

iQ-3D

ADMINISTRATION GUIDE

Version 3.1.0 Release INT EN 003R

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1 Introduction

This document shows you how to administrate the iQ-3D software. It deals with the licensing system and guides you to the process of installing/uninstalling the software.

Throughout this manual trademark names are used. Rather than put in a trademark symbol at every occurrence of the trademark name, we state that we are using the names only in an editorial fashion and to the benefit of the trademark owner with no intention of infringing of the trademark.

2 System requirements

MINIMUM SYSTEM REQUIREMENTS:

SPECIFICATION	REMARKS
Processor	Pentium IV CPU \geq 1,5 GHz or comparable AMD processor
Main memory	Min. 1 GB RAM (depending on the 3D datasets)
Hard disk	Min. 20 GB hard disk (DMA33 capable), depending on the volume of the data to be saved temporarily
Network	TCP/IP Network connection with 10 Mbits/s with UDP support
Graphics card	Any OpenGL 1.5 capable graphics card from Nvidia or ATI with 64 MB RAM
Display	Any color monitor with resolution of 1024 x 768 or more, \geq 17" for demonstration
Operating system	Windows XP Pro 32 bit SP3 or Windows 7 Pro 64bit SP1

RECOMMENDED SYSTEM REQUIREMENTS:

SPECIFICATION	REMARKS
Processor	Modern Intel Quad Core CPU \geq 2GHZ
Main memory	Min. 3 GB RAM
Hard disk	Min. 500 GB hard disk (DMA33 capable)
Network	TCP/IP Network connection with 100 Mbits/s with UDP support
Graphics card	High end 3D graphics card from latest Nvidia GeForce series (e.g. GeForce 280, 380, 480 etc.), but at least a GeForce 8800. With 1 GB RAM and 256 bit bus width.
Display	High resolution medical color display with \geq 22" for diagnosis
Operating system	Windows 7 Pro 64bit SP1

Furthermore, we recommend the use of up-to-date anti-virus software on the computer on which iQ-3D is run together with iQ-VIEW or iQ-VIEW PRO. The virus definitions must be updated regularly (they should not be older than 2 weeks). Due to known issues / incompatibilities (e.g. regarding the blocking of system files and ports), we do not recommend using AntiVir as an anti-virus software.

To keep constant the power supply voltage we recommend the use of an uninterruptible power supply (UPS). The interposition of such a device prevents data losses and data inconsistencies that can be produced at the occurrence of fluctuations in the power supply voltage.

In case of slowdowns we strongly advise you to try consult chapter 7 of this document and to try out the internal benchmark process.

3 Installing the software

iQ-3D is a software module which is already included in the iQ-VIEW software package. Thus, you need to install iQ-VIEW on your workstation. The iQ-VIEW software download includes all necessary installation files. To install iQ-VIEW on your workstation, please follow the instructions given here:

1. Go to www.image-systems.biz and download the iQ-VIEW software from the download center.
2. Execute the installation file.
3. Follow the instructions of the installation program to install the iQ-VIEW software on your workstation.

3.1 Selecting the license type during installation

iQ-VIEW and iQ-3D are available with different forms of licensing – single seat licenses (bound to one workstation) and concurrent licenses (also called floating licenses, which are not bound to a specific workstation). For all details, see chapter 5 and 6. The license type can be selected during the installation process:



The iQ-VIEW installer

- Using the “Standard” installation, iQ-VIEW and iQ-3D will be installed with single license functionality only. This option should be selected if you plan to use iQ-3D as a workstation with its own license. The license is immediately available after installation.
- Using the “Custom” option, you can choose whether you want iQ-VIEW or iQ-3D to be installed with single license functionality or with concurrent license functionality. Concurrent license functionality includes also all the license server parts with which each of these iQ-3D stations can be turned into the concurrent license server. A concurrent license will not be available immediately after installation. The iQ-3D will run

with a default single license trial. For information on how to obtain a concurrent license, please see section 6.1.



Select single or concurrent license functionality in the iQ-VIEW installer

3.2 Changing the license type

It is possible to change the license type of the iQ-3D software also for an already existing installation. Switching from single license to concurrent or vice versa can be done in the following way:

- Log into the system with an Administrator account.
- Open the "Control Panel" and select "Add or Remove Programs".
- Scroll down to the entry of the iQ-VIEW software and click on it.
- The iQ-VIEW installation wizard gives you the option to either "Change license type" or "Remove" the application. Select "Change license type".
- The following dialog will allow you to select the license type you wish to use. Afterwards follow the instructions of the installation wizard to complete the installation.

4 Uninstalling the software

iQ-3D is part of the full package iQ-VIEW/PRO. Therefore to uninstall iQ-3D you need to uninstall iQ-VIEW/PRO. The iQ-VIEW/PRO software can, at any time, be removed easily and safely from the system. Follow the steps below to remove iQ-VIEW/PRO from your workstation:

- On Windows XP :
 1. Open the "Control Panel" and select "Software".
 2. Scroll down to the entry of the iQ-VIEW software and click on it.
 3. Select "Remove" to uninstall the software.

- On Windows 7:
 1. Open the "Control Panel" and select "Programs and Features".
 2. Scroll down to the entry of the iQ-VIEW software and click on it.
 3. Select "Uninstall" to uninstall the software.

Afterwards you may have to delete the iQ-VIEW installation folder (by default: C:\Program Files\iQ-VIEW) manually in the Windows Explorer because even after uninstalling the software, it will exist and contain the iQ-VIEW configuration files and the database/imagebox.

5 Single Licensing

5.1 Introduction

After downloading and installing iQ-3D with single license functionality, the application runs by default as an evaluation version with a single license that is limited in time. After 30 days the application stops working unless a full license is obtained and the software is activated with a specially created activation key.

A single license is a software license that is bound to the computer on which the licensed application is installed. The license which is created on the basis of the hardware fingerprint (the system's hardware configuration) is only valid for the iQ-3D station for which the license was requested. Another iQ-3D station cannot use this license but needs its own activation data.

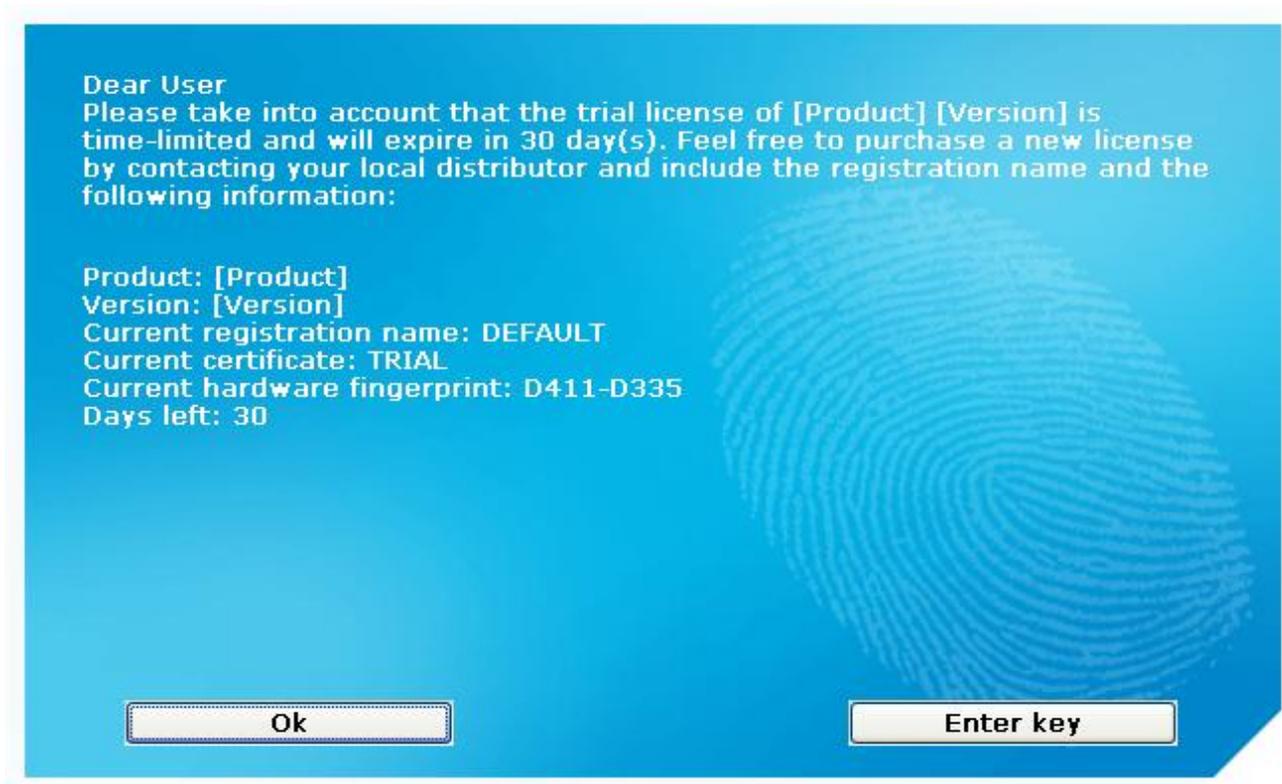
Currently there are three different types of single licenses for the iQ-3D software:

LICENSE TYPE	DURATION	DESCRIPTION
Trial license	30 days	Is online available as free download for evaluation purposes. This version is limited in time.
Commercial license	Unlimited	Can be gained only by purchasing a full license and activating the software. This license is a life-time license.
	Time-limited	Can be gained only by purchasing a full license and activating the software. This license runs for a specified time period and will expire afterwards unless a follow-up license is purchased.
Demo license	Time-limited	Is not for sale and only handed out to distributors and resellers. The functional range fully corresponds to a commercial license.

5.2 Activating single licenses

The activation process for a single license to be used on one computer is quite simple:

- Purchase a full license for iQ-3D (unlimited or time-limited license).
- Look up the hardware fingerprint, which is created when the iQ-3D software is first installed on a computer. You find it in the reminder that is displayed at each start of the application:



Reminder dialog

or also in the "Enter key" dialog that opens when you click on the "Enter key" button in the reminder:

Enter the registration name and key below, exactly as given to you:

Hardware fingerprint: D411-D335

Name:

Key:

Empty "Install License" dialog

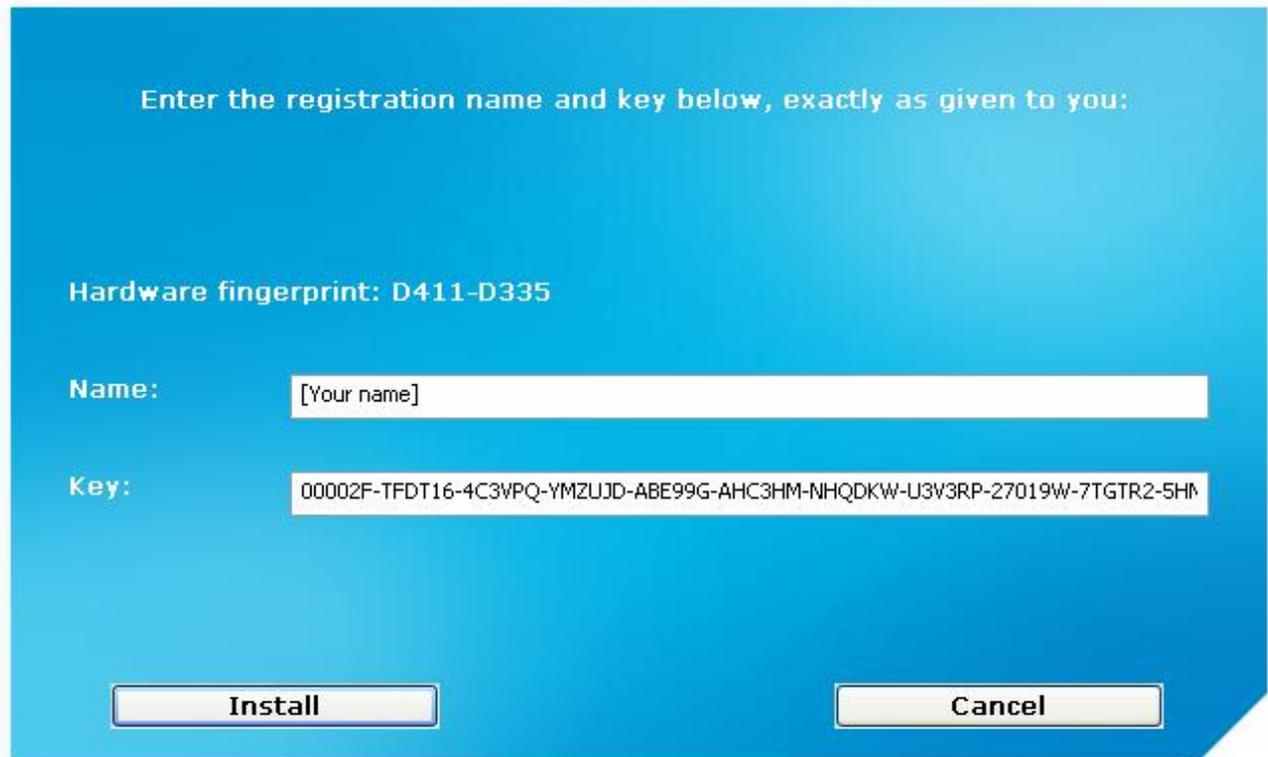
WARNING:

Make sure to read out the hardware fingerprint when logged in as Administrator on the computer. Also ensure that no components of the machine are deactivated, for instance due to energy saving modes. Otherwise it might be that the fingerprint will be different when you try to activate the license as previously inactive components are recognized or not all hardware information can be read when being logged in as a restricted user.

- Copy and paste the hardware fingerprint into an email and send this email to your reseller for activation. Your email should include the following information:
 - whether you want an unlimited (in time) license or a limited license
 - the software version you have installed
 - your name and contact details
 - the name for which the software shall be registered
- An email will be received in return with the registered name and activation key.
- Enter the information in the respective fields of the "Enter key" dialog.

WARNING:

When you receive the activation data, log in as Administrator again, make sure all components are active and enter the received user name and activation key. In case of an "invalid key" information, check first if the hardware fingerprint is still the same that you provided when asking for the activation.



"Enter key" dialog with example entries

- Afterwards press "Install" to apply the license. The following information will appear:



Information window "Key valid"

- The key will be stored on the PC and does not have to be entered each time the application is started. Minor hardware modifications are still possible without losing the license.
- The current certificate and hardware fingerprint can be looked up in the info dialog of the iQ-3D application and are shown as follows:



"Certificate info" field

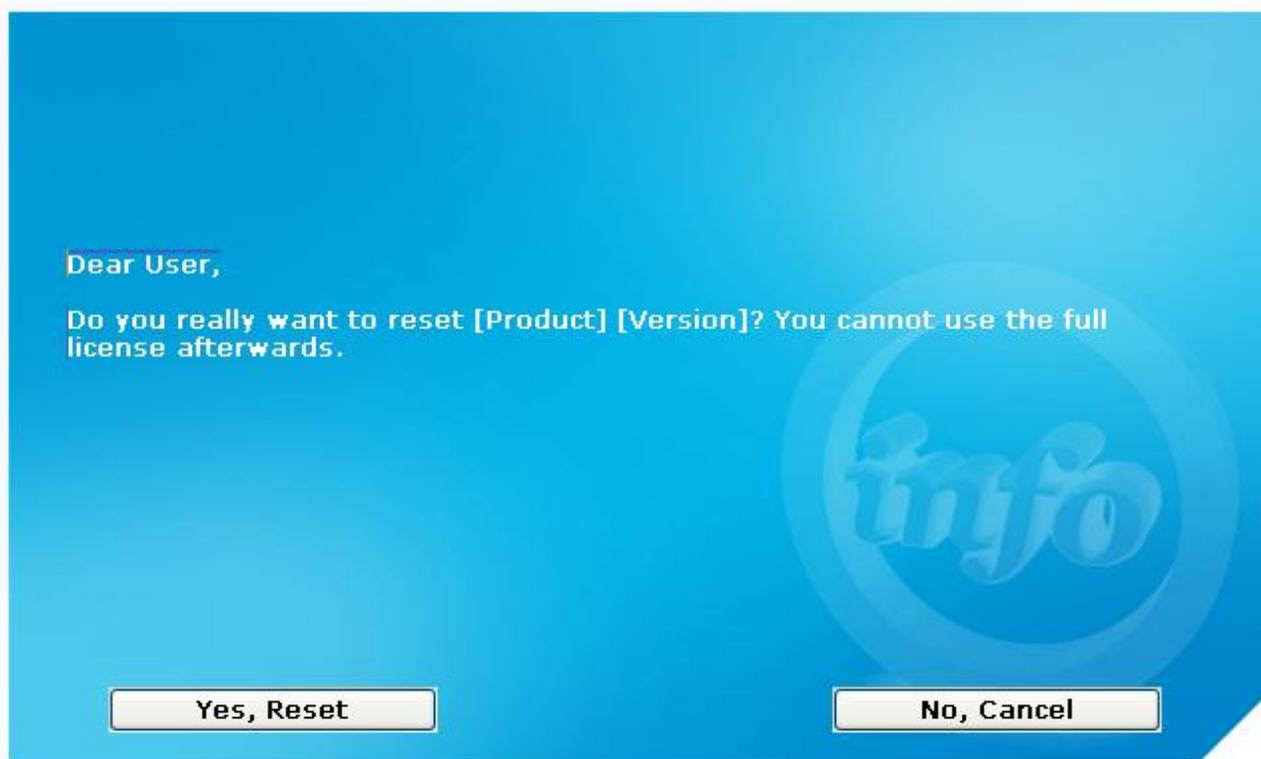
WARNING:

Do not press "Reset" unless you really wish to reset your license. During this process, the hardware fingerprint will change and your previous activation data will become invalid. You will have to request a replacement key, which might require a fee.

5.3 Migrating a single license

If you want to move your purchased iQ-3D license from one computer to another you need to follow the instructions given here:

- Install the iQ-3D software on the new computer.
- Reset the iQ-3D license on the old computer. To do that, navigate on the toolbox of iQ-3D to the info page of the entry "General". Click the "Reset license" button to deactivate the license key. When the license is reset it will no longer be valid on that machine. The hardware fingerprint will change and the previously used activation key becomes invalid.



"Reset affirmation" dialog

- During the "Reset" a text file is created called "License Uninstall Info.txt". This file contains an uninstall key verifying the license reset. Send this file together with the hardware fingerprint of the new iQ-3D installation by email to your reseller.
- You will receive an email in return with the registered name and activation key.

NOTE:

Please keep in mind that for replacement keys a fee might be charged. Therefore, please contact your reseller BEFORE you transfer your iQ-3D license to a new computer!

5.4 Changing a single license

In some cases it may become necessary to change an existing single license, i.e. to enter new activation data even though a license is currently active. This may happen if you wish to renew a time-limited license that is about to expire. After you have received the new license activation data from your local reseller (registration name and activation key), navigate on the iQ-3D toolbox to the info page of the entry "General" and click on "Install license". There, you can then enter the new registration name and activation key. Click on "Install" to confirm the activation.

6 Concurrent licensing

6.1 Introduction

Concurrent licensing (i. e. floating licensing or network licensing) is an alternative licensing model contrary to the usual single seat licensing. It allows you to use a specified number of iQ-3D applications in a network at the same time without having to license each application individually.

The heart of such a concurrent network is the concurrent license server. When an iQ-3D application within the network (i.e. a client) is started, it connects at first to the concurrent license server and asks for permission to start. The server, on the other hand, checks the number of iQ-3D applications that are already running. If that number has not yet reached the maximum number of allowed active licenses, then the requesting application is granted the permission to start. Otherwise the client does not start and shows a corresponding warning message. If a client is shut down, the server automatically recognizes that and frees the previously used license. Thus, the number of free licenses increases and an iQ-3D on another computer may be used instead.

The major benefit of concurrent licensing is the fact that you only have to activate a single license key for the concurrent license server, not for all the different clients. In doing so, the maximum number of permitted clients in a concurrent network can individually be specified and is part of the license key you can purchase from your local reseller.

Although the maximum number of client applications that can access the server at the same time is limited, you can use a lot more running installations of iQ-3D in your network.

Currently there are several types of concurrent licenses available for iQ-3D:

LICENSE TYPE	DURATION	DESCRIPTION
Trial license	Time-limited	The trial license coming with the downloaded installation package can only be used as a single license (see above), i.e. it can only be run on the computer on which the application was installed. For a trial period of concurrent licenses, please contact your local reseller. Mention the number of licenses you need to run concurrently (≤ 255).
Commercial license	Unlimited	Can be gained only by purchasing a full license and activating the software. This license is a life-time license. Mention the number of licenses you need to run concurrently (≤ 255).
	Time-limited	Can be gained only by purchasing a full license and activating the software. This license runs for a specified time period and will expire afterwards unless a follow-up license is purchased. Mention the number of licenses you need to run concurrently (≤ 255).
Demo license	Time-limited	Is not for sale and only handed out to distributors and

		resellers. The functional range fully corresponds with a commercial license. Mention the number of licenses you need to run concurrently (≤ 255).
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6.2 Requirements

The computer you wish to use as concurrent server has to meet the following requirements:

- Windows XP Pro 32bit SP3 or Windows 7 Pro 64bit SP1 as operating system
- TCP/IP network connection with UDP support
- Network access with only one physical and static IP address. No virtual IP addresses are allowed.
- The user logged into the system needs Administrator rights to make the necessary configurations and to work with the concurrent license server.

6.3 Concurrent licensing on Windows XP

6.3.1 Installation

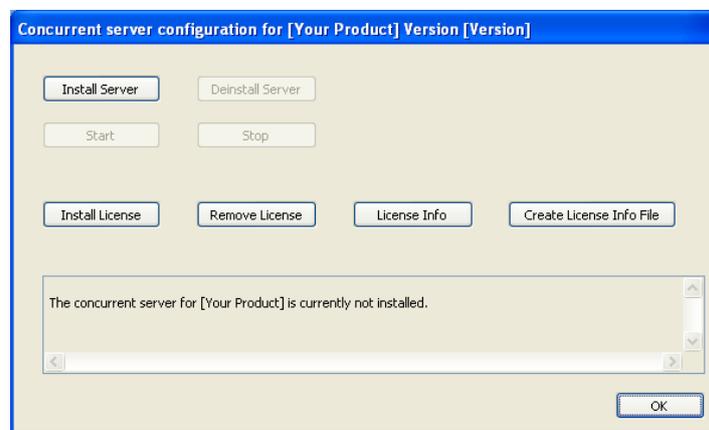
If you wish to use concurrent licensing with iQ-3D you first have to make sure that you have installed iQ-3D with concurrent license functionality on **ALL** workstations that you wish to include in the concurrent license network. That means you have to install it on the workstations that shall act as clients and also on the workstation that shall work as the server.

If you do not know how to install iQ-3D with concurrent license functionality, please refer to chapter 3.

Afterwards you have to choose one of your iQ-3D installations as the server system that you prefer to act as the concurrent license server. On that workstation, please install the concurrent license server in the following way:

- Open the Windows Explorer and select the iQ-3D installation folder (by default: C:\Program Files\iQ-VIEW\3D).
- You will find the concurrent server application in the subfolder "ConcurrentServer" of the iQ-3D root folder. It is called "ConcurrentServer.exe".
- Double-click onto the file "ConcurrentServer.exe" to open the application.
- Click on the "Install" button of the main window.

The concurrent server is now installed and runs as a Windows service.



Main window of the concurrent server tool

WARNING:

Please keep in mind that once you activated the concurrent license server it is tied to the local IP address of the machine. Make sure to use a server machine with a static IP address.

The iQ-3D installation selected to work as concurrent license server needs free access to the network, with which the clients are connected with the license server. This is necessary to keep the concurrent network running.

Therefore, the "3D.exe" must be granted free network access by adding the executable to the exception list of your firewall. Usually, if you are using the Windows firewall, this will already be done automatically during the installation. In case iQ-3D is not yet listed you will have to do it **manually**. If you use the Windows firewall please follow the steps below:

- Click "Start" on your Windows taskbar.
- Go to "Settings" and select the "Control Panel".
- Click on the entry "Windows Firewall".
- Select the tab "Exceptions" and check if the "3D.exe" is already listed.
- If it is not yet listed, select the button "Add Program".
- With "Browse" you can then navigate to the "3D.exe" in the iQ-3D installation folder (by default C:\Program Files\iQ-VIEW\3D).
- Select the "3D.exe" and confirm by clicking "Open".
- Confirm all open dialogs with "Ok".

The executable is now added to the exception list and the concurrent network. In case you use a firewall of another vendor, please consult the corresponding manual.

WARNING:

If you do not add the 3D.exe to the Windows Firewall exception list, such as described above, the concurrent clients cannot connect to the concurrent license server and the network cannot work correctly. Also make sure to be logged in as Administrator when working with the concurrent license server. Otherwise some errors can occur.

6.3.2 Activation

By default, iQ-3D will always start with a single seat trial license after first installation. A trial license for the concurrent license server is not available automatically.

If you wish to test iQ-3D in a concurrent license network you will need an activation key to provide a trial period. For concurrent license networks it is **required** to first run a trial period to test the faultless functioning of the concurrent network before purchasing a full license.

Please contact your local reseller to request a free trial license. Also mention how many iQ-3D clients you wish to run simultaneously, so that you will receive an appropriate license. In general, to retrieve or purchase a concurrent license activation key you have to, at first, send the necessary license information to your local reseller. To obtain the license information, follow the steps below:

- Log into the concurrent license server machine as Administrator.
- Open the main window of the concurrent license server tool.
- Click onto the "Create license info file" button. A file called "license_information_concurrent.txt" will be created in the folder "%ALLUSERSPROFILE%\iQ-3D". This file contains the information needed for the generation of a concurrent license (such as the IP of your concurrent server machine).
- As a second step, click onto the "Install License" button. In the next dialog, look up the hardware fingerprint, which is created when iQ-3D is first installed on the computer. Copy that hardware fingerprint.

- Paste the hardware fingerprint into an email, attach the "license_information_concurrent.txt" file, add a registration name and the number of desired concurrent clients and send this email to your local reseller.

WARNING:

Make sure to read out the hardware fingerprint when logged in as Administrator on the computer. Also ensure that no components of the machine are deactivated, for instance due to energy saving modes. Otherwise it might be that the fingerprint will be different when you try to activate the license as previously inactive components are recognized or not all hardware information can be read when being logged in as a restricted user.

- An email will be received in return with the registration name and the activation key.
- Enter the information in the respective fields of the "Install License" dialog.

WARNING:

When you receive the activation data, log in as Administrator again, make sure all components are active and enter the received user name and activation key. In case of an "invalid key" message, please check first if the hardware fingerprint is still the same one you provided when asking for the activation.



'Enter key' dialog with example entries

- Afterwards press "OK". The following information will appear:



Information window "Key valid"

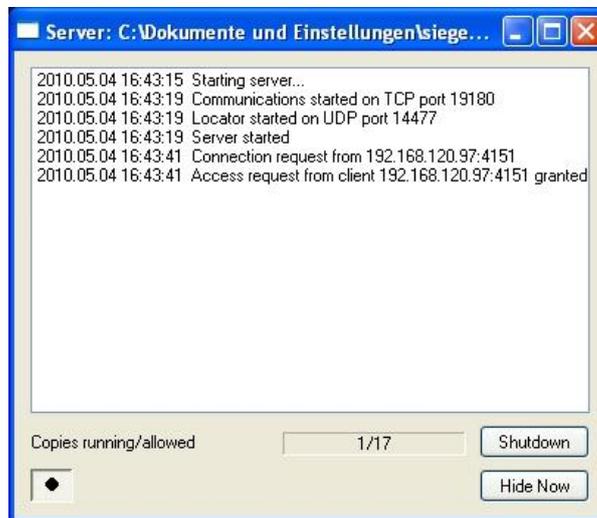
- The key will be stored on the PC and does not have to be entered each time the application is started. Hardware modifications are still possible without a change of the fingerprint (three times).
- License information can be looked up in the 'License information' dialog by clicking on the 'License info' button in the main window of the Concurrent server and by creating the 'license_information_concurrent.txt' file by clicking 'Create license info file'.

WARNING:

Do not press "Remove license" unless you really wish to reset your license. During this process, the hardware fingerprint will change and your previous activation data will become invalid. You will have to request a replacement key, which might require a fee.

6.3.3 Starting the concurrent license server

To finally start the concurrent license server, simply click onto the "Start" button of the concurrent server's main window. The "Access dialog" opens and shows information of the connected clients. The concurrent license server is now running. You may start several clients in the network and will see them connecting to the server. The entry "Copies running/allowed" indicates how many clients are possible and how many are currently running.



'Access dialog'

Since the concurrent license server is a service that runs in the background of the operating system, it is possible to simply close both dialogs - the concurrent server keeps on working (even if you restart the server machine, the service will start up again automatically).

To close the dialog windows click the "Hide now" button in the "Access dialog" and the "Ok" button in the concurrent server's main window.

To stop the concurrent license server from working, click the "Shutdown" button in the "Access dialog" or the "Stop" button in the concurrent server's main window.

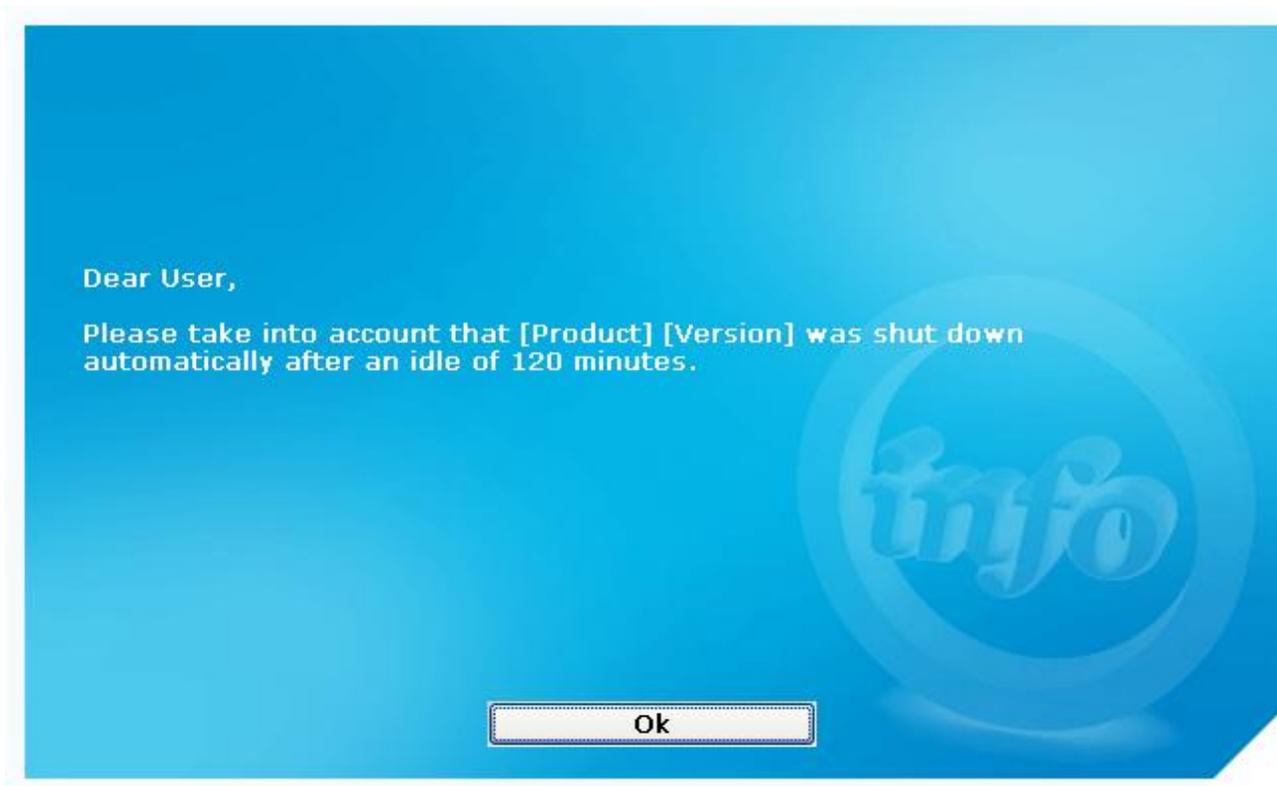
When an iQ-3D client is started with a concurrent license, one available license out of the purchased number of concurrent licenses is allocated to this client. This license becomes unavailable for other clients and if the maximum number of licenses is reached no other client can be started as long as no license becomes available.

To make sure that all licenses that are not needed are free to be used at the clients, an iQ-3D running with a concurrent license would have to be shut down to make its allocated license available again for other iQ-3D clients. In case, an iQ-3D is left running but nobody works with it, there is a defined idle period after which iQ-3D terminates itself automatically. With that, the license becomes free for use by another iQ-3D client.

"Idle" means that no mouse or key action is executed within either of the iQ-3D dialogs. By default this functionality is disabled. To activate or change the default idle period, please follow the steps below:

- Close iQ-3D.
- Open the Windows Explorer and select the iQ-3D installation folder.
- Select the 3D.ini configuration file and go to the section [LICENSE].
- There, search for the parameter "ConcurrentAutoLogoffIdlePeriod=", which is – by default – set to "0" (which means, the automatic termination is disabled),
- Enter the desired period (number of minutes) after the "=", for example 120 for 120 minutes.
- Afterwards save the changes and restart iQ-3D.

If an iQ-3D application was terminated due to the expiration of the idle period, an information dialog is shown at the next application start:



"Idle timeout" dialog

6.4 Concurrent licensing on Windows 7

6.4.1 Installation

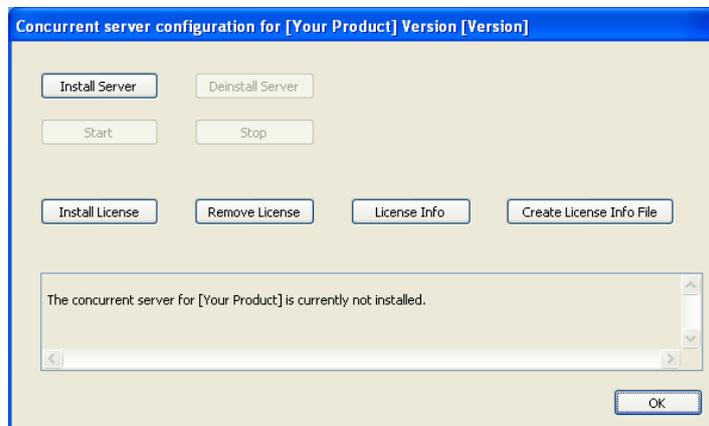
If you wish to use concurrent licensing with iQ-3D you first have to make sure that you have installed iQ-3D with concurrent license functionality on **ALL** workstations that you wish to include in the concurrent license network. That means you have to install it on the workstations that shall act as clients and also on the workstation that shall work as the server.

If you do not know how to install iQ-3D with concurrent license functionality, please refer to chapter 3.

Afterwards you have to choose one of your iQ-3D installations as the server system that you prefer to act as the concurrent license server. On that workstation, please install the concurrent license server in following way:

- Open the Windows Explorer and select iQ-3D installation folder (by default: C:\Program Files\iQ-VIEW\3D).
- You will find the concurrent server application in the subfolder "ConcurrentServer" of the iQ-3D root folder. It is called "ConcurrentServer.exe".
- Double-click onto the file "ConcurrentServer.exe" to open the application.
- Click on the "Install" button of the main window.

The concurrent server is now installed and runs as a Windows service.



Main window of the concurrent server tool

WARNING:

Please keep in mind that once you activated the concurrent license server it is tied to the local IP address of the machine. Make sure to use a server machine with a static IP address.

Therefore, the "3D.exe" must be granted free network access by adding the executable to the exception list of your firewall. Usually, if you are using the Windows firewall, this will already be done automatically during the installation. In case iQ-3D is not yet listed you will have to do it **manually**. If you use the Windows firewall please follow the steps below:

- Click "Start" on your Windows taskbar.
- Go to "Settings" and select the "Control Panel".
- Click on "System and Security".
- Click on the entry "Allow a program through Windows Firewall".
- Select the button "Allow another program...".
- With "Browse" you can then navigate to the "3D.exe" in the iQ-3D installation folder (by default C:\Program Files\iQ-VIEW\3D).
- Select the "3D.exe" and confirm by clicking "Open" and afterwards by clicking "Add".

The executable is now added to the exception list and the concurrent network. In case you use a firewall of another vendor, please consult the corresponding manual.

WARNING:

If you do not add the 3D.exe to the Windows Firewall exception list, such as described above, the concurrent clients cannot connect to the concurrent license server and the network cannot work correctly. Also make sure to be logged in as Administrator when working with the concurrent license server. Otherwise some errors can occur.

6.4.2 Activation

By default, iQ-3D will always start with a single seat trial license after first installation. A trial license for the concurrent license server is not available automatically.

If you wish to test iQ-3D in a concurrent license network you will need an activation key to provide a trial period. For concurrent license networks it is **required** to first run a trial period to test the faultless functioning of the concurrent network before purchasing a full license.

Please contact your local reseller to request a free trial license. Also mention how many iQ-3D clients you wish to run simultaneously, so that you will receive an appropriate license. In general, to retrieve or purchase a concurrent license activation key you have to, at first, send the necessary license information to your local reseller. To obtain the license information, follow the steps below:

- Log into the concurrent license server machine as Administrator.
- Open the main window of the concurrent license server tool.
- Click onto the "Create license info file" button. A file called "license_information_concurrent.txt" will be created in the folder "%ALLUSERSPROFILE%\iQ-3D". This file contains the information needed for the generation of a concurrent license (such as the IP of your concurrent server machine).
- As a second step, click onto the "Install License" button. In the next dialog, look up the hardware fingerprint, which is created when iQ-3D is first installed on the computer. Copy that hardware fingerprint.
- Paste the hardware fingerprint into an email, attach the "license_information_concurrent.txt" file, add a registration name and the number of desired concurrent clients and send this email to your local reseller.

WARNING:

Make sure to read out the hardware fingerprint when logged in as Administrator on the computer. Also ensure that no components of the machine are deactivated, for instance due to energy saving modes. Otherwise it might be that the fingerprint will be different when you try to activate the license as previously inactive components are recognized or not all hardware information can be read when being logged in as

a restricted user.

- An email will be received in return with the registration name and the activation key.
- Click the "Install License" and enter the information in the respective fields of the "Install License" dialog.

WARNING:

When you receive the activation data, log in as Administrator again, make sure all components are active and enter the received user name and activation key. In case of an "invalid key" message, please check first if the hardware fingerprint is still the same one you provided when asking for the activation.



'Enter key' dialog with example entries

- Afterwards press "OK". The following information will appear:



Information window "Key valid"

- The key will be stored on the PC and does not have to be entered each time the application is started. Hardware modifications are still possible without a change of the fingerprint (three times).
- License information can be looked up in the 'License information' dialog by clicking on the 'License info' button in the main window of the Concurrent server and by creating the 'license_information_concurrent.txt' file by clicking 'Create license info file'.

WARNING:

Do not press "Remove license" unless you really wish to reset your license. During this process, the hardware fingerprint will change and your previous activation data will become invalid. You will have to request a replacement key, which might require a fee.

6.4.3 Using the concurrent license server

To finally start the concurrent license server, simply click onto the "Start" button of the concurrent server's main window - the application should show a message which informs you about the successful start.

Since the concurrent license server is a service that runs in the background of the operating system, it is possible to simply close the window - the concurrent server keeps on working (even if you restart the server workstation, the service will start up again automatically).

To close the window click the "Ok" button in the concurrent server's main window. To stop the concurrent license server from working, click the "Stop" button in the concurrent server's main window.

When an iQ-3D client is started with a concurrent license, one available license out of the purchased number of concurrent licenses is allocated to this client. This license becomes unavailable for other clients and if the maximum number of licenses is reached, no other client can be started as long as no license becomes available.

To make sure that all licenses that are not needed are free to be used at the clients, an iQ-3D running with a concurrent license would have to be shut down to make its allocated license available again for other iQ-3D clients. In case, an iQ-3D is left running but nobody works with it, there is a defined idle period after which iQ-3D terminates itself automatically. With that, the license becomes free for use by another iQ-3D client.

"Idle" means that no mouse or key action is executed within either of the iQ-3D dialogs. By default this functionality is disabled. To activate or change the default idle period, please follow the steps below:

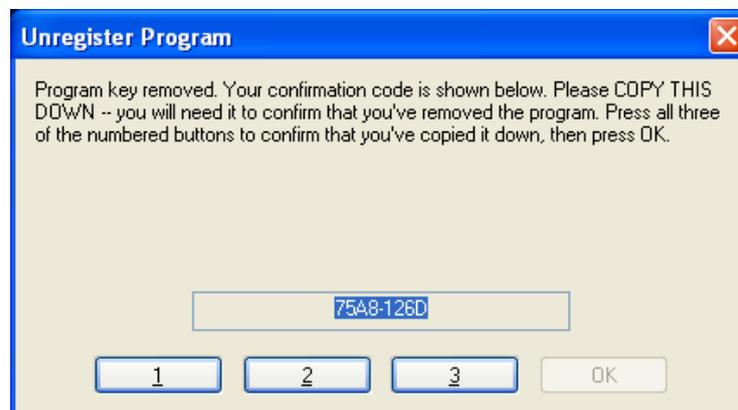
- Close iQ-3D
- Open the Windows Explorer and select the iQ-3D installation folder.
- Select the 3D.ini configuration file and go to the section [LICENSE].
- There, search for the parameter "ConcurrentAutoLogoffIdlePeriod=", which is – by default - set to "0" (which means, the automatic termination is disabled)
- Enter the desired period (number of minutes) after the "=", for example 120 for 120 minutes.
- Afterwards save the changes and restart iQ-3D.

If an iQ-3D application was terminated due to the expiration of the idle period, an information dialog is shown at the next application start.

6.5 Migrating concurrent licenses

If you wish to move your purchased iQ-3D concurrent license from one computer to another you need to follow the instructions given here:

- Uninstall the license from the previously used concurrent license computer by clicking onto the "Remove license" button in the main window of the concurrent server tool. When the license is reset it will no longer be valid for that server. The hardware fingerprint will change and the previously used activation key becomes invalid.
- During the uninstalling process, a file called "uninstall_license_concurrent.txt" will be created in the folder "%ALLUSERSPROFILE%\iQ-3D". It contains most of the information required to get a new license.
- Afterwards the 'Unregister program' dialog will show up containing the confirmation code that is needed to confirm the process of uninstalling the license.



'Unregister program' dialog

- Copy this confirmation code. Afterwards open the 'uninstall_license_concurrent.txt' with a text editor, copy the confirmation code and paste it to the line that says "uninstall_key=" (at the bottom of the file).
- Next you need to confirm that you have copied the uninstall code by checking all three numbered buttons one after the other and finally by clicking 'OK'.
- Afterwards the 'Enter Key' dialog appears to verify that the license was reset. Click the 'Cancel' button.
- The next information needed in the "uninstall_license_concurrent.txt" is the hardware fingerprint that was created when the concurrent license was reset. Therefore please click on the "Install License" button in the main window of the old concurrent server, copy the new fingerprint and paste it into the line "new_fingerprint_after_reset=" in the text file.
- The last information needed in the 'uninstall_license_concurrent.txt' is the registration name. Therefore please click on the 'License info' button in the main window of the concurrent server tool, copy the line underneath 'This program is registered to:' and paste it into the respective line in the file.
- The "uninstall_license_concurrent.txt" does now include the necessary data to verify the license reset.
- Now install iQ-3D on the new computer as described in chapter 3.
- As a last step, you need to obtain the license information from the new concurrent license server. To do that, please follow the steps described in section **Fehler! Verweisquelle konnte nicht gefunden werden..**
- After you have collected all information, send an email to your local reseller including the "uninstall_license_concurrent.txt" file of the old server and the "license_information_concurrent.txt" file of the new server. Also include the number of allowed clients of the new concurrent server.

- You will receive an email in return with the registered name and activation key for the new concurrent server.

NOTE:

Please keep in mind that replacement keys will only be delivered for a fee. Therefore, please contact your reseller **BEFORE** you transfer your iQ-3D license to a new computer!

6.6 Changing an existing concurrent license

In some cases it may become necessary to change an existing concurrent license, i.e. to enter new activation data even though a concurrent license is currently active. This may happen if:

- you wish to renew a time-limited concurrent license that is about to expire
- you wish to change the number of concurrent clients

After you have received the new license activation data for the specified number of concurrent clients from your local reseller (registration name and activation key):

- Log into the concurrent license server machine as Administrator.
- Open the main window of the concurrent license server tool and select the button "Install license".
- Enter the information in the respective fields of the "Install License" dialog.
- Afterwards press "OK" to confirm.

6.7 FAQ and trouble-shooting

Q: What happens to a concurrent client, if it cannot find the concurrent license server?

A: When you start a client application it first checks an internal list searching for a license. At first, it looks for a concurrent license server in the network. If it cannot find a server, it looks for a single license installed on the client machine. If it cannot find such a license either, it starts the trial license (if still available and not yet expired).

Q: I installed a concurrent licensing server and some clients in a network, but the clients can't connect to the server. What shall I do?

A:

- The concurrent network needs a TCP/IP network to work correctly. Make sure that your LAN works without problems and that the connection between client & server is not blocked.
- Do not forget to add the 3D.exe to the exception list of the Windows firewall as described in chapter 6.3.1 and 6.4.1.
- Make sure that the latest Microsoft Windows Service Packs are installed on all your computers.
- Adding the ConcurrentServer.exe to the exception list of the Windows firewall may help

Q: What is the maximum number of concurrent clients in a concurrent network?

A: The maximum number of concurrent clients you can order in your license is limited to 255. This means that you may have an unlimited number of iQ-3D installations in your network, but only 255 applications can run simultaneously.

Q: Can I use different versions of iQ-3D installations within a concurrent network?

A: No, all software versions of the concurrent server and the clients have to be the same to keep them working together. For example if you use version 1.1.0 of an application as the server and version 1.2.0 as the client, the client cannot connect to the server.

Q: My network consists of several subnets. Can I install the server and the clients in different subnets?

A: Yes. However, in that special case you have to tell the clients where to find the server in the network. Browse to the root folder of your client application and open the file "3D.ini" in a text editor. Look for the line "server=" in the section "[LICENSE]". Add the IP address of the concurrent server to the line, for example "192.168.120.97". Save the changes in the file. After restarting the client, it can connect to the server in the other subnet.

Q: Is the hardware fingerprint delivered by iQ-3D the same one delivered by the concurrent license server of the same installation?

A: No, even if both applications run on the same computer, it is possible that they can deliver different hardware fingerprints. Therefore always make sure to report the correct fingerprint for your use case to your reseller.

Q: I read that once the concurrent license server is activated, it is tied to the IP address of the server machine. What happens, if the IP changes for some reason?

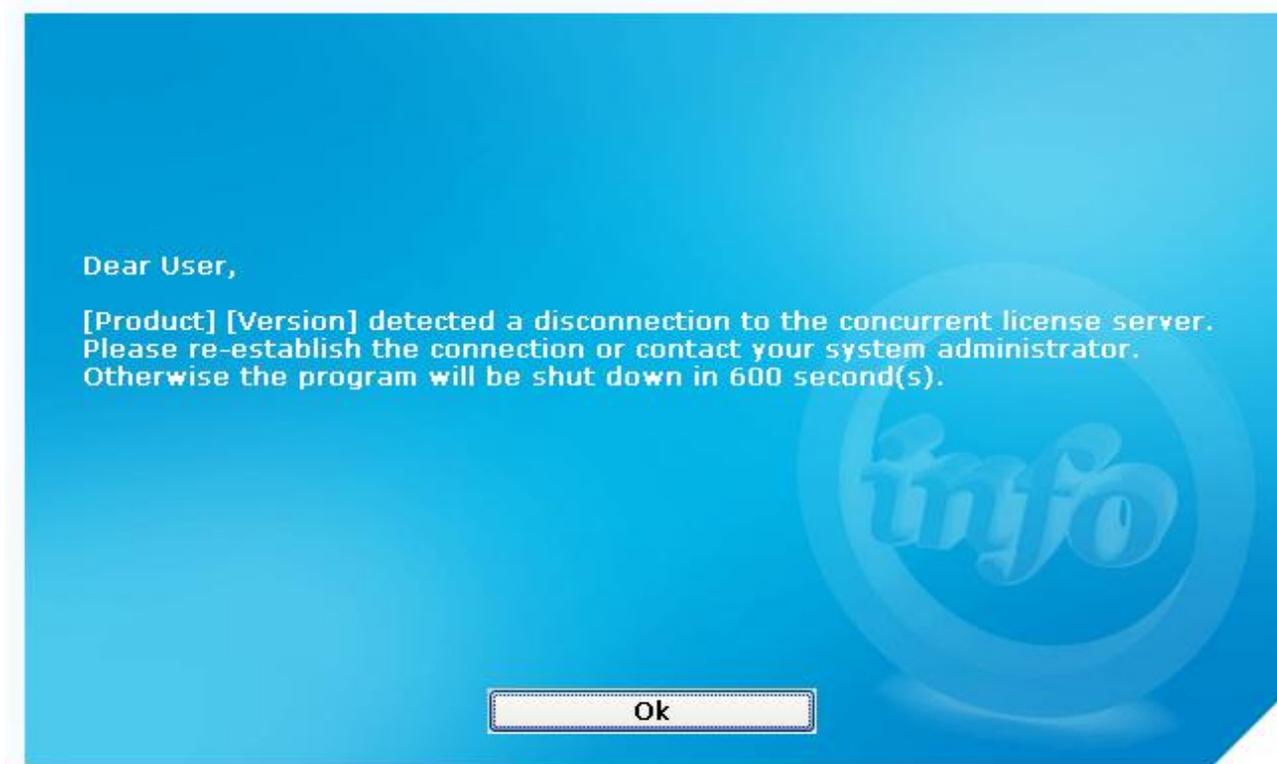
A: In fact, another IP does not have any effect on the server itself. It keeps on running. But the clients refuse to start and show an adequate error message. Therefore make sure that you use a server machine with a static IP address. However, if your IP address changes, please contact your local reseller informing about the new IP address.

Q: Can I use two or more concurrent servers at the same time in the same network?

A: No, if you start a second server in the same network, it shows an error message and refuses to start.

Q: What happens if I disable the network connection between client and server?

A: The client needs a constant connection to the concurrent license server to work correctly. If the connection is disabled, the client will show a warning message one minute after the incident. If you do not reestablish the connection within the next 10 minutes the client will shut down and can only be reactivated after the connection to the concurrent license server was reestablished.



"Concurrent interruption" dialog

Q: I activated an iQ-3D installation with a single license some time ago. Now I would like to establish a concurrent network in the same network. Can I still use the single license?

A: Yes. But remember that all iQ-3D installations you wish to participate in the concurrent network need the "concurrent patch" mentioned in section 6.3.1 and 6.4.1. Once you have installed the patch, the iQ-3D installation will obtain its license from the concurrent license server, no matter if you have activated a single license before or not.

Q: I want to remove the license from the concurrent license server by clicking the 'Remove license' button. The 'uninstall_license_concurrent.txt' is generated and the "Enter Key" dialog is displayed correctly, but the 'Unregister Program' dialog does not show up. Why?

A: The file and the 'Enter Key' dialog will be created every time you click the button, no matter if the license has been reset or not. If the 'Unregister Program' does not show up you probably have not installed a license. However, if you are sure that you have installed a license, then please close the concurrent license tool, install and uninstall the server once again and try to click the 'Remove license' button again.

7 Hardware Guideline

This chapter gives some general hints about what you should consider before buying hardware that is meant to be a platform for iQ-3D.

7.1 Displays

Performance of iQ-3D, especially VRT and MIP, is heavily dependent on the resolution of the monitor. 2 mega pixel displays or higher resolution are not recommended since high display resolutions will not automatically produce higher quality. The resolution is limited by the DICOM source files and high display resolutions would therefore lower the performance.

B/W displays are not recommended since it would make the distinction of separating tissues in VRT difficult.

Most graphics cards are able to connect to two displays in the multi-monitor mode. In those cases where only two displays are connected you can use only one graphics card for iQ-VIEW and iQ-3D.

NOTE

Consumer class graphics cards can be limited in the maximum resolution in the dual head mode. This means using two 3MP monitors on one card might not be supported. Please consult the graphics card vendor before purchasing or check the technical specifications on the manufacturer's website, e.g.

www.NVIDIA.com, www.atl.com

7.1.1 Case Study – Two Monitors

Monitor 1 is a regular 24" Panel while Monitor 2 is a medical display for diagnostics.

Monitor 1 should be used for showing the Study Table of iQ-VIEW and showing iQ-3D while monitor 2 is used for the image viewer only.

Requirements: One dual-head 3D graphics card, or two 3D graphics cards preferable of the same model and a dual slot capable motherboard.

7.1.2 Case Study – Three Monitors

Monitor 1 is a regular 24" Panel, Monitor 2 and 3 are medical monitors.

Monitor 1 is set as the primary device and shows the iQ-VIEW study stable and iQ-3D. Monitor 2 and 3 are connected to the additional graphics card (dual head) and configured as the secondary device. Both medical monitors are dedicated for showing the image viewer only.

Requirements: Two 3D graphics cards preferable of the same model and a dual slot capable motherboard.

WARNING

When using a dual slot capable motherboard with identical graphics cards make sure to **uncheck** the option to use them as one device. (SLI or Crossfire modus)

7.2 CPU

iQ-3D needs at minimum a Pentium 4 or similar processor to work. But a multi-core CPU (e. g. dual or quad core) is highly recommended as this will reduce rendering time almost to half the time needed compared to a single-core CPU, since the cores can work simultaneously.

More cores should always be favored to higher frequency, so a 3.0 GHZ dual core will be significantly slower than a 2.6 GHZ quad-core. Using a fast and modern processor (2 - 3 GHz or higher) will ensure that your CPU will not limit the performance of you graphics card. The following table provides an overview about CPUs on the market and their performance in terms of iQ-3D.

Vendor	Model	Performance
Intel	Pentium 4	+
	Pentium D	+
	Pentium Dual Core	++
	Core 2 Duo	++
	Core 2 Quad	+++
	Core i3 (dual core)	++
	Core i5 (quad core)	+++
	Core i7 (quad core)	+++++
	Xeon (single-core)	+
	Dual-Core Xeon (5000 and 7000 series)	++
	Dual Core Xeon (5100 and 3000 series)	+++
	2 x Dual-Core Xeon (5100 and 3000 series)	++++
	Dual-Core Xeon (5500 and 5600 series)	+++++
AMD	Athlon XP	+
	Athlon 64	+
	Athlon 64 X2	+++
	Opteron (single-core)	++
	Opteron (dual-core)	+++
	Phenom (quad-core)	++++

- performance too low for interaction
- + low performance – slow interaction

++	medium performance – good interaction
+++	good performance – smooth interaction
++++	optimal performance – very fast interaction
+++++	extreme performance – best when working full screen and higher resolution

7.3 Memory

Using at least 1 GB RAM (Read Only Memory) is essential to ensure fast processing while 2 GB RAM or more will prevent speed lags when using several hundreds of slices. More RAM will have an overall performance benefit when working with iQ-3D.

NOTE:

32-Bit operation systems can only use maximal 4GB of RAM, additional RAM will remain unused.

7.4 Graphics Board

Choosing the right graphics card is vital for using a 3D rendering system like iQ-3D since most of the work is delegated to the processing unit of the graphics card. iQ-3D works with common graphics cards used for playing computer games as those cards are optimized for performance. Professional graphics cards can be used as well. Those cards are designed for different tasks (CAD and Modeling); their special features will therefore have no further benefits for iQ-3D.

Vendors such as NVIDIA or ATI/AMD usually target three markets: low-end, mid-range and high-end. The market reflects the performance of the graphics card. While low market graphics cards provide only low performance since they are limited by design, mid-range graphics cards provide an adequate performance and are usually used in standard workstations for multimedia tasks. High-end graphics cards target the professional user. They provide the best performance and quality.

Every graphics card is named by a three-digit or four-digit number (for example "GeForce 480" or "Radeon 5850"). The first number indicates the series. The second number is very important and indicates the market/performance – a higher number means a higher performance. If a vendor releases a new card series usually the first number will be increased by one, but the difference in the performance is low. For example that means that a "GeForce 280" is faster than a "GeForce 310".

Summarized, you can use any OpenGL 1.5 ready graphics card for iQ-3D. But it is recommended to choose at least a card of the mid-range market from Nvidia – at least a GeForce 8800. Try to avoid the low-end products. If you want to make sure to achieve best quality/performance while working with iQ-3D, chose a graphics card, which:

- is from NVIDIA or IMAGE (some features in iQ-3D only work with cards from these vendors)
- targets the high end market
- comes with a lot of RAM
- comes with a wide memory bandwidth (recommended 256 bit)
- has a high electric power consumption (usually the level of consumption is equivalent to the performance)

The following list shows some chipsets of current graphics cards and classifies them according to their market/performance.

Market/Performance	Vendor	Card name
Low end	NVIDIA	GeForce 6200 - 6500
		GeForce 7100 - 7500
		GeForce 8400 - 8500
		GeForce 9300 - 9500
		GeForce 100
		GeForce 205 - 210
		GeForce 310 - 315
		GeForce 405 - 430
	GeForce 510 - 520	
	ATI/AMD	Radeon X300 - X500
		Radeon X1000 - X1500
		Radeon HD 2350 - 2400
		Radeon HD 3100 - 3400
		Radeon HD 4200 - 4300
Radeon HD 5400 - 5500		
Mid-range	NVIDIA	GeForce 6600
		GeForce 7600
		GeForce 8600
		GeForce 9600
		GeForce 120 - 150
		GeForce 220 - 250
		GeForce 320 - 340
		GeForce 440 - 450
	GeForce 530 - 560	
	ATI/AMD	Radeon X600 - X700
		Radeon X1600
		Radeon HD 2600
		Radeon HD 3600
		Radeon HD 4500 - 4600
Radeon HD 5600 - 5800		

	IMAGE	iQ-GRAFIX
High end	NVIDIA	GeForce 6800
		GeForce 7800 - 7900
		GeForce 8800
		GeForce 9800
		GeForce 260 - 295
		GeForce 460 - 480
		GeForce 570 - 590
	ATI/AMD	Radeon X800 – X850
		Radeon X1800 – X1950
		Radeon HD 2900
		Radeon HD 3800 - 3870
		Radeon HD 4700 - 4870
		Radeon HD 5850 - 5970
	IMAGE	iQ-GRAFIX PRO

NOTE

Always make sure to use the latest driver for your graphics card provided by the vendor.

8 Maintenance

iQ-3D itself needs no maintenance. However, you should check regularly – once per quarter is recommended – the hard disk space to ensure that enough storage capacity is available to create temporary copies of imported series.

To adhere to the laws and regulations concerning image viewing devices it is necessary to regularly (re)calibrate the displays and monitors of the iQ-3D workstations accordingly.

Anti-virus checks should be run regularly on the computer where iQ-3D is installed. Keep the virus definitions updated (they should not be older than two weeks).

9 Software administration

iQ-3D still uses an initializing script file that contains information about the startup of the application and default parameters or functions that can be adapted. However there is usually no need to manually edit this file anymore as this can now be done inside of the application. If you wish to reset the application to the installation default you can locate and delete the initializing script file here:

[iQ-VIEW installation folder]/3D/3D.ini

10 List of abbreviations

CPU	– Central Processing Unit
GB	– Gigabyte
GHz	– Gigahertz
GPU	– Graphics Processing Unit
LAN	– Local area network
RAM	– Random-access Memory
TCP/IP	– Transmission Control Protocol/ Internet Protocol
UDP	– User Datagram Protocol

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