be used with Remote Desktop. In order to access the pCon.planner PRO remotely, a network license must be used. The number of instances is equal to the maximum concurrent remote sessions.

2.2 Network license

The network license enables pCon.planner PRO to be used simultaneously on a number of client PCs in a network. There are two network scenarios.

**Scenario 1: Activation of the license on a server**
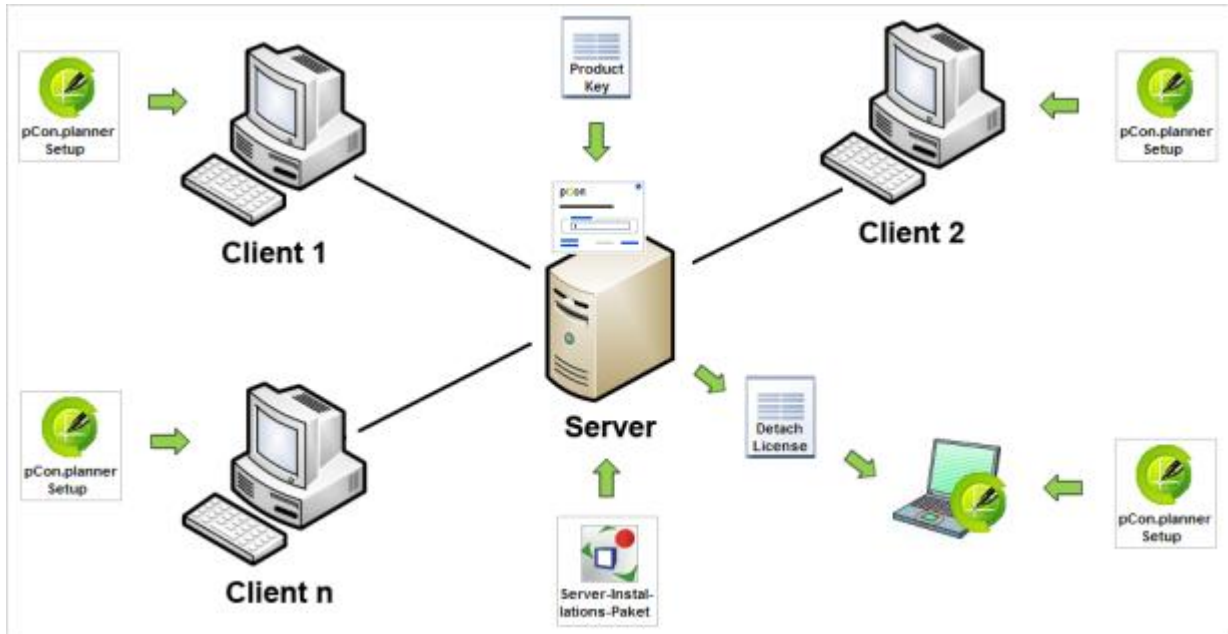
Here, the license is installed on a server which is permanently available within the network. In this case, a server installation package is all that is installed. This contains the driver and the tool which activates the license on the server (activation tool). The license is then tied to this server.

The server installation package (EGR SafenetActivation) can be found at: http://www.eastern-graphics.com/su?ref=6701c8c667278268f36a13d2abe3eeec

Run 'EGR-SafenetActivation_setup.exe' from the downloaded archive. The installation must be done locally on the server and run with administrator privileges. The setup assistant will guide you through each stage of the setup.

Only pCon.planner PRO is then installed on the client PCs. There is no need to activate an additional license on these systems, as it is already available on the network.

Scenario 2: Activation of the license on a client PC in the network
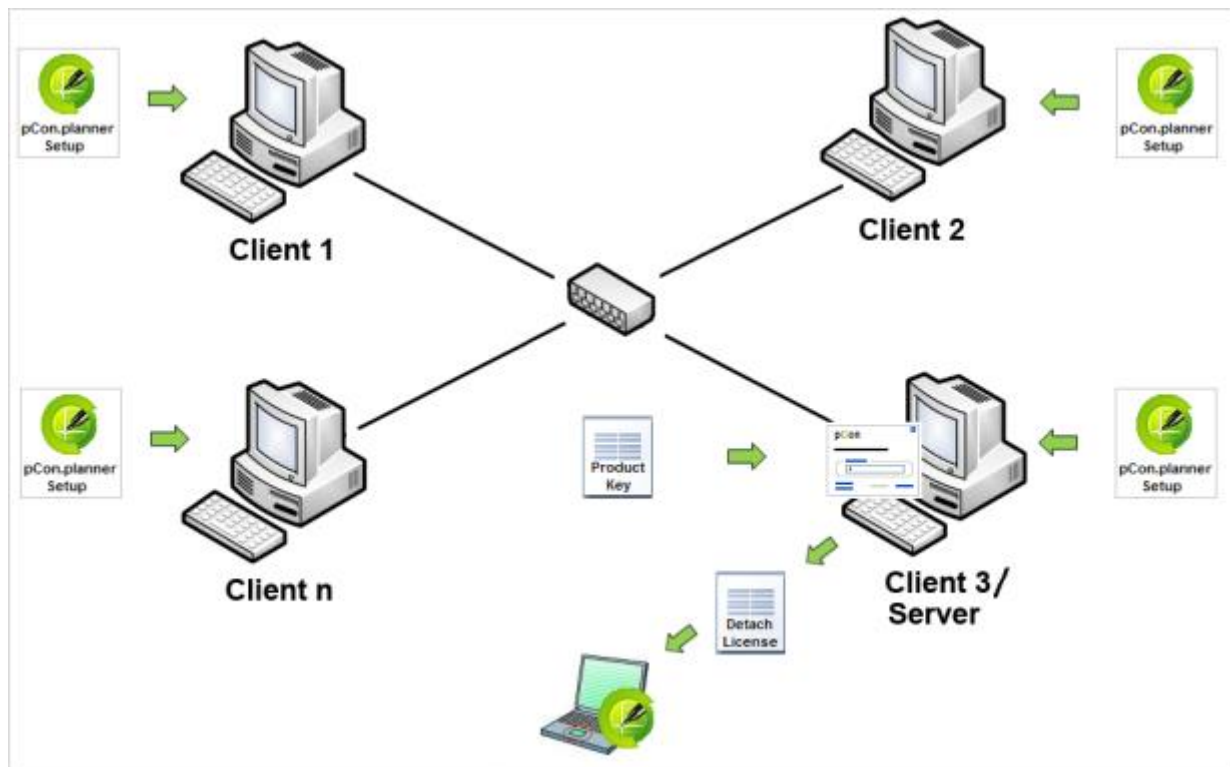
In this case, a client PC will be functioning as the license server simultaneously. First pCon.planner PRO is installed on all the client PCs. Then the network license is activated on one of these clients. The license is then tied to this PC and only available when the particular PC can be reached via the network.

Both these network license scenarios permit individual license checkout from the network pool. The licenses checked out can be used outside the network for a limited time. There is more information in chapter 4.2.

Network licenses on a virtual system

Both of the scenarios described above are also possible in virtual environments.

Please note: If you activate a network license on a virtual system, every change concerning the virtual machine leads to blocking of the licence caused by the Clone Protection System.

This problem occurs, for example, if you change the virtual MAC address, make changes to the CPU characteristics or transfer the virtual machine to another hardware.

If such changes are necessary, please transfer the license to another computer and modify your virtual machine as desired. You can then transfer your license back to the virtual machine.

3 Activating a license

Licenses are activated by means of the *Safenet License Manager*. It is installed at the same time as pCon.planner PRO and exists in the same form in the server installation package (EGR SafenetActivation) for the network license.

In both cases, the activation dialog is opened through the License Manager entry in the start menu below the product name. The route is *All Programs → EasternGraphics → pCon Tools*.

It can also be reached directly from pCon.planner PRO. Here, it can be started from the *License* button on the *Help* tab.

If pCon.planner PRO has been installed on a system for the first time and there is only the test license available, the activation dialog will be displayed automatically when the program is first started.

A single user license or network license is activated by entering the product key into the relevant field of the activation dialog. These keys are generated to match the product order and supplied in the delivery note. The activation process starts as soon as the key entry is confirmed with the *Activate* button.

> **Please note:** The application will contact the central license server to verify the product key and to confirm activation. For this, it is necessary to be online and port 443 must be open temporarily to enable activation. If necessary, the firewall properties must be adjusted.

To indicate successful activation, a confirmation message will appear. For the license to take effect, pCon.planner PRO has to be be restarted.

> **Please note:** The license status will be displayed on the pCon.planner splash screen.

4   Managing licences

Information on the license currently in use can be viewed via the license manager.

4.1   Admin Control Center (ACC)

The Admin Control Center (ACC) is the tool of the license management system and will be automatically available when pCon.planner PRO or the server installation package has been installed.

The ACC can be accessed from the *Administration* button in the *Safenet License Manager*.

> **Please note:** The Admin Control Center can also be started up without using the Safenet License Manager. It is only necessary to enter the address http://localhost:1947 into a browser.

The Admin Control Center will show all available licenses and their individual features. It also serves to enable licenses to be checked out from the network license pool, to help with configuration of the license driver and to provide diagnoses.

There is a comprehensive manual contained in the admin tool which gives full information on the meaning of the individual tables and the expressions they use.

4.2   Checking out licenses

Network licenses offer the possibility of checking out individual licenses from the network pool for a limited period. The procedure can be made online or offline and is carried out with the help of the Admin Control Center. The licenses checked out can then be used outside the network. They will act on the relevant system in the same way as a time-limited single user license. It will return automatically upon expiry of the checkout period to be available in the network pool.

Configuring the server

The first step is to allow access from external client PCs to the server, which is done by selecting the *Allow Access from Remote Clients* → *All licenses are accessible without need of identity* option:

Next, the checkout must be allowed by means of *Enable Detaching of Licenses*. It is also possible to define the maximum detach duration and the number of non-detachable reserve licenses:
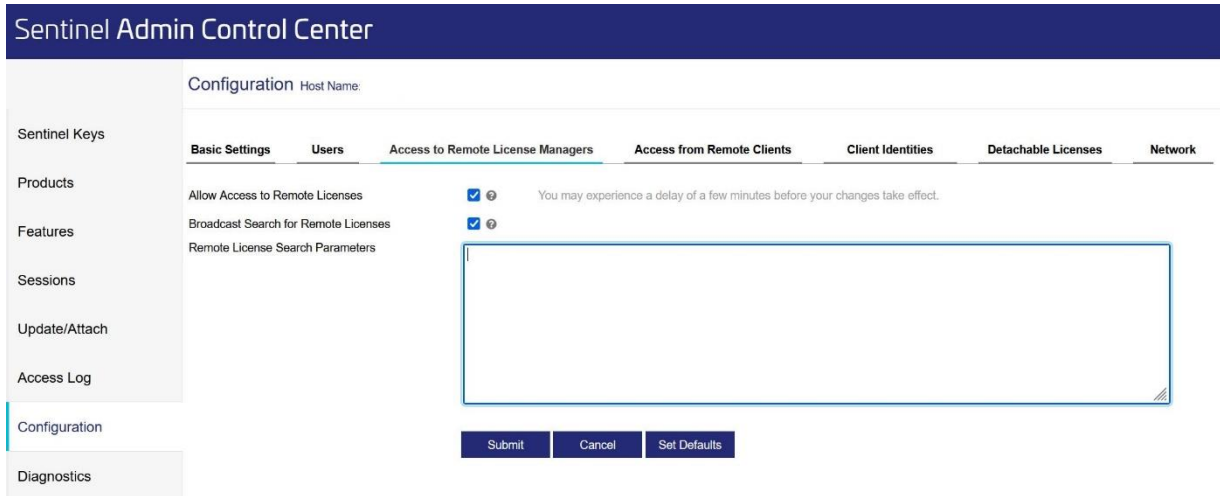
Configuration of the clients

Access to the server and the network license has to be enabled on the individual client PCs:

It is also necessary for the detachment to be allowed on the client computers.

Detachment of licenses can take place either online or offline. In the online option, the checkout on the client PC is started by accessing the network license pool on the server online. The checkout procedure is completely automatic.

An offline checkout takes place by manual exchange of checkout files (*.R2H / *.H2R).

Please note: Online checkout is easier, as the license is obtained from the server and set up on the client automatically. However, this requires that there is a connection between server and client at the time of checkout.

4.3   Detaching online

Online detachment requires a connection to the network license server. The whole procedure can be directed from the client. The server is listed in the Admin Control Center on each client PC under *Products*. The checkout procedure starts from the *Detach* button.

Please note: The red arrow pointing towards the Product Name on the server indicates that checkout of licenses is possible. The licenses available for checkout will also appear in the Available column.

The following dialog enables the checkout method (online) and the duration of detachment to be set by the client. The *Detach & Attach* button is where the fully automatic detachment process is then started.

On conclusion, there will be a message to indicate successful detachment. In addition, the license will be listed in the *Products* section of the client ACC.

4.4 Offline detachment

Offline detachment is the method employed when it is not possible to make a direct connection between client and server. The process of detaching is based on an exchange of particular files. In contrast to the online method, the detaching is started directly from the network licence server:
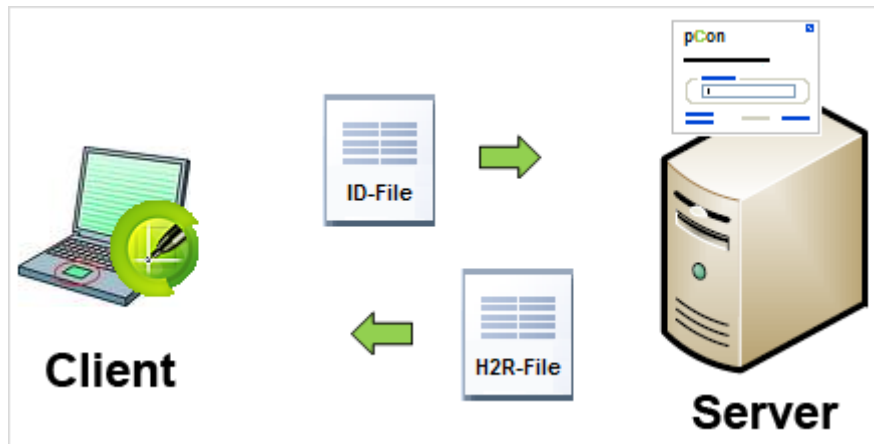
Offline detachment is started in the server Admin Control Center, by *Detach* button in the product list.

In the case of offline detachment, a recipient client must always be selected from a list of client IDs. If the client is not listed among the recipient PCs, it will be necessary first to use the menu item *Diagnostics → Create ID File* in the ACC to create an ID File and then to read this onto the server with *Update / Attach*.

Then the client will be available for selection on the server and an H2R (Host-to-Recipient) file can be generated.

The H2R file needs to be saved after this, made available to the client by email or a storage medium and then integrated into the ACC using *Update / Attach*.

4.5   Extending or canceling detached licences

Detached licenses are listed in the *Products* section in the ACC of the client. They can be returned before the loan period has expired by clicking *Cancel License*, or they can be extended by clicking the *Detach / Extend* function on the server.

Please note: the green arrow alongside the product name indicates that the license is currently detached.

Extension of detached licenses can be carried out both online and offline. The process is just like the initial detaching process. As the license is overwritten, there is no additional license taken from the network pool.

Cancelling of detached licenses can be carried out both online and offline. For the offline process, an R2H (Recipient-to-Host) file is generated on the client and then saved, transferred by email or storage medium to the server and finally integrated there, by using *Update / Attach*. Only when this has been done will the license be available again in the network pool.

5 Troubleshooting

5.1 pCon.planner PRO fails to start and one of the following messages appears
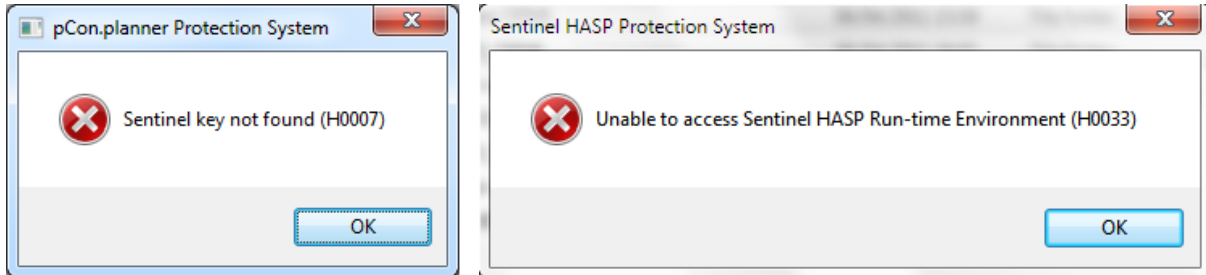
In both cases, communication has failed between pCon.planner PRO and the Safenet driver. The reason may be that the driver has not been installed correctly or that communication is blocked.

Solution no. 1. Check whether Port 1947 is blocked on your computer by a firewall or other software. It is possible to check this by entering http://localhost:1947 into the browser. If the ACC is displayed, access is possible. If not, it will be necessary to adapt the firewall.

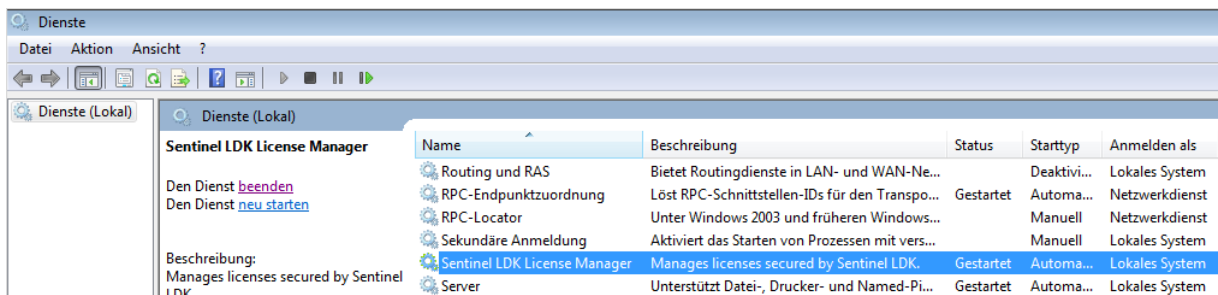**Solution no. 2.** The Sentinel LDK License Manager service is integral to the license management system and must permanently be active. Use the Windows Services area (either use the route Control Panel\Administrative Tools\Services or enter services.msc into Windows Command Prompt) to check if it is active and restart it if necessary.

Solution no. 3. If solutions 1 and 2 are unsuccessful, the reason may be a faultily installed driver. One possible clue is that there are entries missing in the *Products* section of the ACC. It is possible that the administration tool is not displayed at all in the browser. Should this be the case, the best thing is to uninstall pCon.planner PRO and/or the server installation package using the computer system controls and then to reinstall them. If none of these methods cures the problem, please contact your distributor.

5.2 The 30-day demo period has expired or the pool of network licenses has been used up.

Here are two more reasons for pCon.planner PRO to fail to start: the demo period has ended or there are no more network licenses available. The error message will be this one:
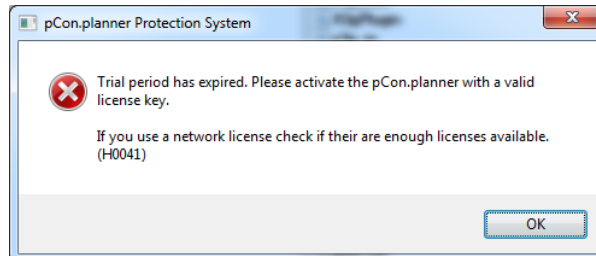
Solution no. 1. Before the software can be used again, the license key to activate a new license is required. To obtain a license, contact your distributor: once you have been sent the license key, you can call up the activation dialogue in the License Manager start menu and get the license activated.

Solution no. 2. If you use a network license, check whether there are enough licenses available. The Admin Control Center will show how many licenses are left. This is how:

Start the ACC, using the address http://localhost:1947. start the ACC. In the screenshot below, it is assumed that the name of the license server is *ADECHE.*

Clicking *Net Features* will take you to the page shown here:

If you look for the line containing *Product = P-PL-X PRO, Feature = 1000* and *Restriction = Perpetual,* you will see that all 30 of a total of 30 licenses are in use. It is not possible for pCon.planner PRO to start because there are no more licenses free. Please note that the *Detached* licenses also are unavailable.

Please note: you will be able to see which clients are currently making use of a license by checking under Session in the ACC for the server.

5.3   Error during activation

There may be a variety of reasons for the appearance of the following message:
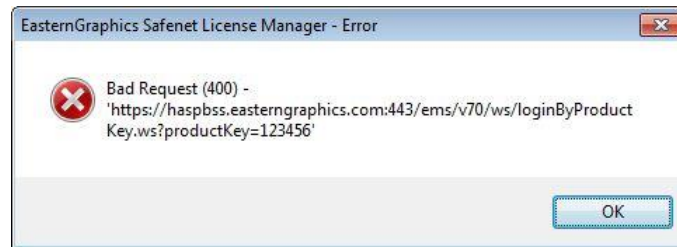
- the license key that has been entered is invalid, perhaps because of a typo,
- the license key entered has already been activated,
- no communication can take place with the license server, perhaps because port 443 is blocked.

Solution: You can ping haspbss.easterngraphics.com to test whether communication with the license server is possible. If the ping test reveals 0% loss and if port 443 is open but activation is still impossible, you should contact your distributor to have your license key checked.
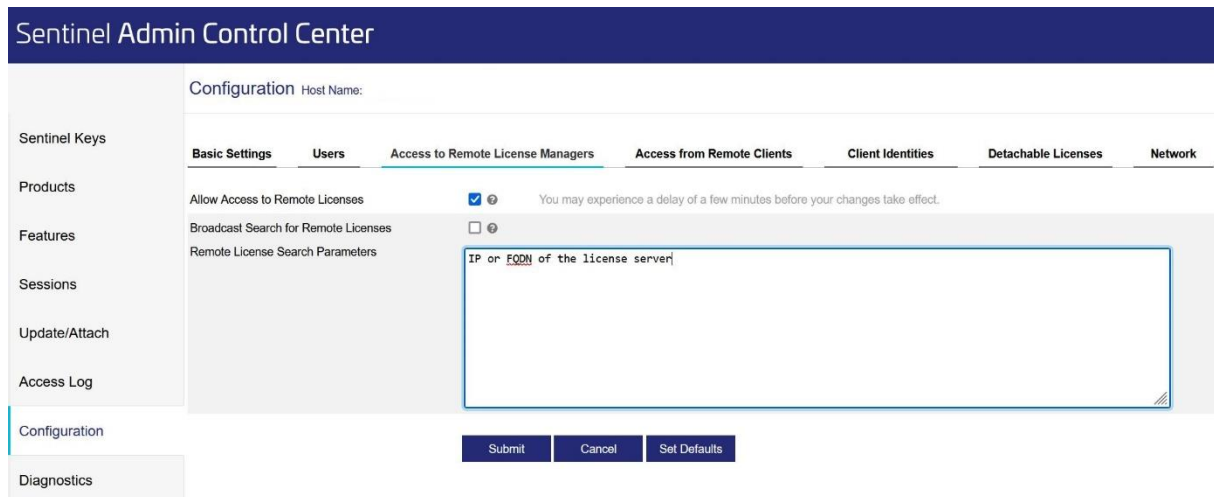
5.4 The client computers cannot access the network license

In this case, the assumption is that the network license has successfully been activated on the server. Despite this, the pCon.planner PRO software continues to operate in the 30-day trial period mode on the individual client computers and fails to make use of the network license.

Solution no. 1: try using "Remote License Search Parameters". The IP address of the network license server needs to be entered as the search parameter under *http://localhost:1947/_int_/config_to.html*. This search option should be selected if the server is being operated in a separate VLAN and is not reachable by broadcast or if you are using a VPN connection. There are detailed instructions at:

http://www.easterngraphics.com/su?ref=022f222bcb097c4ce64a52cf911c867d

Please make sure that Port 1947 on your computer is not blocked by a firewall or other software. This port is used by Sentinel LDK License Manager. Server and clients should be able to ping each other.

Please note: it is possible that the changes made in the Admin Control Center will not take effect immediately. The establishment of reciprocal communication between network server and remote client can, in particular, take several seconds. The display will be updated only after this is complete.

The current Sentinel Runtime drivers create a firewall exception rule only for private networks. After Windows updates etc. the network type can change to a public network automatically, blocking communication over port 1947.

Please check the Windows network settings to find out if license server or clients are set to a **Public Network**. In this case, please set the network to a **Private Network**.

In case you cannot use a private network, you need to manually create a firewall rule for port 1947. Gemalto, however, does not recommend this. If you nevertheless want to allow incoming connections via port 1947, please the exception rule an alternative name (for example pCon.planner PRO License Service). This keeps future upgrades of the runtime environment from removing the connection.

Further possible solutions

Solution no. 2. As well as the network connection, permission is also necessary for the network license to be accessed in the ACC. For this to be the case, the option *Allow Access to Remote Licenses* must have been activated. On the network server side, the option *Allow Access from remote clients* must also have been activated. As a result, the network server should be listed in the *Products* section.

Solution no. 3. The last troubleshooting step is to check whether the server is displayed in the ACC and whether there is still a free license in the network pool (see Chapter 5.2, Solution no. 2).

## 5.5   Despite successful activation, the license is no longer available

The product key has been entered in the activation dialog and the activation is successful. However, after a computer reboot, pCon.planner PRO no longer starts up or the trial period is displayed again. The version is not showing as registered.

Solution: You should check whether pCon.planner PRO is being run in a virtual machine. The same check is necessary for Apple products in combination with a virtual Microsoft Windows environment (such as Parallels with Windows). In either case, please contact the distributor of your software.

> **Please note:** you should check if the message Disabled or Disabled due to cloning is shown in the product list next to P-PL-X PRO in the ACC. If this is the case, contact the distributor.

5.6   A license message appears while the software is being used

It is possible for the warning shown in the screenshot below to appear during operation of pCon.planner PRO. One possible reason is that the Sentinel LDK License Manager service has been deactivated by the operating system (e.g. Windows Defender) or by third-party software (e.g. antivirus programs). If there is a network license, the reason might also be loss of the connection to the license server.
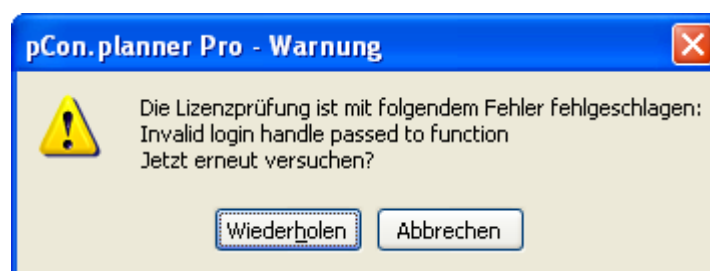
Solution no. 1. You need to go into the Windows Services area to check whether the Sentinel LDK Manager service has been started and – if not – restart it (either use the route Control Panel\Administrative Tools\Services or enter services.msc into Windows Command Prompt).

Solution no. 2. In the case of network licenses, it is good to check whether there is connectivity with the network server. Check in the ACC whether the server is displayed in the *Products* section. If it is not, use the solutions provided in Chapter 5.4.

6   FAQ

Which are the ports used by the license management system?

Port 443 (TCP IP) must be open during the license activation procedure and during a license update. In both cases, communication with the license server is necessary for the validation of the product key.

Port 1947 needs to be permanently open for single user and network licenses, as this is the port for the communication that takes place between pCon.planner PRO and the license driver.

For how long can a license be detached from the network pool?

For a network license, the period of detachment can be defined in the ACC of the network server. The maximum period is 9999 days.

Is it possible to activate a single user license when there is already a network license active?

Yes. Activate the single user license via the license manager. Access to licenses is subject to the following order of priority: 1. Single user license; 2. Network license; 3. Test license. In consequence, if you are in possession of a single user license, it will be used in preference to the network license.

How do you set which clients in a network can have access to a network license and which cannot?

The ACC has a comprehensive user setup available on the *Users* tab in the *Configuration* section. This enables the distinction to be made as to which clients can and cannot access the server or other clients. The *Help* function in the ACC contains details and examples.

Is it possible to operate the network license server and the clients in a subnet?

Yes. There are detailed instructions on configuration of server and client to be found at: http://www.eastern-graphics.com/su?ref=022f222bcb097c4ce64a52cf911c867d

If a computer that has detached a license is no longer available (possibly because it is defect), how can the license be returned to the network license pool?

Unfortunately, this is not possible. When the detachment period has expired, the license will be returned automatically to the pool. Therefore we recommend you to set a short detachment period. The detachment perion can be set in the ACC of the license server.

It is not possible to activate the license online – can it be activated offline?

Yes. For this, contact the distributor.

Can pCon.planner PRO be distributed to a number of computers using an image?

It is not advisable to distribute pCon.planner PRO by means of an image. Problems are likely to occur in connection with the network licenses in particular, as the use of the image will mean that the very same license manager is installed on a variety of computers. Only install the application after the image has been installed.

7 Platforms supported

The Safenet license management system supports a variety of operating systems and will also run in virtual environments.

It should be noted that pCon.planner PRO and the server installation package (EGR Safenet Activation) require a Windows operating system, which will restrict the range of platforms.

There is a list of operating systems and virtual environments currently supported at: https://docs.sentinel.thales-group.com/ldk/LDKdocs/RN/ReleaseNotes/130-Supported_Platforms_for_Sentinel.htm .

Please note that no support can be given by EasternGraphics in connection with the use of a virtual environment. pCon.planner Pro can only be used in such scenarios without any guarantee from EasternGraphics.