CLINIVIEW™ 10.2.2

Installation Manual

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Copyright

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1 Introduction

1.1 General

CLINIVIEW™ (hereafter called "the software") is a complete solution for digital image acquisition, processing, viewing and storing. The software supports INSTRUMENTARIUM DENTAL™ Sigma, Sigma M and Snapshot intraoral sensors, Express, Orthopantomograph® OP30, OP300, OP100 D, OP200 D and Orthoceph® OC100 D and OC200 D digital units, KaVo Scan eXam™, Pan eXam™ and Pan eXam™ Plus digital units, and intraoral video cameras. Images can also be imported from other digital sources. The software stores images and patient information in a SQL database and provides tools for image archiving.

This installation manual covers the installation of the software Standard and DICOM versions. The user manual describes how to use the software. See the equipment manuals before installing or using the equipment. See the Windows manuals for further information about the Windows environment.

With the software you can perform the following operations, assuming that all the equipment is ready for use:

- Create a new patient and store patient information in a database.

- Capture and store digital X-ray images with exposure values from the device.

- Capture and store intraoral photographs.

- Export and import digital images.

- Process images to enhance their diagnostic value with dental specific tools.

- Analyse the image with application specific measurement tools.

- Build an environment with multiple workstations using a database shared over a network.

- Printing images and image information.

- Capture 3D images and launch 3rd party image analyzing and planning tools

The software allows to import and export image files. Supported file formats are D32, JPG, JPG2000, TIF, BMP and PNG. D32 is Instrumentarium's proprietary own file format. Images can be saved in the database in PNG (16 bit) or JPG formats (12 bit).

The software can be used in a network environment. If the software is installed in several computers, the patient and image database can be shared and used from different workstations.

We recommend to read this manual before installing and using the software.

1.2 Manufacturer's liability

As a manufacturer, we can only assume liability for safe and reliable operation of this software when the PC software is installed and used according to the software installation and user manuals.

Note! *Safe and reliable usage of the product requires that the user has read and understood the instructions and restrictions given in the manual.*

1.3 Abbreviations

PC	Personal computer
HD	Hard disk
Hz	Hertz; cycles per second
MHz	Megahertz, millions of cycles per second
CPU	Central processing unit (computer)
RAM	Random access memory
MB	Megabytes
GB	Gigabytes
CCD	Charge-coupled device
DVD-RW	Digital Versatile Disc (re-writable)
PCI	Peripheral Component Interconnect
DAT	Digital audio tape
MOD	Magneto optical drive
USB	Universal Serial Bus
VfW	Video for Windows, a video format supported by the software Intraoral Camera interface.
WDM	Windows Driver Model, a video format supported by the software Intraoral Camera interface.
WLAN	Wireless Local Area Network

1.4   System requirements

The below requirements are the minimum required to install and use the software for basic 2D imaging. When using the software together with an imaging unit, please refer to the unit installation manual for additional requirements. 3D units specifically have additional computer requirements not listed below.

1.4.1   Minimum system requirements for the software client

Operating System (OS)	- Windows XP Professional SP3 (32-bit) - Windows Vista Business/ Ultimate/Enterprise SP2 (32 or 64-bit) - Windows 7 Professional/ Ultimate/Enterprise SP1 (32 or 64-bit) - Windows 8 Pro/ Enterprise (32 or 64-bit) - Windows Server 2008 SP2* (32-bit) - Windows Server 2008 SP2* (64-bit) *requires installation of Desktop Experience
Memory (RAM)	At least 1 GB (32-bit OS) or 2 GB (64-bit OS)
Processor	2 GHz Pentium 4 or better
Hard disk	8 GB free space
DVD-ROM	DVD-ROM for installation
Keyboard	Yes
Mouse	Yes
Network card	10/100/1000 Mb/s Ethernet
Monitor	19" or larger recommended, capable of 1280 x 1024 resolution, 24-bit color, or better
PCI slot	PCI slot for OP capture card in OP acquisition PC
USB port	USB port for Sigma, Sigma M and Snapshot

WLAN	WLAN for Sigma M
CB3D additional requirements	See the device manuals.
Other software	Anti-virus software is recommended to protect the system from viruses.
Other device	Device to support archive media
VT additional requirements	At least 2 GB RAM Display adapter supporting the following: ■ OpenGL 2.0 (or higher) ■ Texture3D OpenGL extension ■ 128 MB video RAM (dedicated, not shared)

1.4.2 Minimum system requirements for the software database and SQL Server

Operating system (OS)	■ Windows XP Professional SP3 (32-bit) ■ Windows Vista Business/ Ultimate/Enterprise SP2 (32 or 64-bit) ■ Windows 7 Professional/ Ultimate/Enterprise SP1 (32 or 64-bit) ■ Windows 8 Pro/Enterprise (32 or 64-bit) ■ Windows Server 2003 SP2 (32-bit)* ■ Windows Server 2008 SP2 (32-bit) ■ Windows Server 2008 R2 SP1 ■ Windows Server 2008 SP2 (64-bit) ■ Windows Server 2012 (64-bit) *requires Windows Server 2003 hotfix (KB925336) before the software installation.
Supported SQL Server versions	■ SQL Server 2005 SP2 (32-bit x86 edition) Express/Standard/ Workgroup/Enterprise ■ SQL Server 2008 with SP1 (32-bit x86 edition) Express/Standard/ Workgroup ■ SQL Server 2008 R2 (32-bit x86 edition) Express/Standard/ Workgroup ■ SQL Server 2012 (32-bit x86 edition) Express/Standard/ Workgroup
Memory (RAM)	At least 1 GB (32-bit OS) or 2 GB (64-bit OS)
Processor	2 GHz Pentium 4 or better
Monitor	No special requirements

DVD-ROM	DVD-ROM
Hard disk	8 GB free space
Pan / ceph images	4 GB /1000 panorama or cephalometric images
Express	2 GB/1000 images
Snapshot sensor DIGORA® Toto	Standard resolution mode: 1.3 GB/1000 images High resolution mode: 4 GB/1000 images
OP300	100 GB/1000 CB3D study
Volumetric Tomography images	37 GB / 1000 VT Studies
Other software	Anti-virus software is recommended to protect the system from viruses.
Backup	A suitable backup system is required for safeguarding patient data and images. Backup is solely the responsibility of the end-user. The manufacturer takes no responsibility for backup of user-created data and images.

1.4.3 Minimum system requirements for Reco Server

Operating system (OS)	- Windows XP Professional SP3 (32-bit) - Windows Vista Business/ Ultimate/Enterprise SP2 (32 or 64-bit) - Windows 7 Professional/ Ultimate/Enterprise SP1 (32 or 64-bit) - Windows Server 2003 SP2 (32-bit)* - Windows Server 2008 SP2 (32-bit) - Windows Server 2008 R2 SP1 - Windows Server 2008 SP2 (64-bit) - Windows Server 2012 *requires Windows Server 2003 hotfix (KB925336) before the software installation.
Processor	2 GHz Pentium 4 or better
Memory (RAM)	At least 1 GB (32-bit OS) or 2 GB (64-bit OS)

Note! If the audio card is installed, speakers are needed to hear the signal.

Note! In the case of installation in Windows Server 2003, Windows Server 2003 hotfix (KB925336) must be installed first, before installation can be started.

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For safe and reliable system performance, you need to arrange an appropriate backup procedure; meaning that you regularly back up the system and store the labelled back up media in a safe place. The end-user is solely responsible for backing up all data.

1.5 The software specifications

APPLICATION SOFTWARE:	
PRODUCT NAME	**CLINIVIEW™**
Image acquisition modalities	■ OP100 D ■ OC100 D ■ OP200 D ■ OC200 D ■ OP30 ■ OP300 ■ Express ■ Volumetric Tomography ■ Sigma ■ Snapshot ■ Sigma M ■ KaVo Pan eXam ■ Pan eXam Plus ■ Scan eXam ■ TWAIN-compatible scanners and digital cameras ■ Video acquisition devices VfW format WDM format
Patient database	Microsoft SQL Server 2008 R2 SP1 Express/Workgroup/ Standard/Enterprise Editions
Image storage	Local or network
Password security	Yes
Imaging procedures (pan/ceph):	See Volumetric Tomography User Manual, User program Chapter in OP100 D, OP200 D, OP300 and OP30 User Manual.
Imaging procedures (intraoral):	Series Mount exposure (an optional feature) Single exposure
Imaging procedures (3D):	See OP300 User Manual

Image processing	Brightness & Contrast Zoom Move Noise Reduction Edge enhancement Embossment Invert Mirror Rotate Sharpen Unsharp mask Pseudocolor Isodensity color Optimize contrast (low, medium, high) Gamma correction adjustments Equalized histogram, logarithmic histogram, linear histogram ***Note!*** *CB3D 3D images require 3rd party viewing and/or planning software.*
Overlay graphics	Text, Line, Free hand, Angle, Rectangle, Circle, Arrow, Region of Interest tools, Implant tools, Drag or Erase graphics, Edit graphics, Save graphics ***Note!*** *CB3D 3D images require 3rd party viewing and/or planning software.*
Measurements	Length Calibration Angle Free Angle ***Note!*** *CB3D images require 3rd party viewing and/or planning software.*
Image Printing	MS Windows compatible printers DICOM Printers (CLINIVIEW™ DICOM) Multi-image printing Free print layout design Image information printing
Image archiving	CLINIVIEW™ manager application

Image dynamics/ grayscales	12-bit/4096 (capture) 16-bit/64k (process & handling) 8-bit/256 (display)
Image storage mode	16-bit enhanced
File formats	PNG (16-bit), JPG (12-bit), TIFF
File compression	PNG (lossless), JPG (100% - 60% quality), TIFF (lossless)
Typical file size	Panoramic About 2-4 MB (PNG 16 bits) Intraoral Sigma 0.4-1.6 MB (PNG 16 bits) Intraoral Sigma M 3-5 MB (PNG 16 bits) Intraoral Snapshot 3-5 MB (PNG 16 bits) Cephalometric 3-5 MB (PNG 16 bits) CB3D- 60-350 MB Intra Express 0.3-2 MB (PNG 16 bits) VT projection series 11 images 8 MB (PNG 16 bits) VT slice series 30 MB (MNG 16 bits)
Import/Export file formats	BMP, D32, PNG, JPG, TIF, DICOM, JPG2000, MNG

1.6   The software compatibility table

	Win- dows XP	Win- dows Vista 32-bit	Win- dows Vista 64-bit	Win- dows 7 32-bit	Win- dows 7 64-bit	Win- dows 8 32-bit	Win- dows 8 64-bit
OP100 D s/n 0-89999					x		x
OP100 D s/n 90000 ->	x	x	x	x	x	x	x
OP200 D	x	x	x	x	x	x	x
OP200 D with SmartNav	x	x	x	x	x	x	x
OP30	x	x	x	x	x	x	x
OP300		x	x	x	x	x	x
Sigma (USB)	x	x		x		x	
Sigma M (WLAN)	x	x	x	x	x	x	x
Snapshot (USB)	x	x	x	x	x	x	x
Express	x	x	x	x	x	x	x
KaVo Pan eXam	x	x	x	x	x	x	x
KaVo Pan eXam Plus		x	x	x	x	x	x
KaVo Scan eXam	x	x	x	x	x	x	x

OPD/OCD image capturing requires PCI-driver version 2.3.4.7830 or later, which is included on the installation media.

Windows® 2000, Windows® XP Professional and Windows® Vista Business, Windows® Vista Ultimate, Windows® Vista Enterprise, Windows® 7 Professional, Windows® 7 Ultimate, Windows® 7 Enterprise, Windows® 8 Pro are registered trademarks of Microsoft Corp.

**Note!** *Refer chapter 1.4 for details about service packs.*

2   Software installation

Software installation requires at a minimum a **database** for patient and image data, **client software** for image capturing, processing and viewing, at least one imaging device (imaging plate reader, intra-oral sensor or extra-oral x-ray unit) and **license server**. These software components can be installed in one workstation (standalone) or separate workstations (network installation) depending on the system needed.

Standalone

In a standalone system all software components are installed in the same workstation connected to the imaging device.

See chapter 2.1 to install a standalone system.
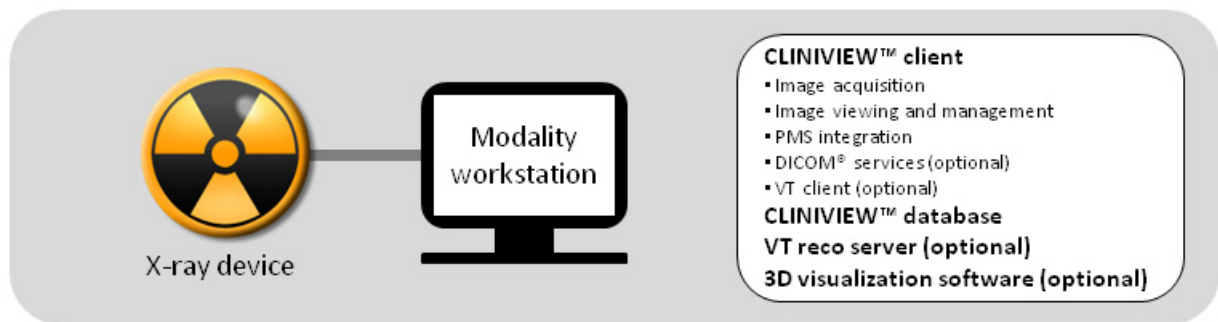
Small Network

A small network system has one modality workstation connected to at least one imaging device for image capturing and viewing stations for image viewing and diagnosis. In a small network system the modality workstation also acts as a database server, storing all image data in the CLINIVIEW™ database and providing access to the image data for viewing workstations. If network licenses are used, the license server is typically installed in the modality workstation.

Note! If network licenses are used, the license server computer must be running at all times to provide licenses to other workstations in the network.
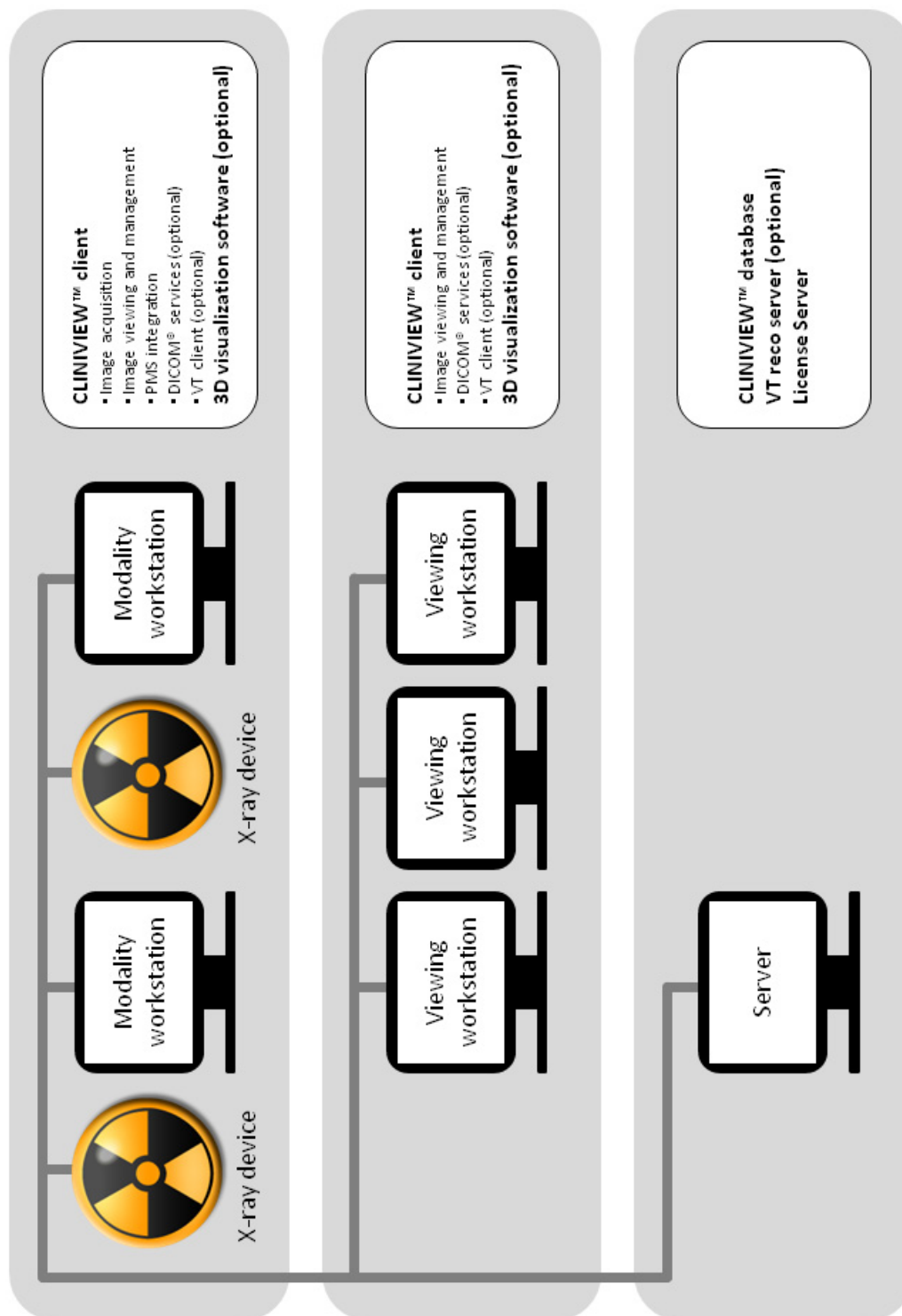
See chapter 2.2 to install a small network system.
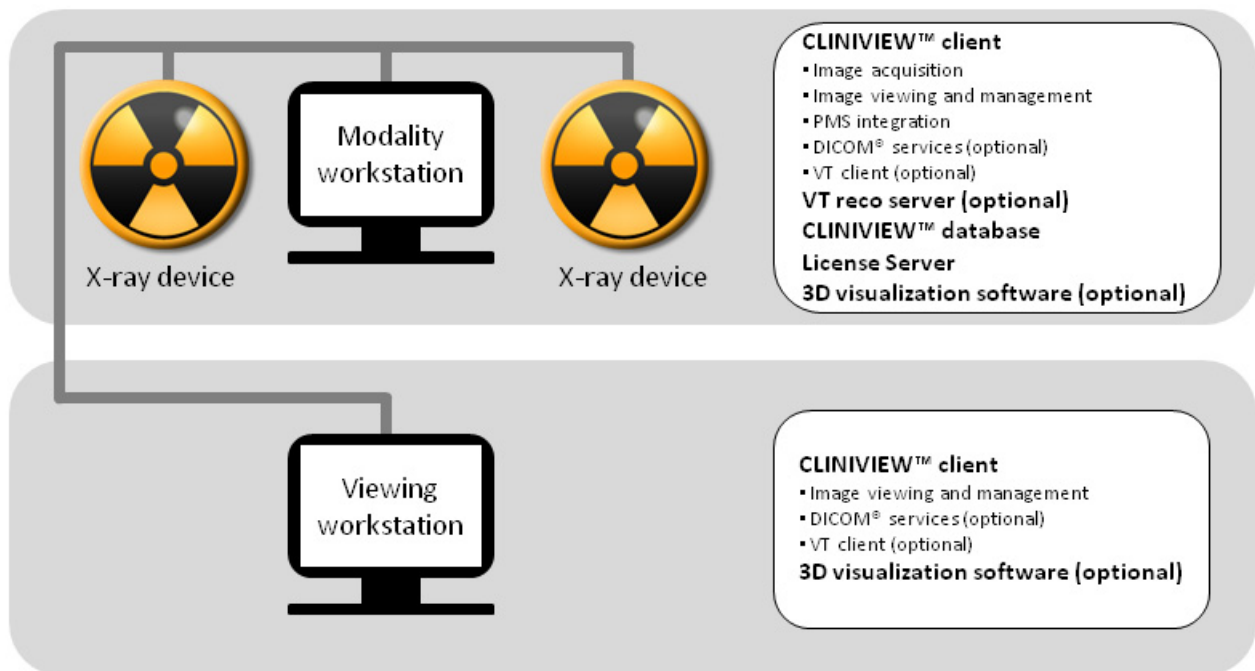
Network

In larger network environments such as imaging centers, large dental clinics or hospitals, the software components can be installed in multiple workstations with a dedicated server. The database is typically installed in a dedicated server with a server operating system. A network installation has multiple modality workstations connected to several imaging devices for image capturing and may also have multiple dedicated viewing stations for image viewing and diagnosis. If network licenses are used, the license server is installed at the server.

Note! *The license server computer must be running at all times to provide licenses to other workstations in the net-work.*

CLINIVIEW™ client
- Image acquisition
- Image viewing and management
- PMS integration
- DICOM® services (optional)
- VT client (optional)

3D visualization software (optional)

CLINIVIEW™ client
- Image viewing and management
- DICOM® services (optional)
- VT client (optional)

3D visualization software (optional)

CLINIVIEW™ database
VT reco server (optional)
License Server

Modality workstation

X-ray device

Modality workstation

X-ray device

Viewing workstation

Viewing workstation

Viewing workstation

Server

Installation options

There are three installation options available: Quick, Network and Advanced.

Quick install is an easy option to install software for a standalone workstation or a small network modality workstation. It includes software for image capturing, processing and storing (software client), image acquisition drivers, image database and local license server. Quick installation performs a default software installation.

Note! Quick installation does not include DICOM features and Volumetric Tomography features. These can be installed later as Add-ons.

Network Client is an easy option to install software clients in a network environment. This options installs software to its default location and creates a database connection to a local database in the network. This install option includes software for image capturing, processing and storing (software client), imaging drivers and database connection settings. Network software installation does not include DICOM and Volumetric Tomography features these features can be installed later as Add-ons.

Note! Network install does not include DICOM or VT features. DICOM and VT features can be installed later as Add-ons.

Advanced option allows a more customized software installation. Advanced should be selected when preselected features in Quick and Network Client installations are not appropriate.

Quick and Network Client and install options are configured to cover most typical installation scenarios. Together with the Advanced option it is possible to configure the installation for any installation environment.

Note! Software installation may require you to restart your computer to complete the installation. Please save all open documents and close all running programs prior to starting installation.

Note! Do not install any of the software components to external hard disks.

Note! SQL Server installation requires that the Windows user account (login) name and the workstation name are different. If the same name is used for both, installation of SQL Server will not succeed.

Note! *Installation creates required Firewall settings auto-matically when image database components or License Server is installed.*

Note! *Make sure that there are no pending or ongoing Windows updates when starting software installation or updates.*

Display settings for the software

The Windows display settings may have to be changed if the display is difficult to read after the software installation. The display settings can be changed in the Windows Control Panel.

The recommended Windows display settings are:

- Desktop area at least 1024 x 768 pixels

- Color quality/Colors: Highest (32 bit)

2.1 Standalone

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

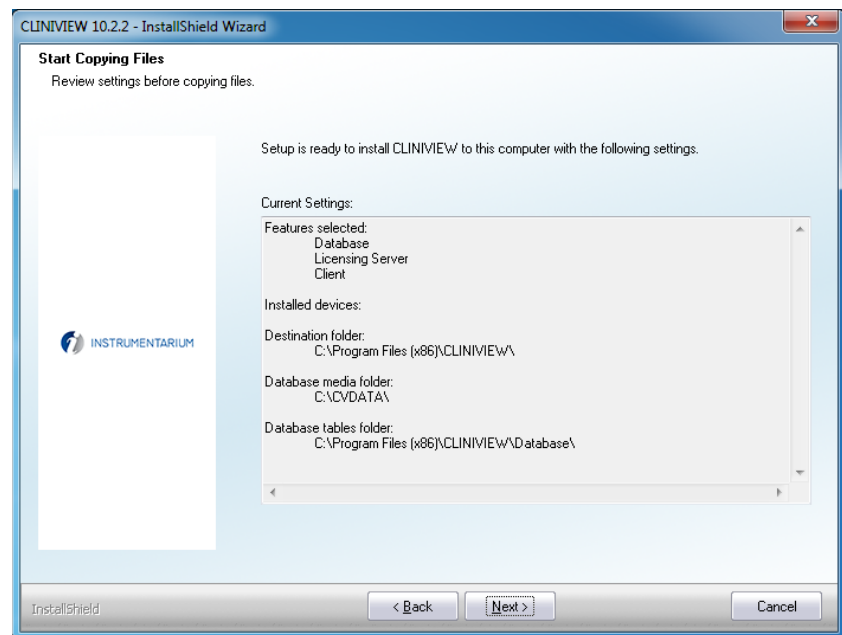   *Note! If the User Account Control window appears, you must allow changes to continue installation.*

3. Select *CLINIVIEW Quick Install*.

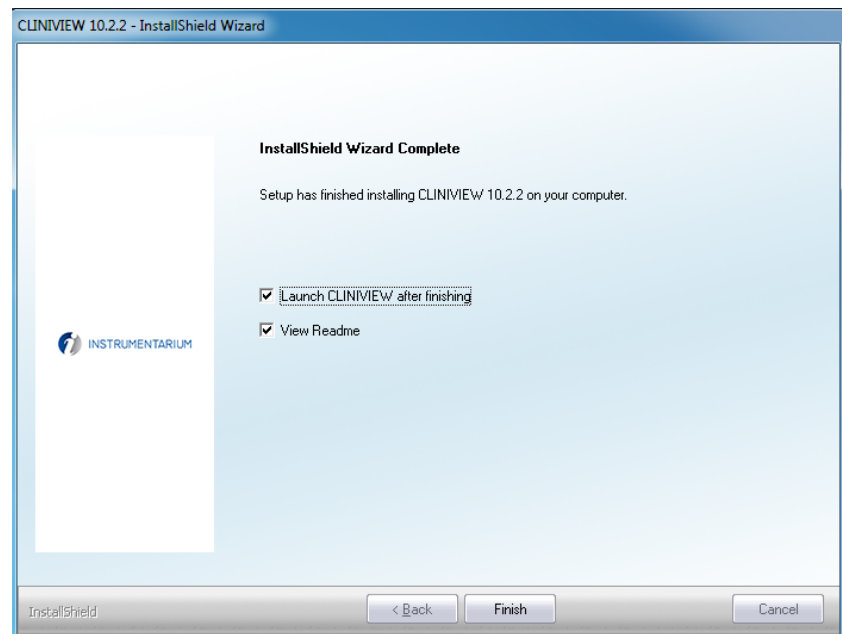4. Review the license agreements and click *Yes* to accept the license terms and continue with the installation.

5. Review the installation settings and click **Next** to start installation process.

Note! *License Server will always be installed when using Quick installation.*
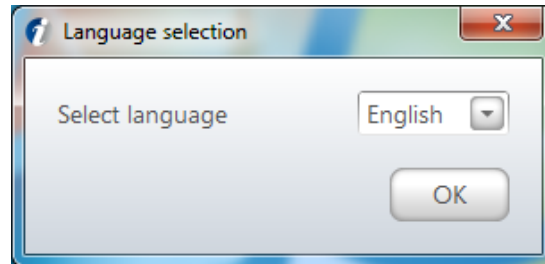
6. Wait until installation is completed and click **Finish** to view the software release info (Readme) and start the software.
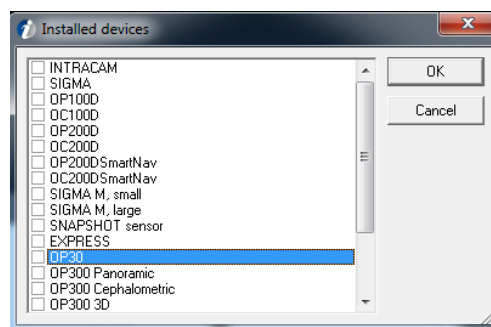

Note! *Software installation will take several minutes depending on the computer.*

7. Select default language for the software and click ***OK*** to continue.

    Note! Software language can be changed at any time within the software from the Tools menu, Languages.

8. To activate the license, select Activate Workstation license. See Chapter 3.2 Licensing CLINIVIEW™ software standalone.

9. The installed devices window will be displayed. Select the devices to be connected to this workstation and click ***OK*** to enable the devices

10. If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

    Note! Only certain devices require a gain file.

11. Software is ready for use and a patient named Calibration Patient will be created and opened. This patient can be used to store all calibration images for the installed device(s).

12. Test installation by acquiring an image according to device user manual or quick guide.

13. Configure the desired user settings for the software. See User manual General Settings chapter for details.

14. If the software with be used with a Cone Beam 3D device, install a 3D visualization software. Launch options for the 3D visualization software can be configured on the Tools menu, Cone Beam 3D Settings.

15. If the software will be used with a Cone Beam 3D device, install a 3D visualization software. Launch options for the 3D visualization software can be configured on the Tools menu, Cone Beam 3D Settings.
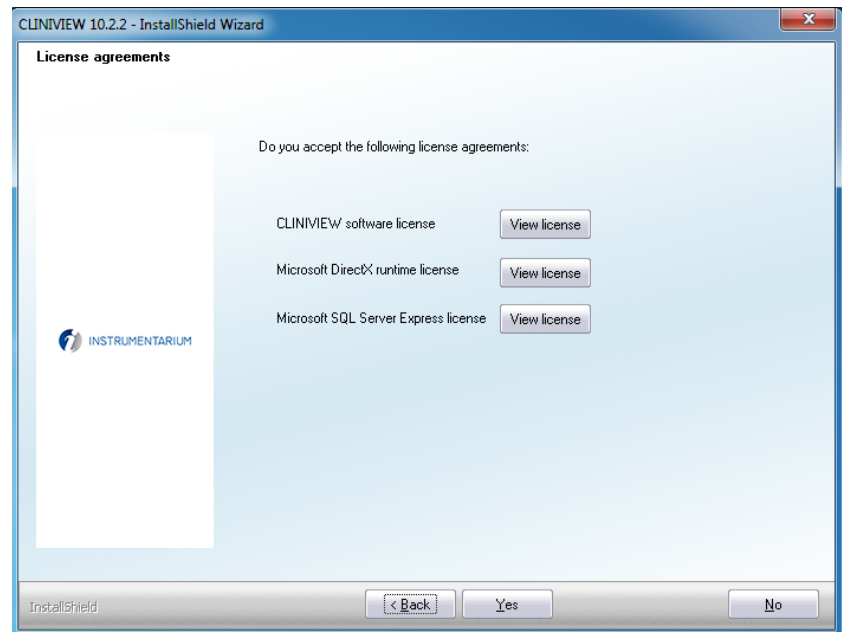
2.2 Small network

2.2.1 Small network server

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

   Note! If the User Account Control window appears, you must allow changes to continue installation.
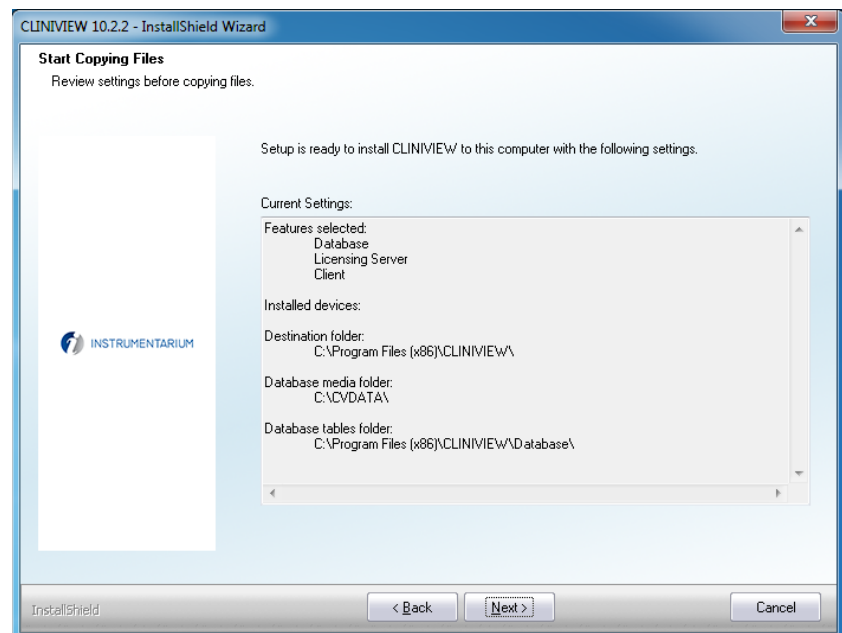
3. Select *CLINIVIEW Quick Install*.
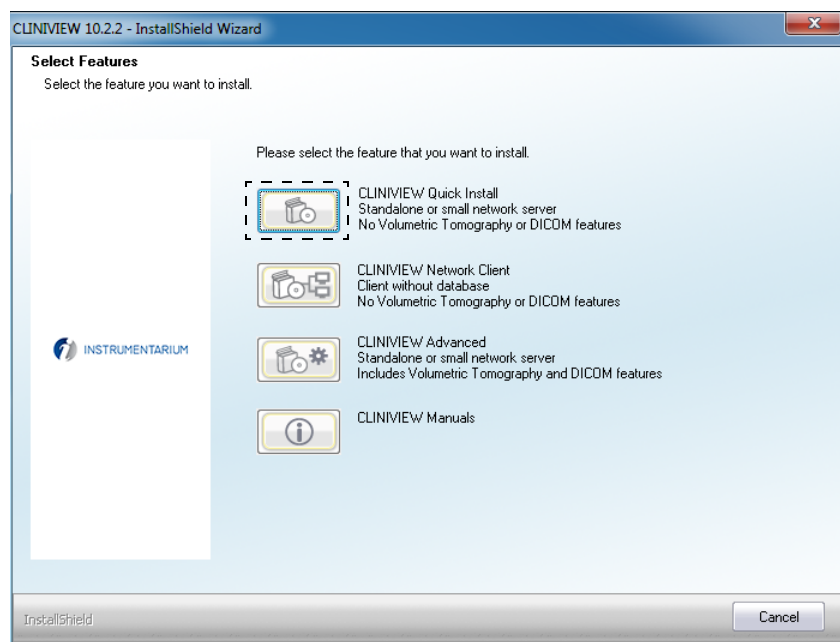
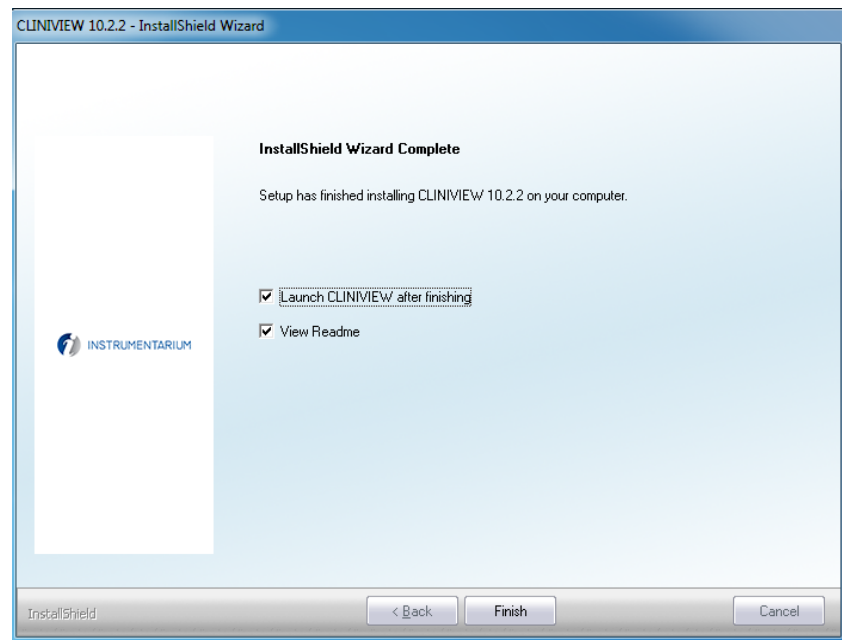4. Review the license agreements and click *Yes* to accept the license terms and continue with the installation.

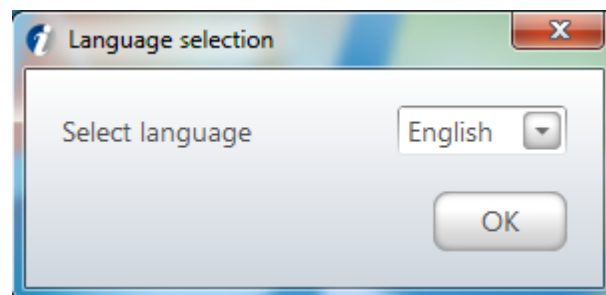5. Review the installation settings and click *Next* to start installation process.

Note! *License Server will always be installed when using Quick installation.*

6. Wait until installation is completed and click *Next* to view the software release info (Readme) and start the software.
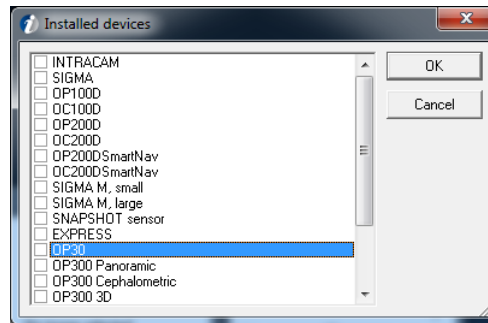

7. Select software default language Click *OK* to continue.

    Note! Software language can be changed at any time within the software from the Tools menu, Languages.

8. To activate the license, select *Activate Workstation license*. See Chapter 3.2 Licensing CLINIVIEW™ software standalone.

9. The installed devices window will be displayed. Select the devices to be connected to this workstation and click **OK** to enable the devices.


10. If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

    Note! Only certain devices require a gain file.

11. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

12. Test installation by acquiring an image according to device user manual or quick guide.

13. Configure the desired user settings for the software. See user manual for details.

14. Close the software.

15. Start License Server manager and activate the floating network license. See Chapter 3.3.1 Activating CLINI-VIEW™ network license.

16. Optional: If the local network does not support DNS or WINS, you must change File Server to use the server's IP address in place of its host name. To do this, open CLINIVIEW Manager. Click **File Server Config**, and enter the user name and password when prompted. Enter the IP address of the server and click **Save**. Close CLINIVIEW Manager.
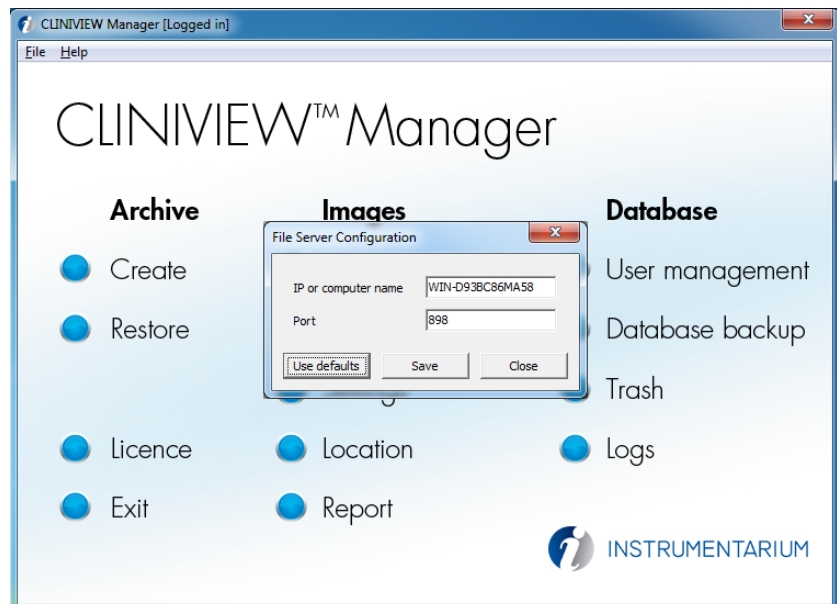

2.2.2 Small network viewing workstation

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

   Note! *If the User Account Control window appears, you must allow changes to continue installation.*

3. Select **CLINIVIEW Network Client**.
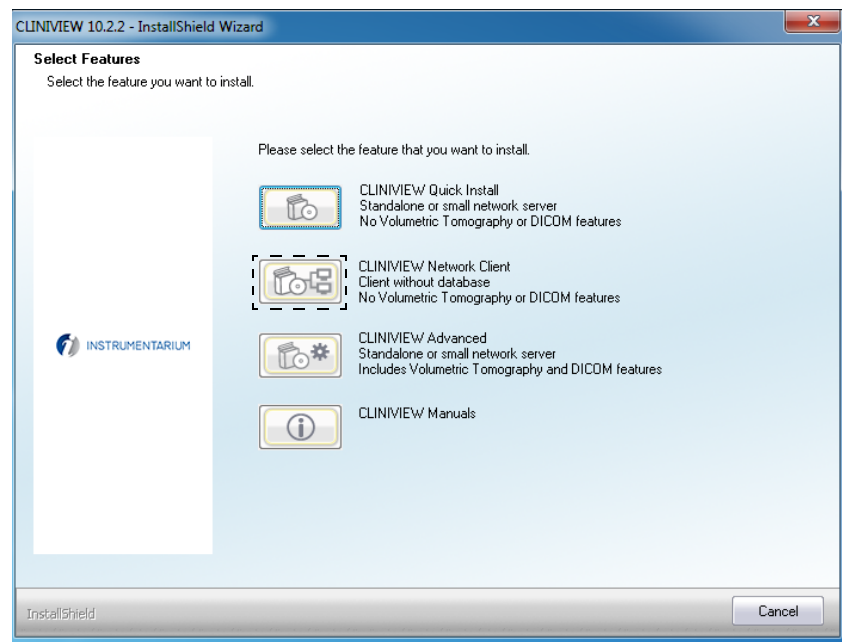
4. Click **Browse** to search for the database server on the network. Select the appropriate database server and click **Next** to continue.
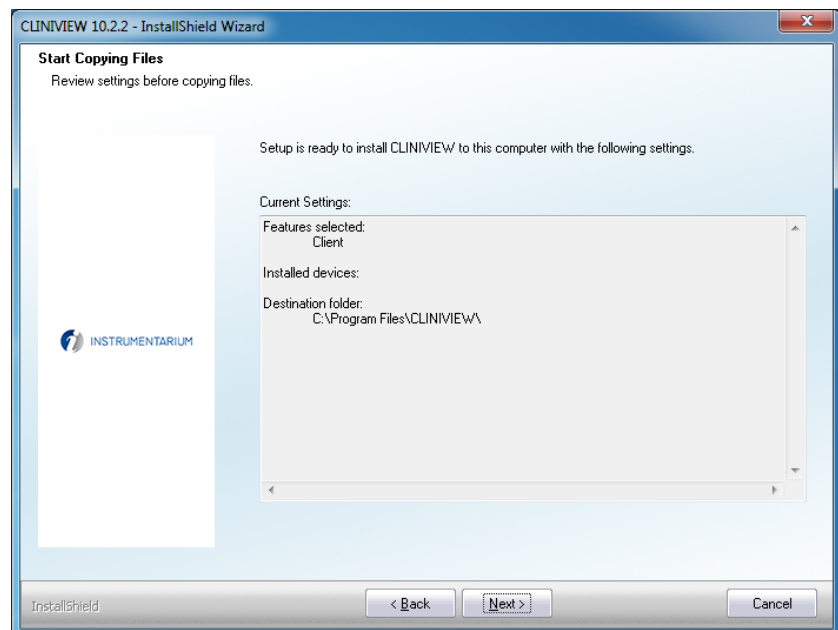
    Note! *If an error is shown, replace the computer name with the IP address of the server and click* **Next***.*
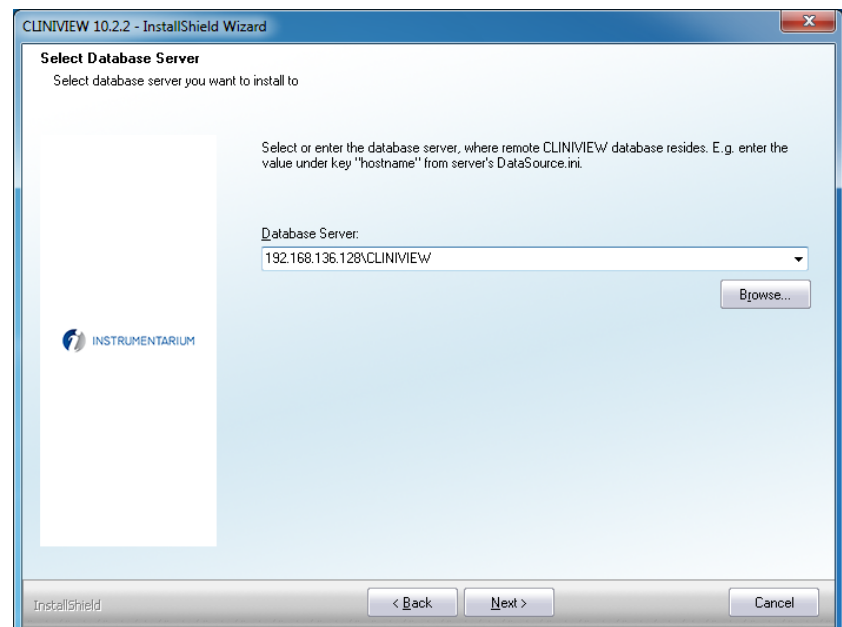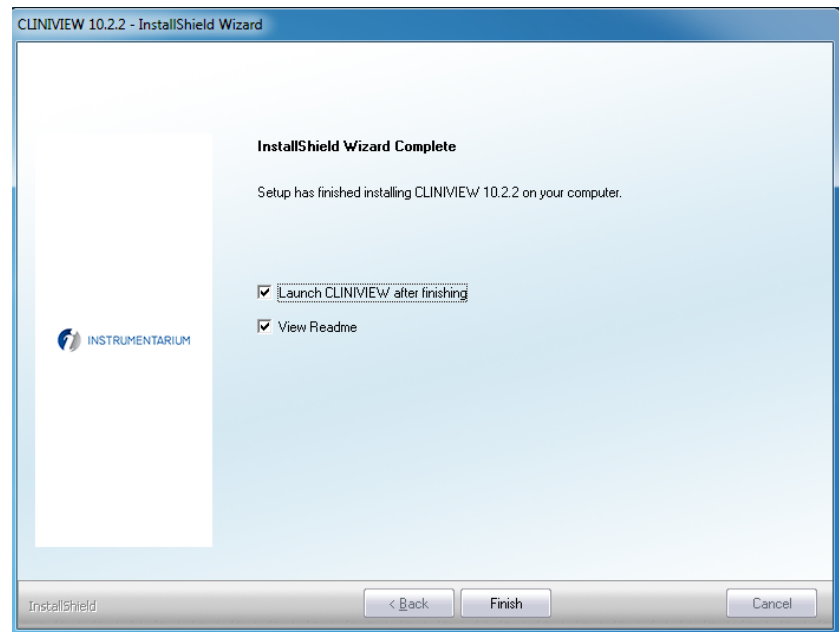
5. Review the license agreements and click *Yes* to accept the license terms and continue with the installation.
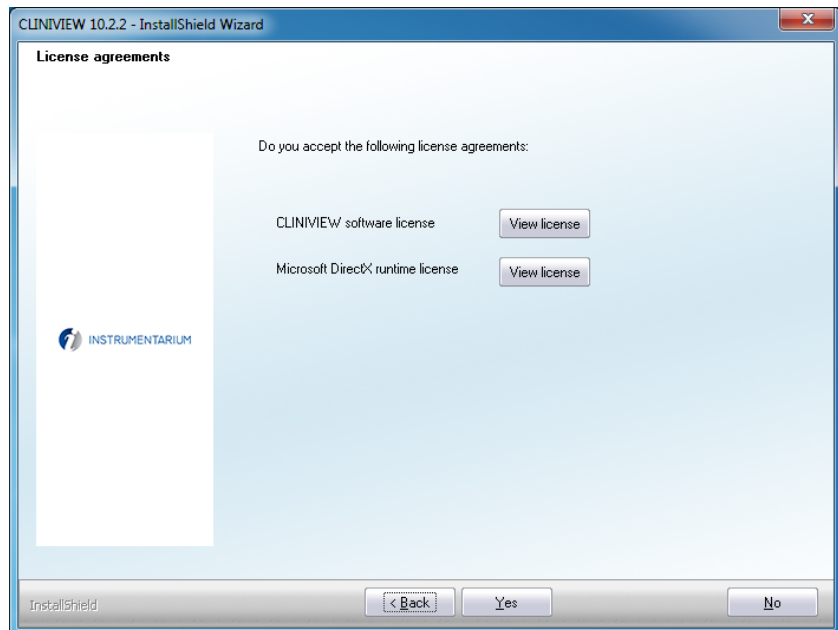
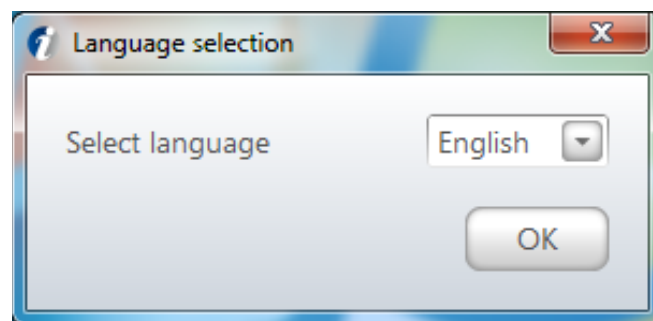6. Review the installation settings and click *Next* to start installation process.

7. Wait until installation is completed and click *Finish* to view the software release info (Readme) and start the software.

8. Select software default language. Click *OK* to continue.

Note! Software language can be changed at any time within the software from the Tools menu, Languages.

9. To activate the license select *Use Network license*. See Chapter 3.3.2 Configuring workstations to use CLINIVIEW™ software network license.

10. The installed devices window will be displayed. If this workstation is only used for viewing images, you do not need to select any devices, just click *OK* to continue.

Note! If you want to use this viewing station also for image capturing, select the devices to be connected to this workstation.

11. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

12. Test the installation by opening a test image captured on a modality workstation.

13. Configure the desired user settings for the software. See User manual General Settings chapter for details.

14. Repeat network client installation for each viewing workstation.

2.3 Network system
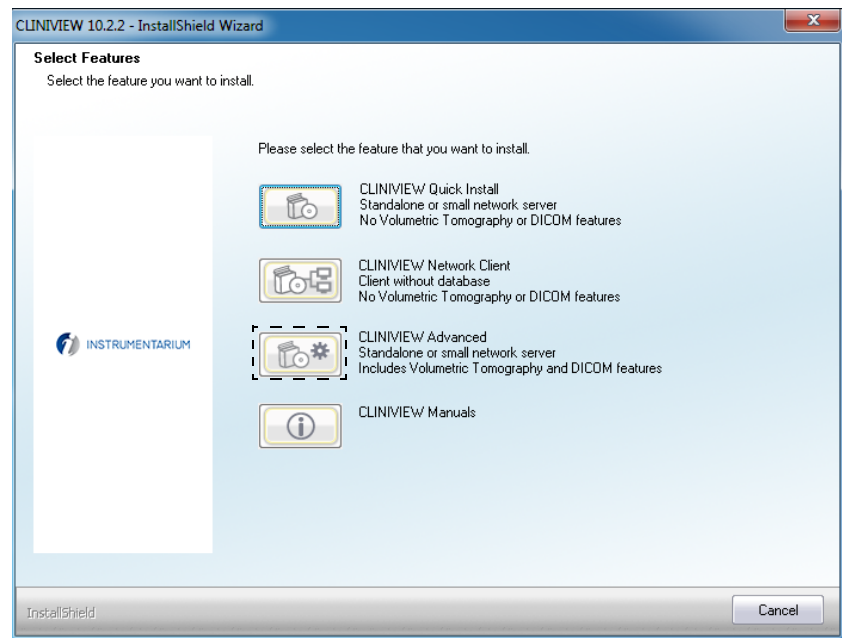
2.3.1 Network database

Network database installation can be performed two ways. Simple database installation using the software installer or Existing Database Installation (EDBI). In Simple Database Installation the MS SQL Server database engine and patient database are installed by the installation software. In Existing Database Installation the patient database will be installed to an existing MS SQL Server.
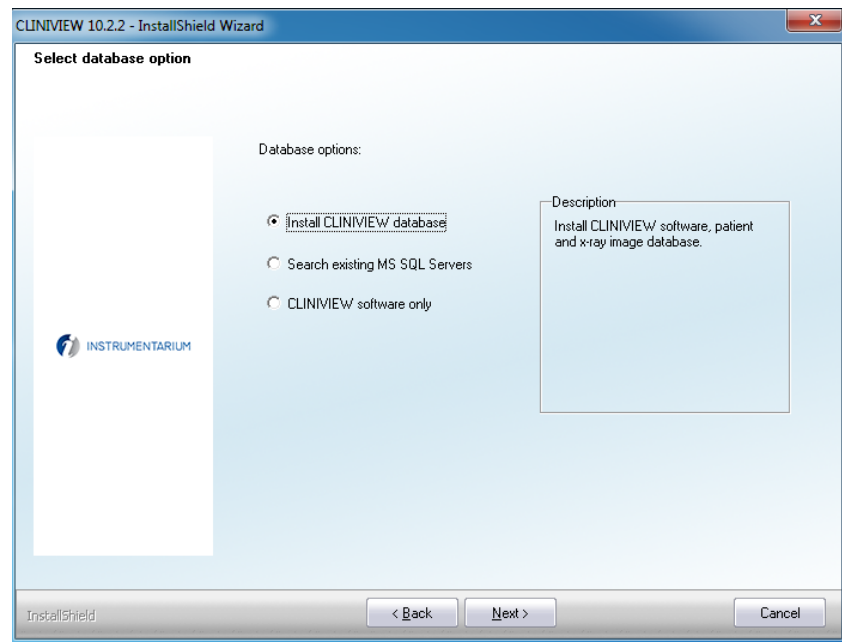
2.3.2 Simple Database installation

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

   Note!   If the User Account Control window appears, you must allow changes to continue installation.

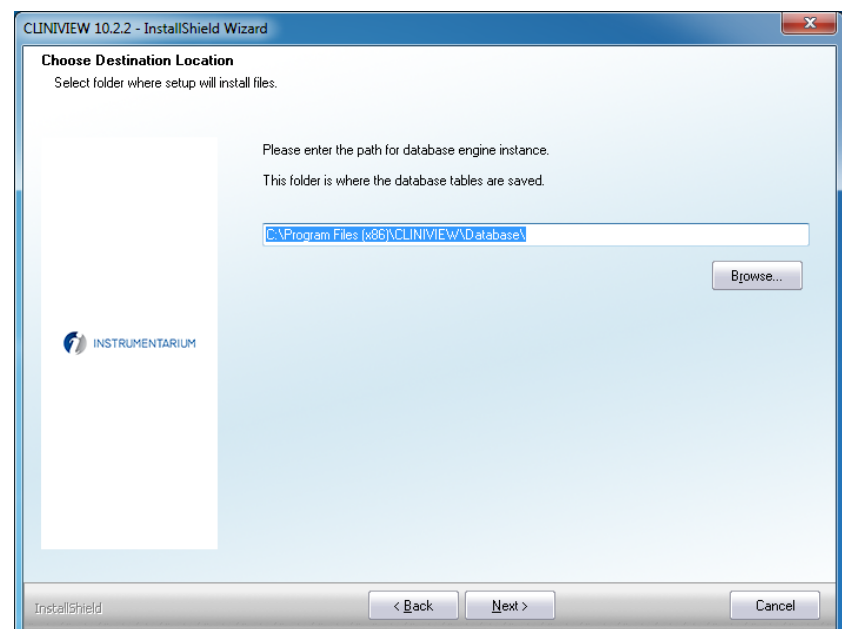3. Select *CLINIVIEW Advanced* installation.

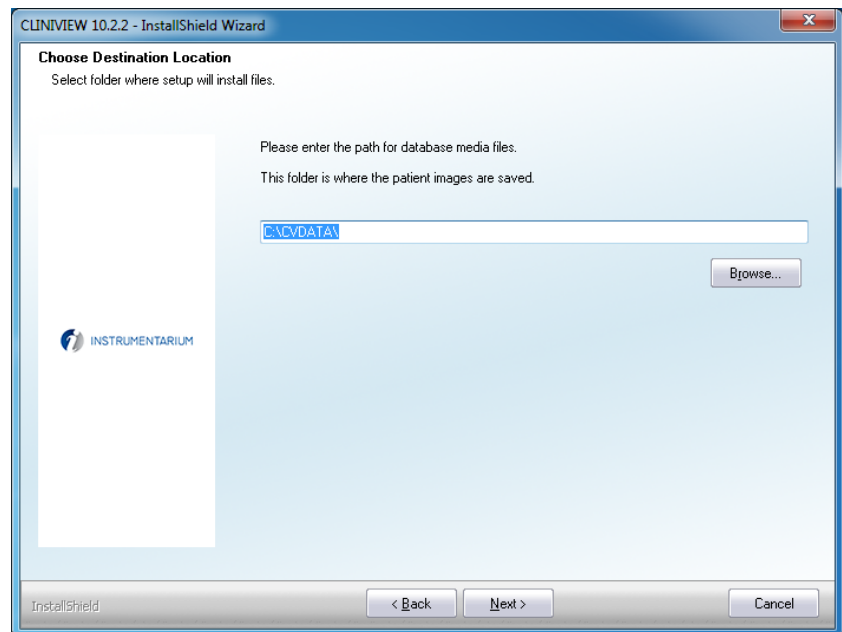4. Select *Install CLINIVIEW database*, this option installs database engine and CLINIVIEW database.

5. Choose Destination folder for the database engine. Click *Next* to accept default and continue or click *Browse* to change the location.
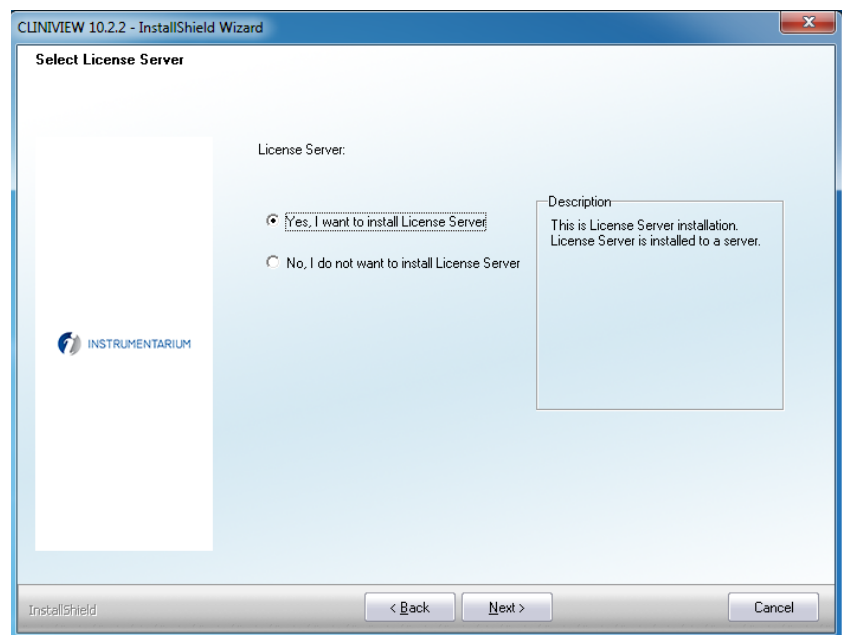
Note! The destination folder for the database engine contains only the database files, not images. Image data location will be selected in the next step.

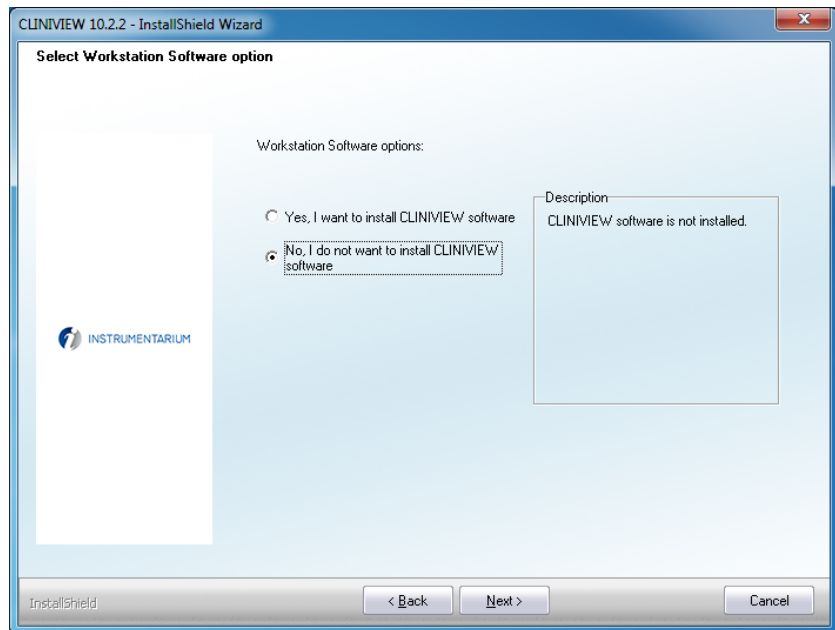6. Choose the destination for image data. Click **Next** to continue or click **Browse** to change the location.

7. Select **Yes, I want to install License Server**. Click **Next** to continue.

8. Select *No, I do not want to install CLINIVIEW software*. Click *Next* to continue.

9. Review the license agreement and click *Yes* to accept the license terms and continue with the installation.
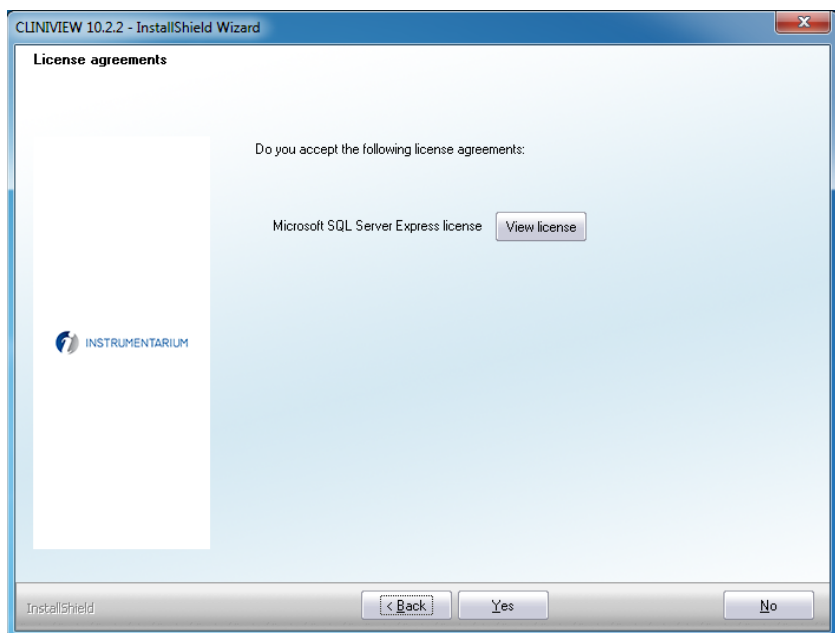
10. Review the installation settings and click *Next* to start installation process.
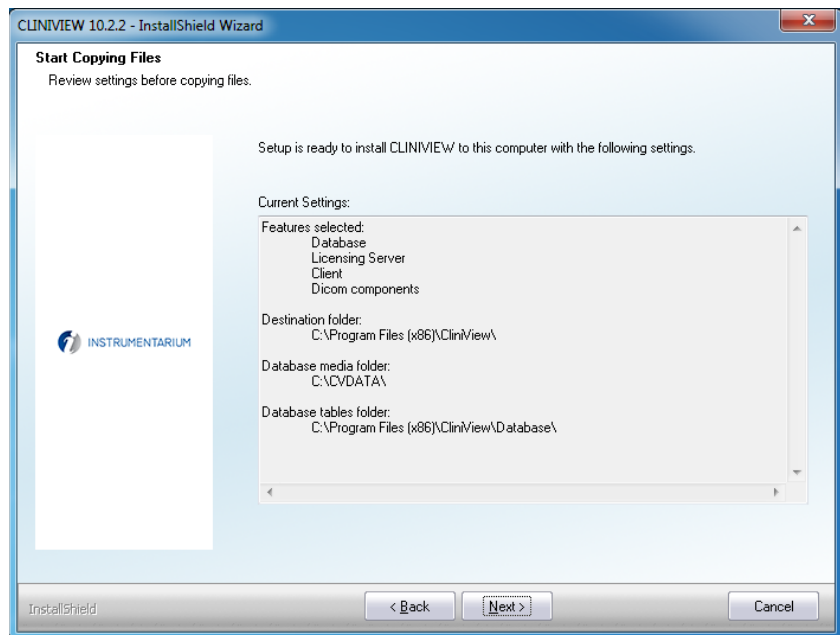
11. View software release info (Readme).

12. Click *Finish* to end installation process. Start the License Manager and activate network licenses. See Chapter 3.2.1 Licensing CLINIVIEW™ network for more information.

13. Optional: If the local network does not support DNS or WINS, you must change File Server to use the server's IP address in place of its host name. To do this, open CLINIVIEW Manager. Click **File Server Config**, and enter the user name and password when prompted. Enter the IP address of the server and click **Save**. Close CLINIVIEW™ Manager.
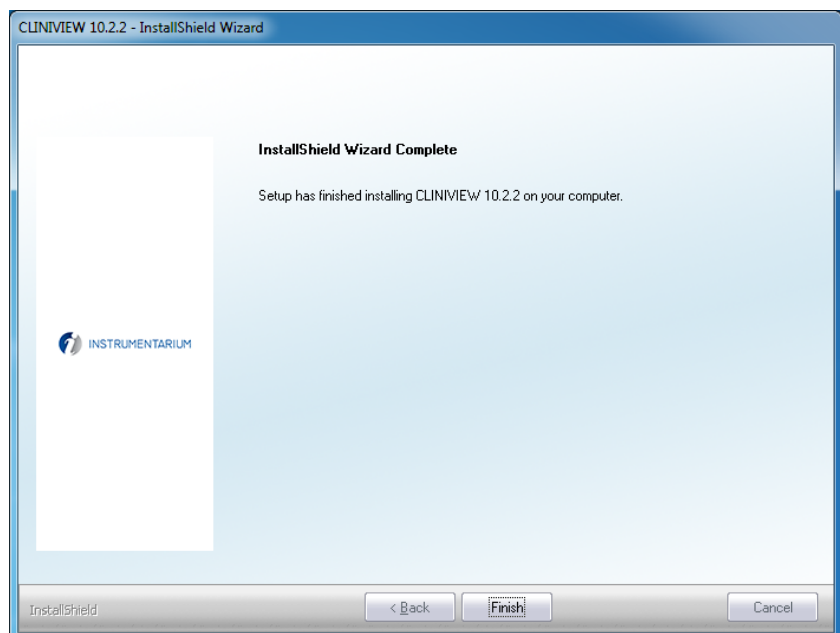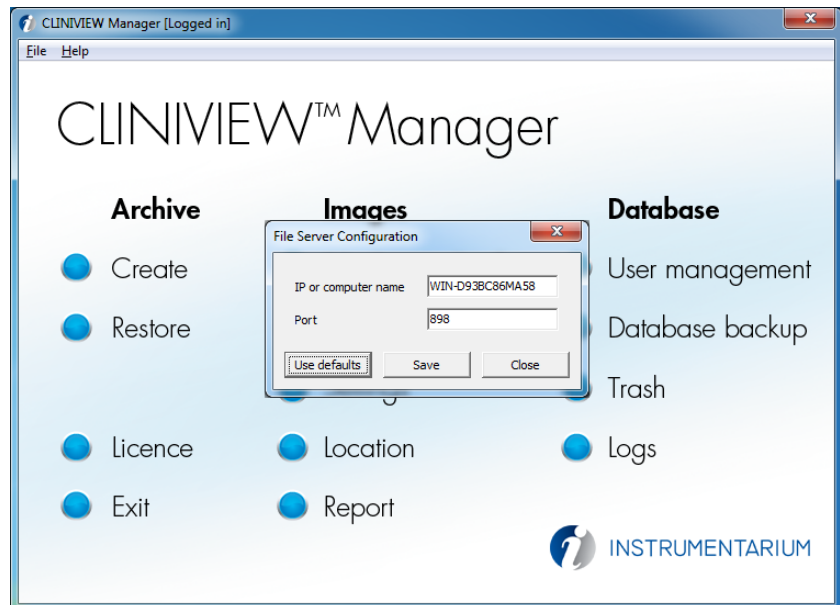

2.3.3 Existing Database Installation (EDBI)

The patient database can be installed to an existing Microsoft SQL Server database engine instead of using Microsoft SQL Server Express engine, which is provided with the software installation package ("Database engine" feature). If more advanced configuration options are needed, please see the ADBI installation.pdf located in the \Tools\Database\ADBI\Install folder on the software DVD.

Note! EDBI is not supported in 64-bit MS SQL Server. Use ADBI (Advanced Database Installation) if you need to install the patient database in 64-bit MS SQL Server.

MS SQL Server instance configuration for patient database:

1. Database installation requires a Named instance that describes its use. MS SQL Server's default instance name is unnamed or empty which is not supported by the software.

2. SQL Server Authentication mode must be set to Mixed mode, the software uses SQL Server authentication when accessing the database. This setting can be changed during installation or using MS SQL Server Management studio.

How to configure mixed mode authentication using MS SQL Server Management studio:

- Start SQL Server Management Studio. SQL Server Management Studio should be run as an administrator user.

- In Object Explorer, select the server and then right click for properties.

- On the security page under Server Authentication select "SQL Server and Windows Authentication mode" and click OK.

- Then click OK on the dialog stating the need to restart SQL Server. To restart the server, select the server and then right-click and select Restart.

3. SQL Server Browser service must be started automatically. This can be configured during SQL Server installation or using SQL Server Configuration Manager.

How to configure SQL Server Browser start parameters using SQL Server Configuration Manager:

- Start SQL Server Configuration Manager as administrator.

- Click SQL Server Services in the left pane.

- Double-click SQL Server Browser service in the right pane.

- Click the Service tab, change Start Mode parameter to Automatic, and click Apply.

- Go to Log on Tab and click Restart button.

- Click OK to exit.

4. TCP/IP protocol must be enabled in the SQL Server Database Engine.

To configure TCP/IP protocol using SQL Server Configuration Manager after patient database installation:

- Start SQL Server Configuration Manager as administrator.

- Click SQL Server Network Configuration (32 bit) in the left pane.

- Double-click TCP/IP in the right pane. Change "Enabled" to Yes, click Apply.

- Click OK to exit.

- Click SQL Server Service in the left pane and locate SQL Server (database name) in the right pane. Right-click this service and select Restart.

- Close the SQL Server Configuration Manager.

**Existing database installation (EDBI)**

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEW™Setup.exe** to begin installation.

    Note! If the User Account Control window appears, you must allow changes to continue installation.

3. Select **CLINIVIEW™ Advanced** installation.
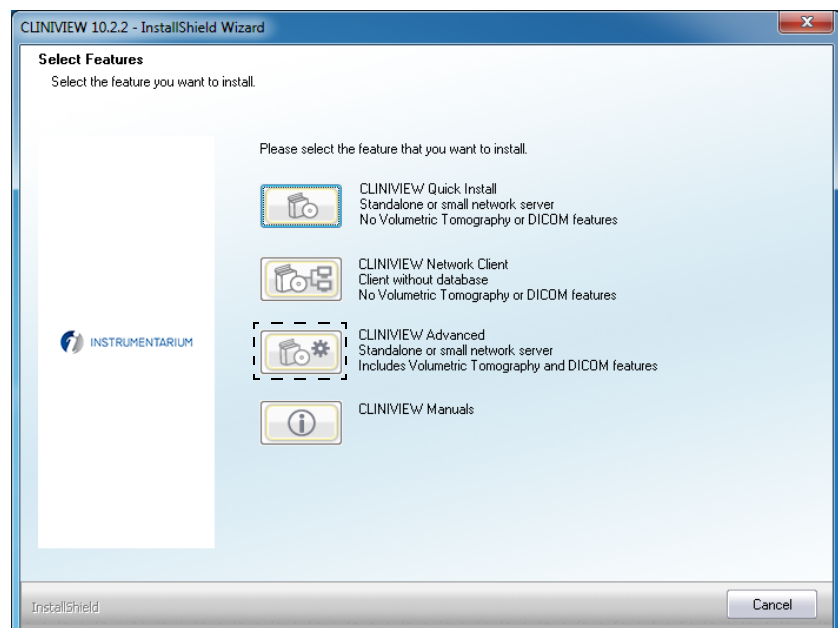
4. Select *Search existing MS SQL Servers*.
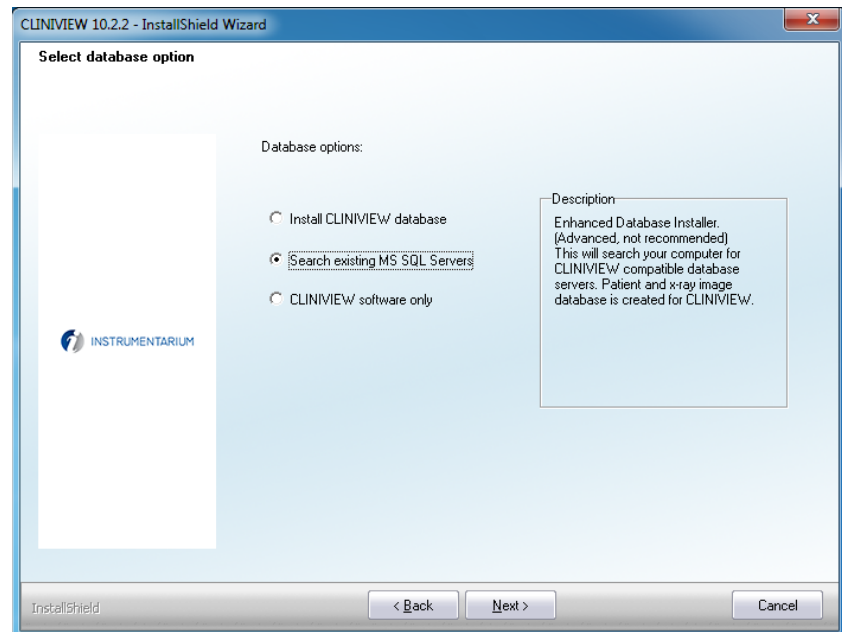
5. In the Database Server Login window, click *Browse* to search for MS SQL Server instance on this workstation.
   – Select the local instance from the list and click OK.
   – Enter the MS SQL Server administrator (sa) password. Please contact the local administrator if you do not know the sa password. Click *Next* to continue.
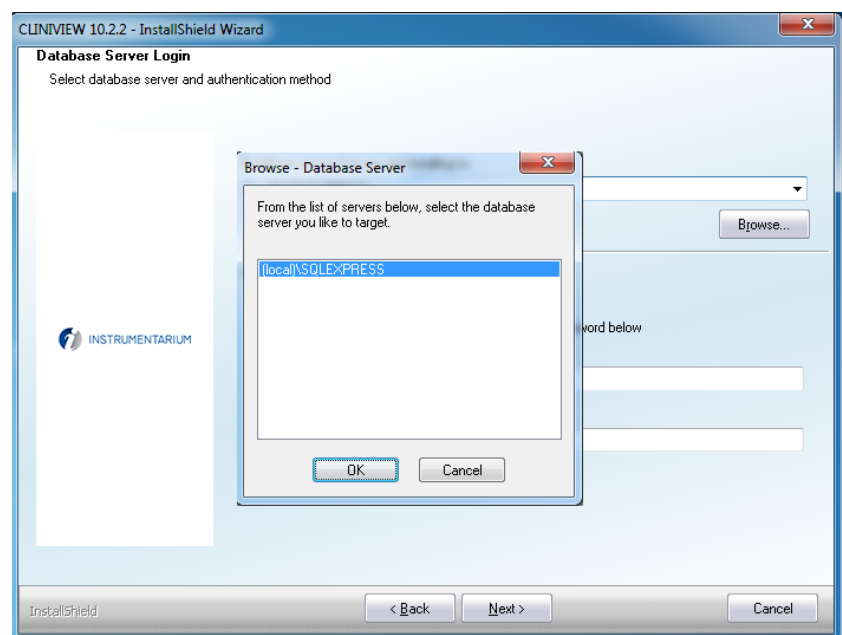
6. Choose the destination for image data, click **Next** to continue or click **Browse** to change the location.
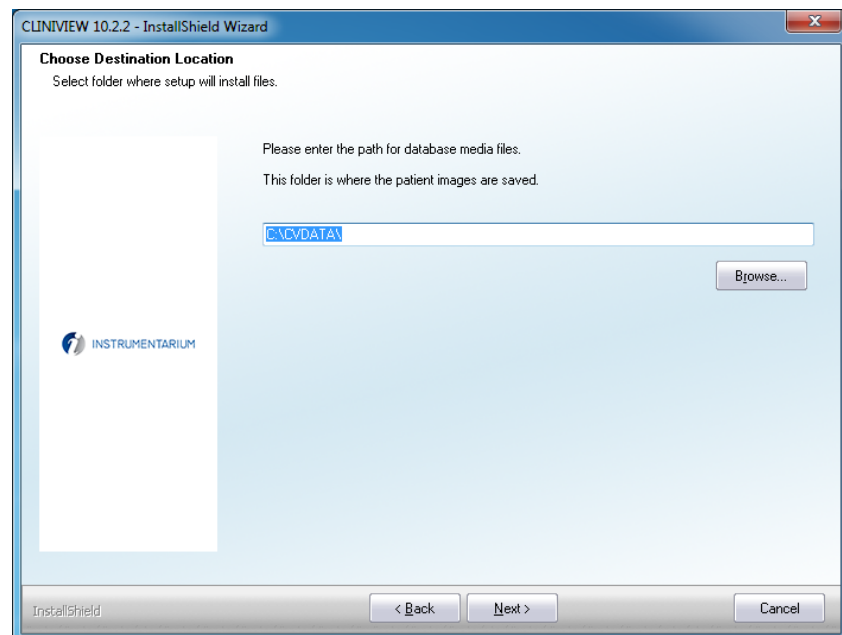
7. Select **Yes** or **No**, depending if the License Server is to be installed in this computer.
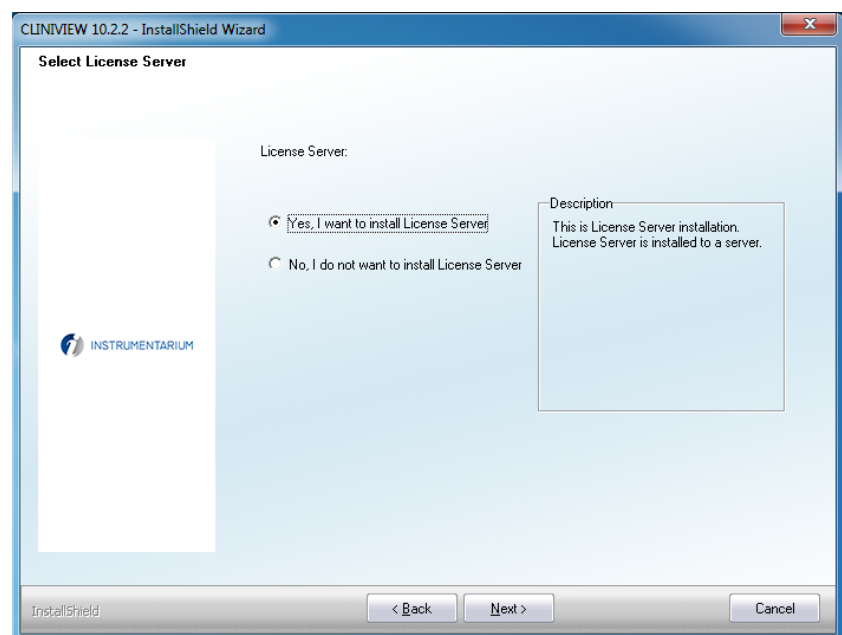
   Note! One License Server must be installed to provide licenses for computers on the local network.

8. Select **No, I do not want to install CLINIVIEW™ software**. Click **Next** to continue.

9. Review the license agreements and click *Yes* to accept the license terms and continue with the installation.
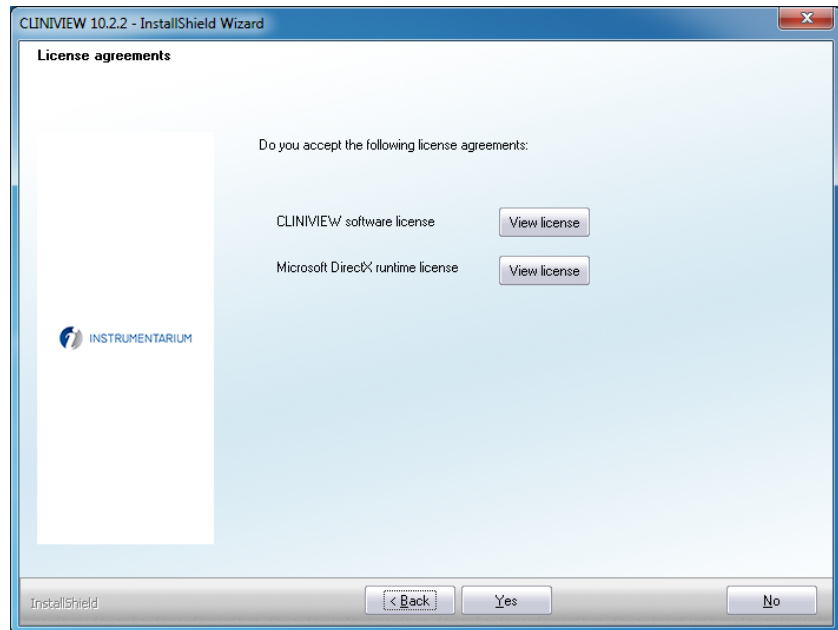
10. Review the installation settings and click *Next* to start installation process
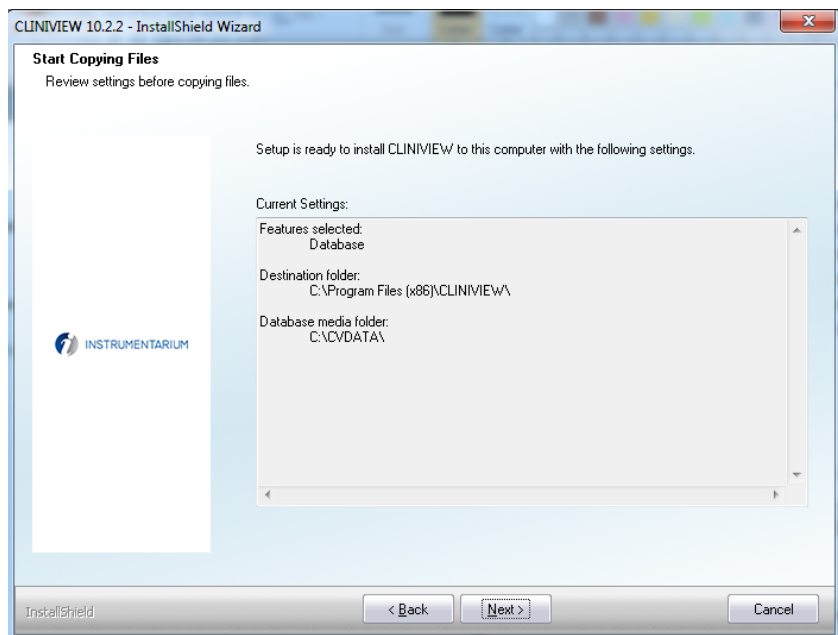
11. If you wish to view software release info (Read-me), click **Yes**.
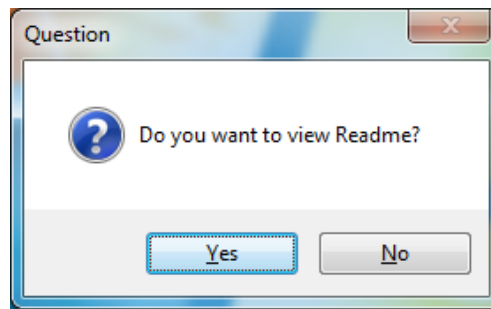
12. Select ***Yes, I want to restart my computer now***.
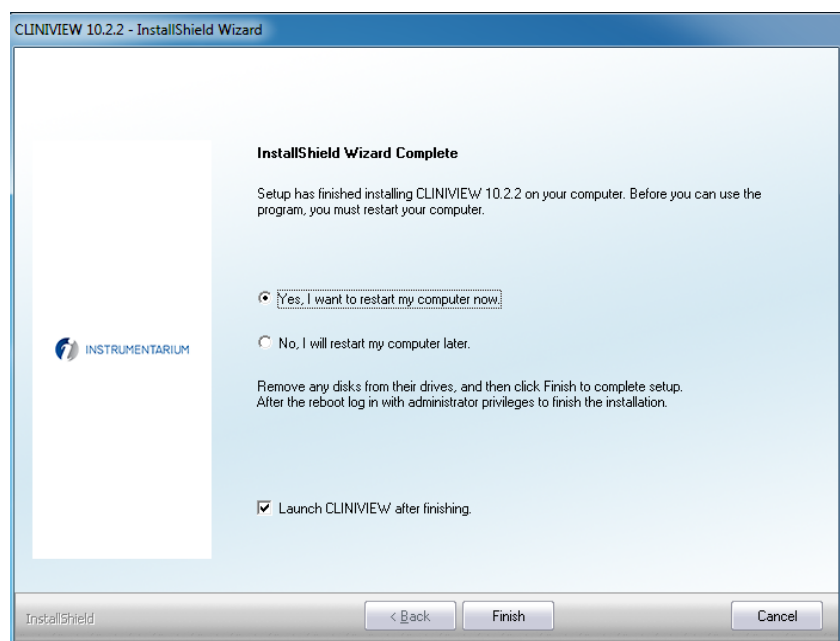
13. After the computer restarts, start the License Manager and activate network licenses. See Chapter **3.2.1.1. Licensing CLINIVIEW™ network** for more information.

14. Optional: If the local network does not support DNS or WINS, you must change File Server to use the server's IP address in place of its host name. To do this, open CLINIVIEW™ Manager. Click **File Server Config**, and enter the user name and password when prompted. Enter the IP address of the server and click *Save*. Close CLINIVIEW™ Manager.
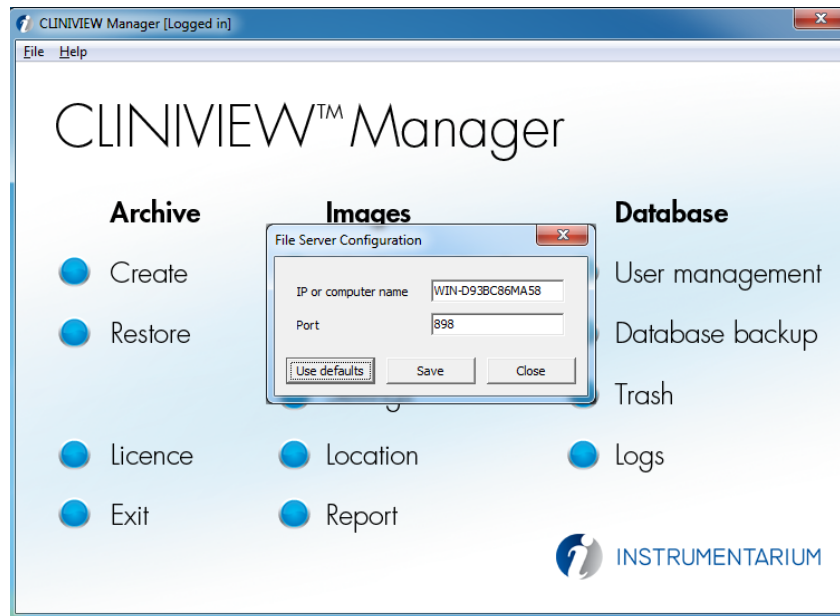
2.3.4   Network modality workstation

1.   Insert software DVD into DVD-ROM drive.

2.   If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

   Note!   If the User Account Control window appears, you must allow changes to continue installation.

3.   Select *CLINIVIEW™ Network Client*.
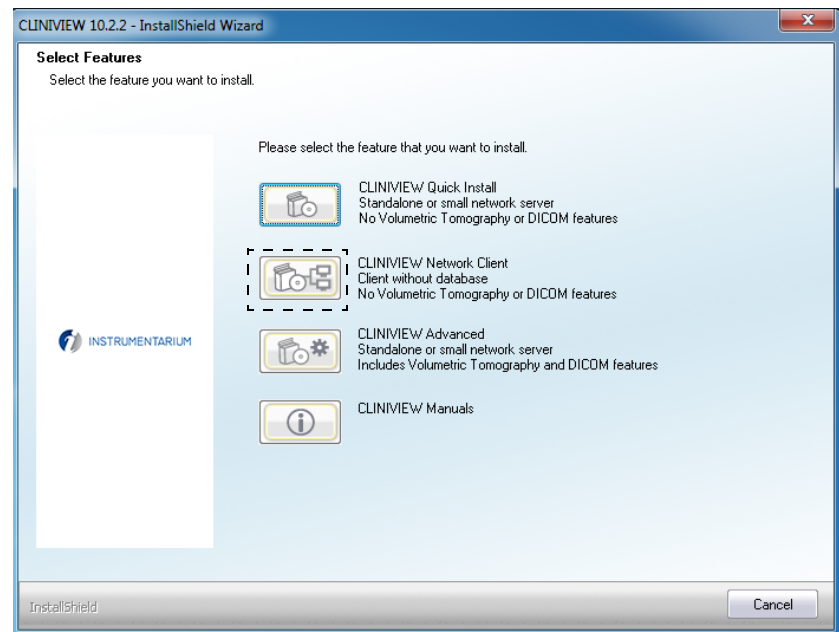
4. Click **Browse** to search for the database server on the network. Select the database appropriate server and click **Next** to continue.

   *Note!* *If an error is shown, replace the computer name with the IP address of the server and click **Next**.*
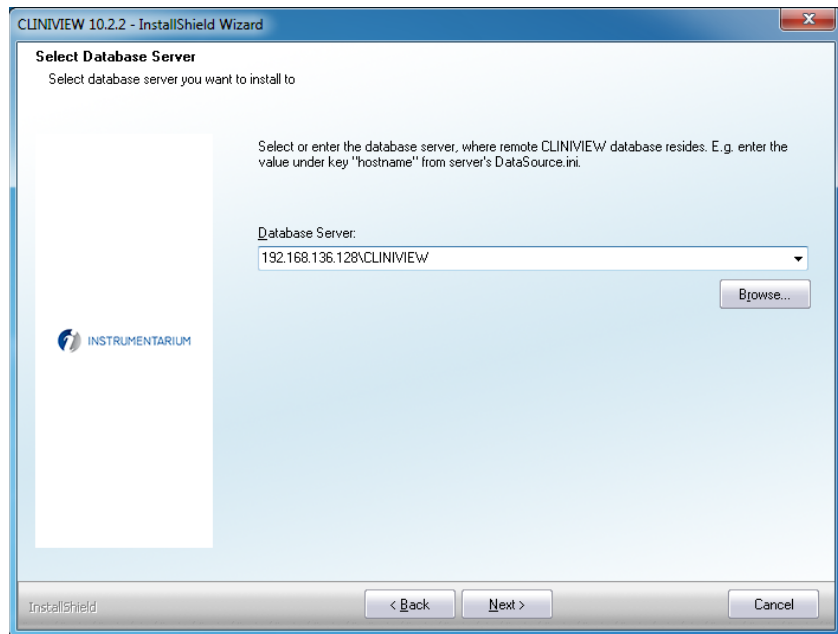
5. Review the license agreements and click **Yes** to accept the license terms and continue with the installation.
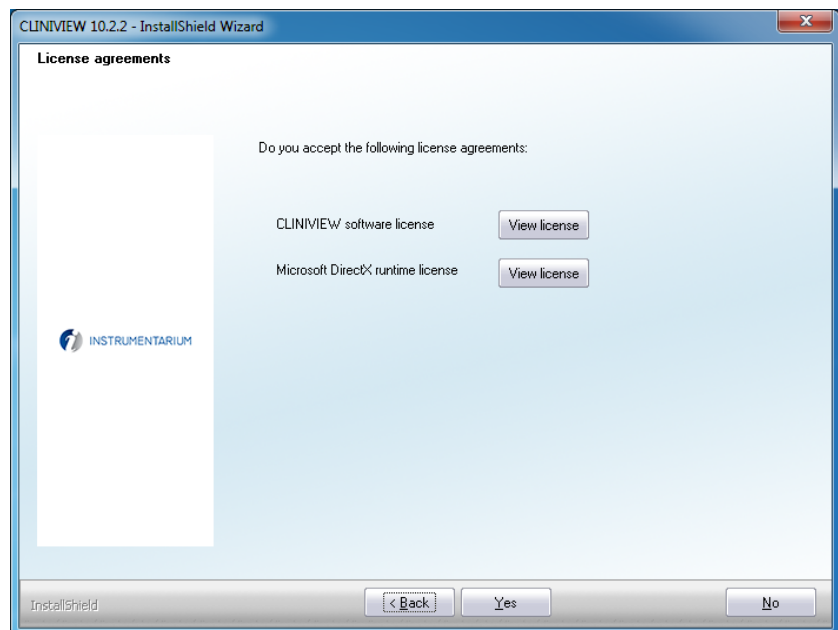
6. Review installation settings and click *Next* to start installation process.
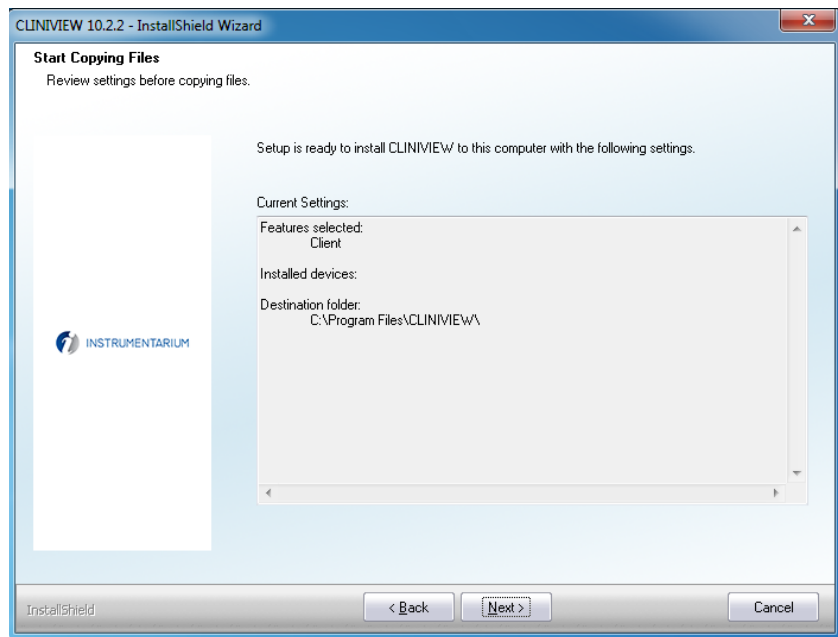
7. Wait until installation is completed and click *Finish* to view the software release info (Read-me) and start the software.
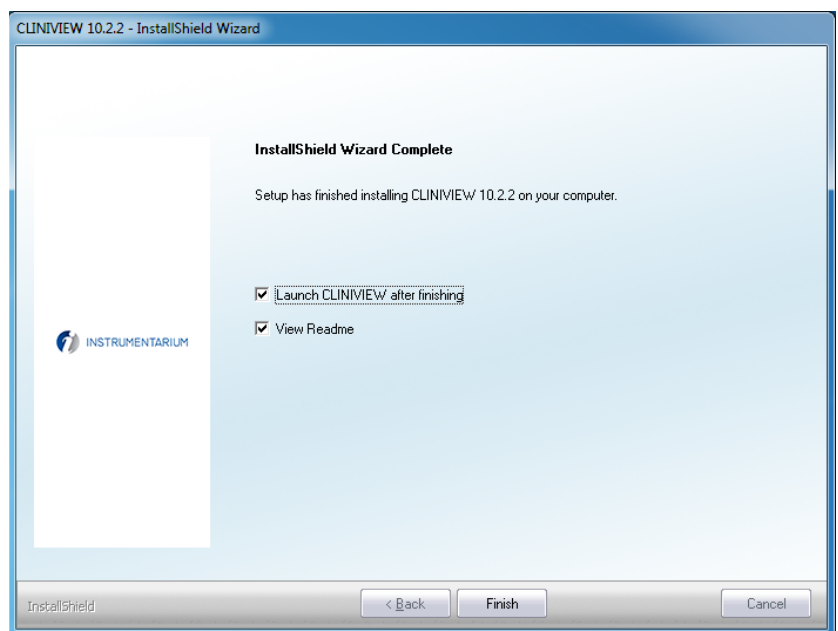
8. Select software default language.

   *Note! Software language can be changed at any time within the software from the **Tools** menu, **Languages**.*
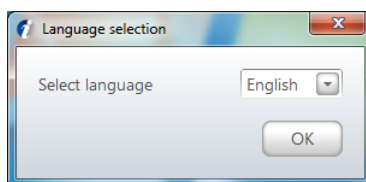
9. To activate the software license, select ***Use Network license***. See Chapter **3.3.2 Configuring workstations** to use CLINIVIEW™ software network license.

10. The installed devices window will be displayed. Select the devices to be connected to this workstation and click ***OK*** to enable the devices.
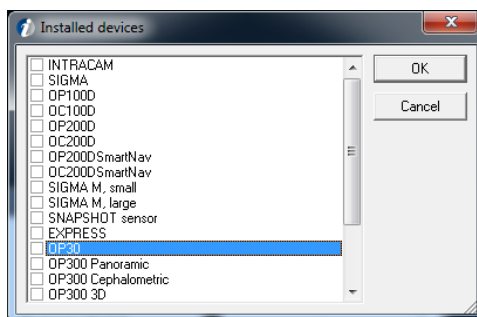
11. If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

    Note! Only certain devices require a gain file.

12. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

13. Test installation by acquiring an image according to device user manual or quick guide.

14. Configure the desired user settings for the software. See user manual for more details.

15. If the software with be used with a Cone Beam 3D device, install a 3D visualization software. Launch options for the 3D visualization software can be configured on the Tools menu, Cone Beam 3D Settings.

16. Repeat the software installation for each network mo-
   dality workstation needed.

2.3.5 Network modality workstation with DICOM

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few
   moments, browse to the software DVD and double-
   click **CLINIVIEWSetup.exe** to begin installation.

   *Note! If the User Account Control window appears,
   you must allow changes to continue installation.*

3. Select *CLINIVIEW™ Advanced* installation.
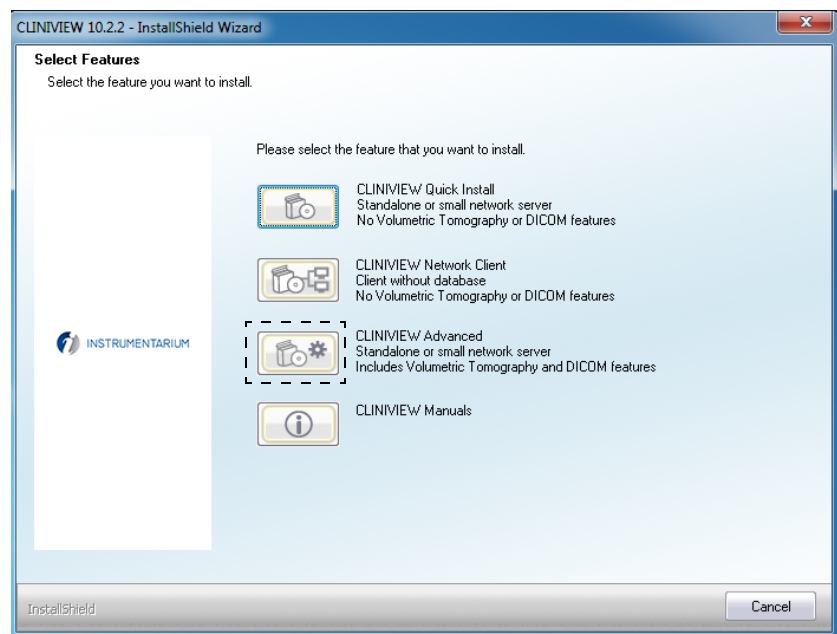
4. Select **CLINIVIEW™ software only**.
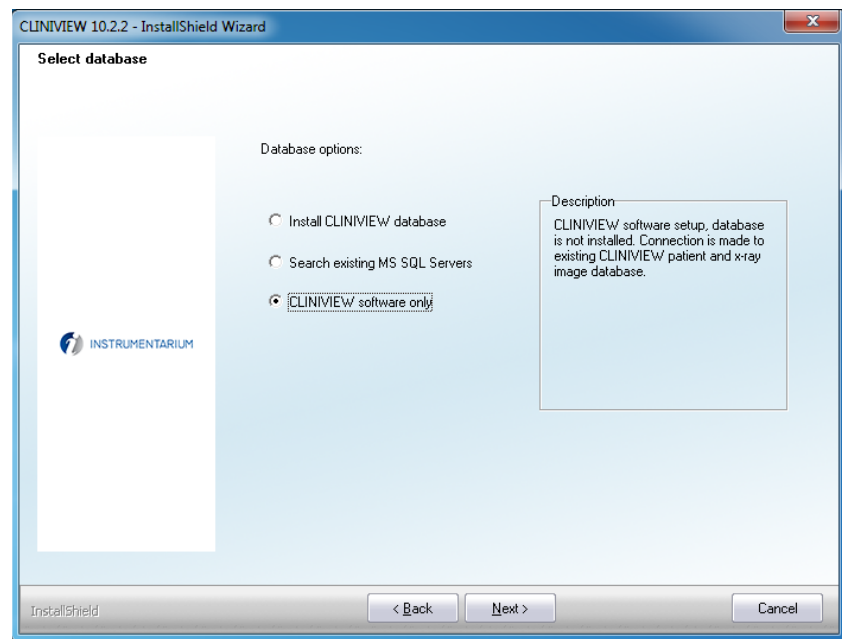
5. Select **Yes, I want to install CLINIVIEW™ software** then click **Next.**
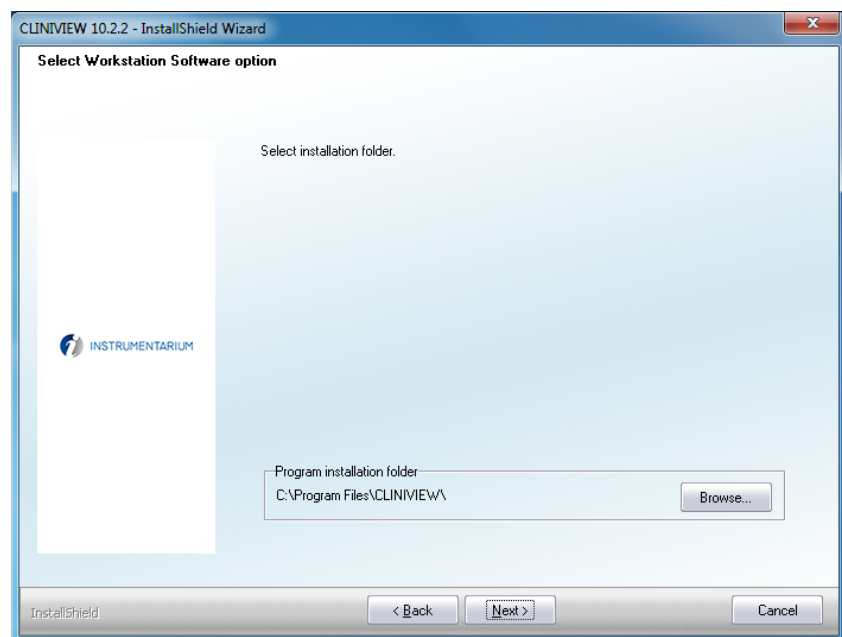
6. Select DICOM features to be installed and then click **Next**.
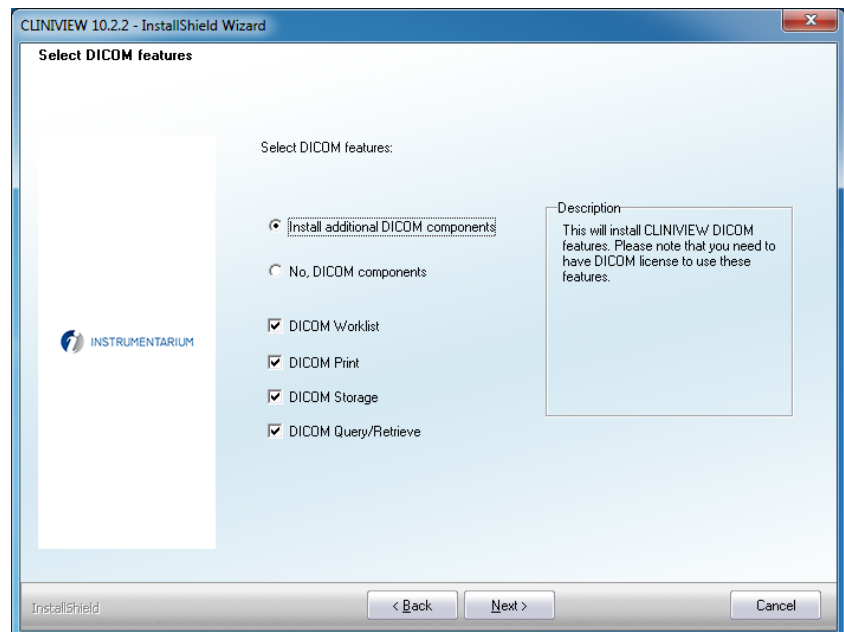
7. Review the license agreements and click **Yes** to accept the license terms and continue with the installation.
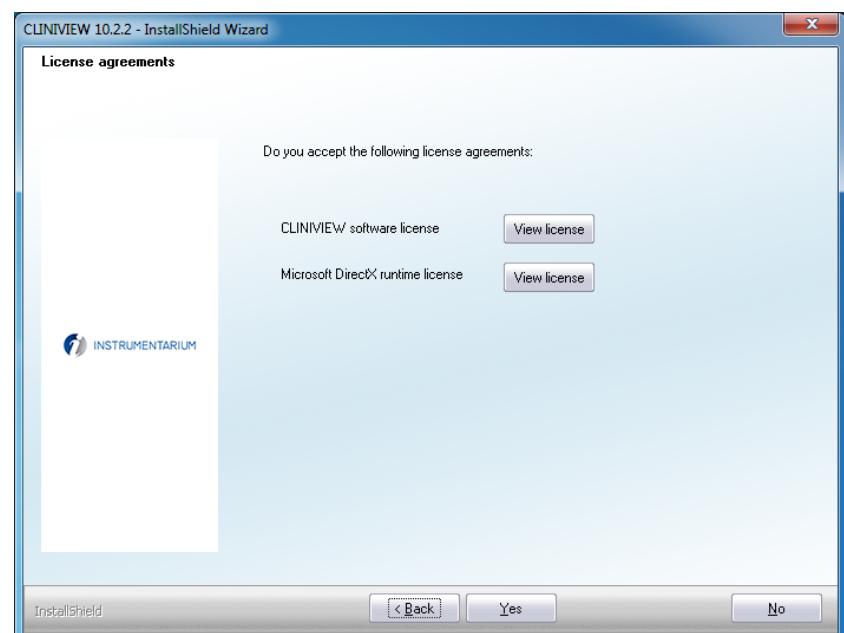
8. Review installation settings and click *Next* to start installation process.
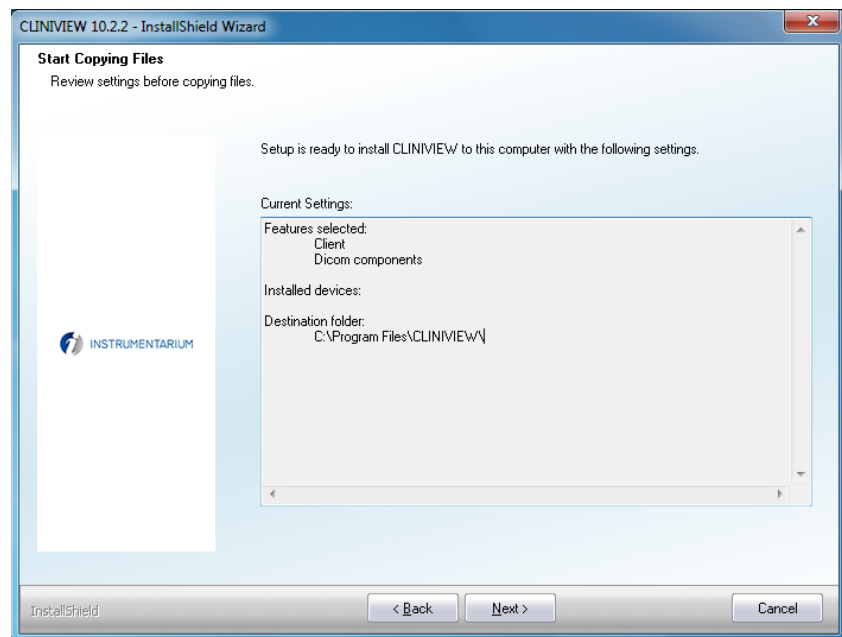
9. Click **Yes** if you wish to view Readme.
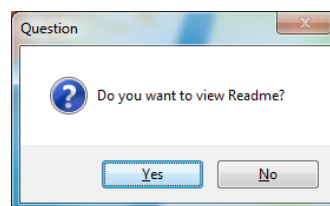
10. Select if you wish to start the software automatically after the workstation is restarted (restart is necessary when DICOM features are installed).
Click *Finish* to restart computer.
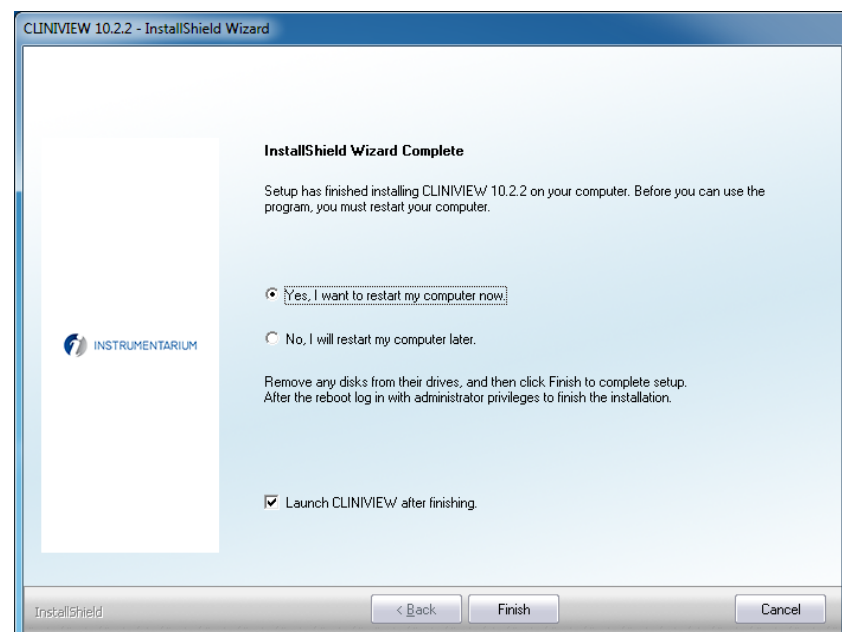
11. Select software default language.

   Note! *Software language can be changed at any time within the software from the Tools menu, Languages.*
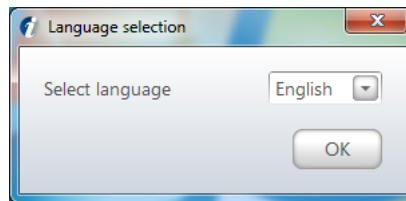
12. Activate software license with DICOM feature. See chapter **3.2 Licensing CLINIVIEW™ software standalone**.

13. The installed devices window will be displayed. Select the devices to be connected to this workstation and click *OK* to enable the devices.
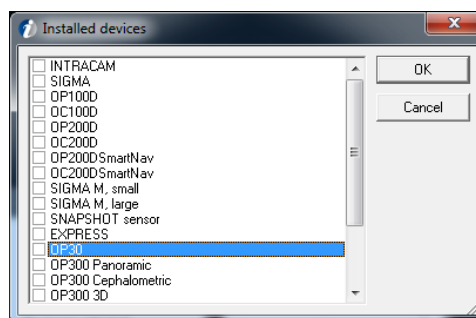
14. If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

   Note! *Only certain devices require a gain file.*

15. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

16. Test installation by acquiring an image.

17. Close software.

18. Configure the DICOM settings and test their functionality. See chapter **5 Configuring DICOM** for more information.

2.3.6 Standalone License Server

In specific cases, you may need to install a standalone License Server to a workstation or server. Installing a standalone License Server is not supported by the Installshield Wizard provided with the software. If you need to install a standalone License Server, please follow these steps.

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard appears, click *Cancel*.

3. Browse the install DVD media from My Computer and open the \ISSetupPrerequisites folder.

4. Double-click the file **IDLSsetup.exe** to start the License Manager installer.

   Note!   If the User Account Control window appears, you must allow changes to continue installation.

5. Follow the onscreen instructions to install the License Manager.

6. See chapter **3 Licensing CLINIVIEW™ software** for instructions how to use the License Manager.

2.4 Standalone with Volumetric Tomography

1. Insert software DVD into DVD-ROM drive.

2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double click **CliniViewSetup.exe** to begin installation.

    Note! If the User Account Control window appears, you must allow changes to continue installation.

3. Select *CLINIVIEW™ Advanced* installation.


4. Select Install *CLINIVIEW™ database*, this option installs database engine and CLINIVIEW™ database.

5. Choose Destination folder for the database engine. Click **Next** to accept default and continue or click **Browse** to change the location.

    Note! *The destination folder for the database engine contains only the database files, not images. Image data location will be selected in the next step.*

6. Choose the destination for image data. Click **Next** to continue or click **Browse** to change the location.

7. Select *No, I do not want to install License Server*. Click *Next* to continue.
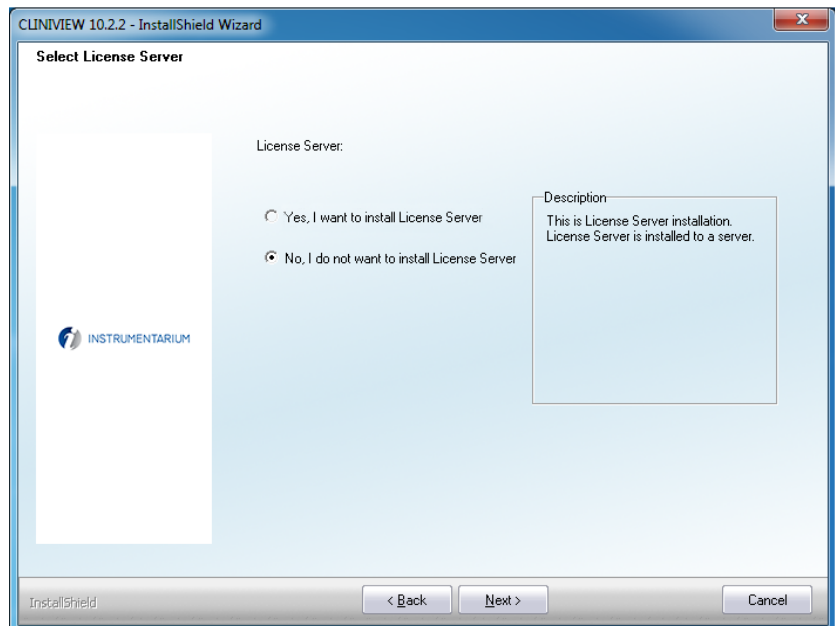
8. Select *Yes, I want to install CLINIVIEW software* then click *Next*.
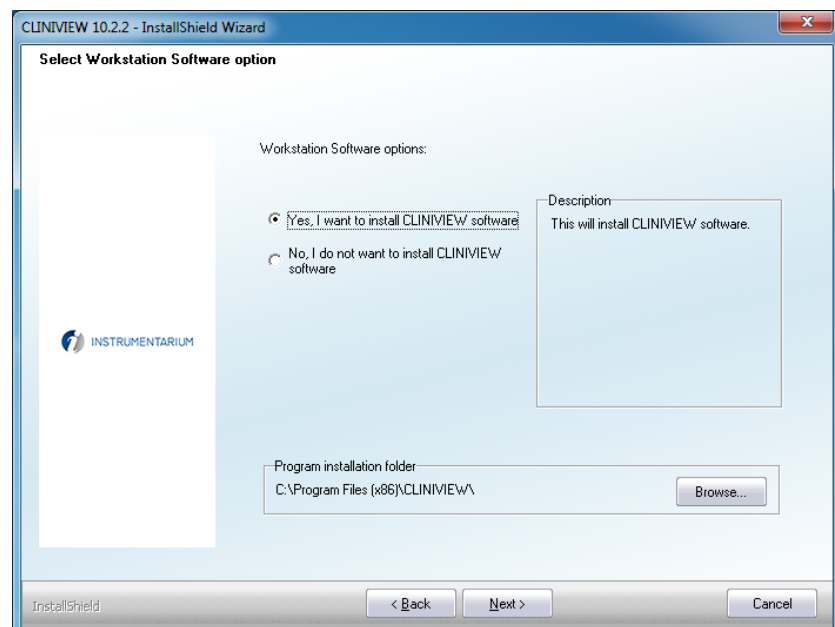
9. Select if DICOM features will be installed and then click *Next*.
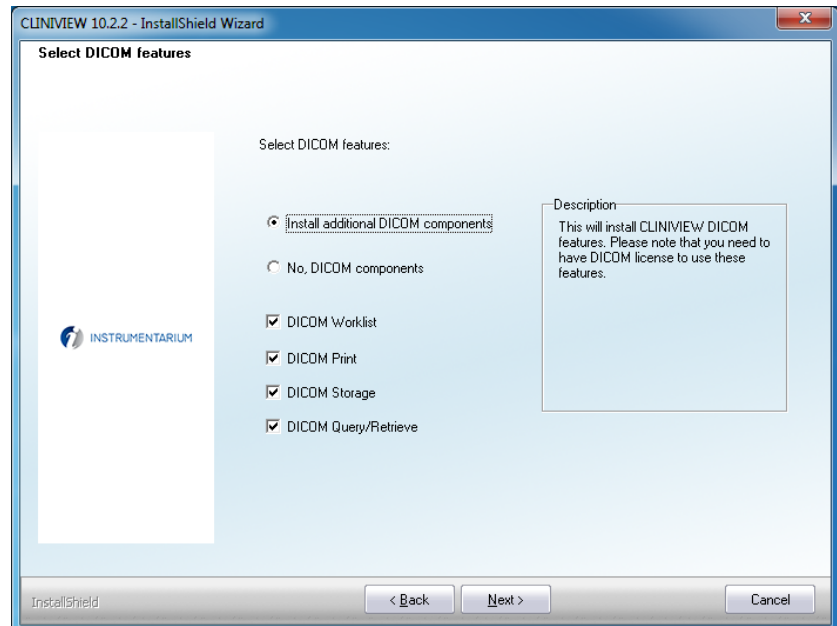
10. Select *Yes, I want to install Volumetric Tomography* and then click *Next.*
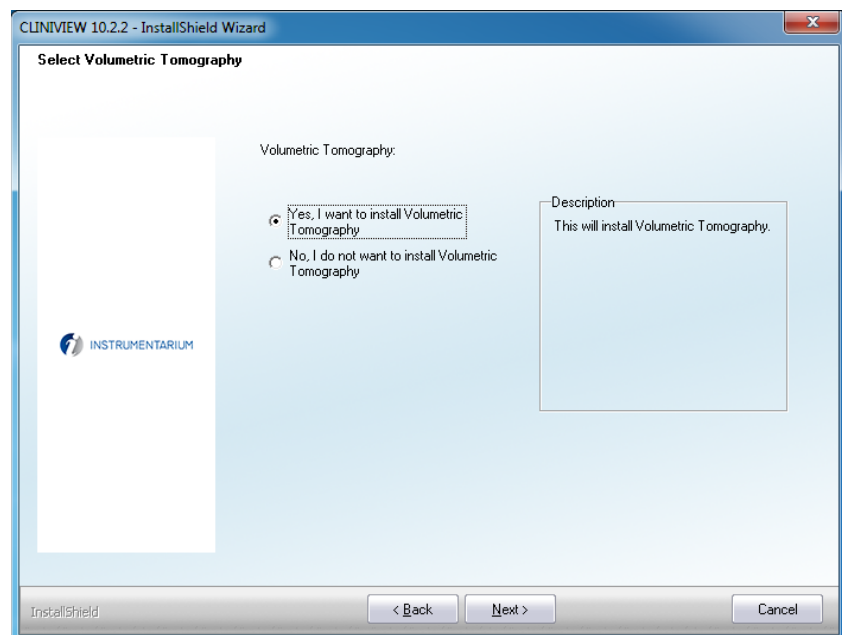
11. Select *Yes, I want to install RecoServer* and then click *Next*.
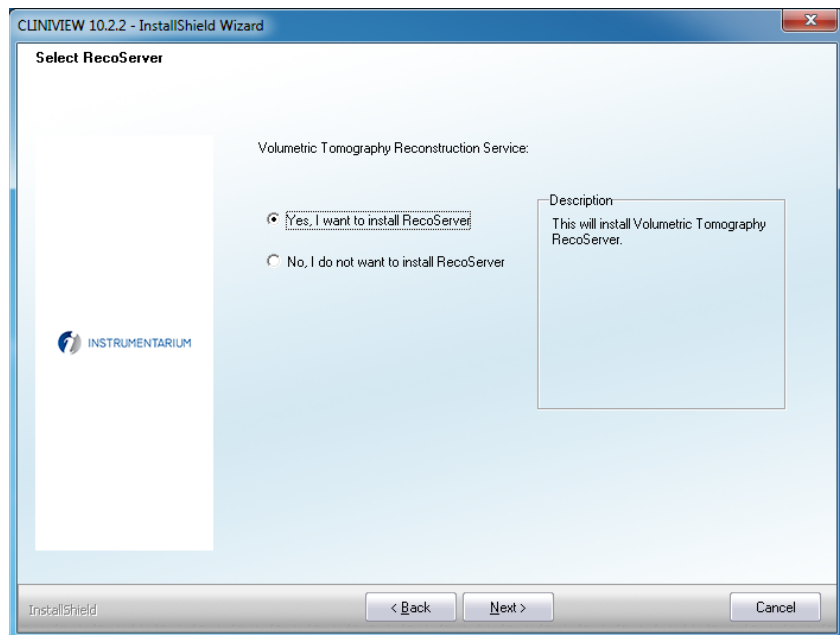
12. Review the license agreements and click *Yes* to accept the license terms and continue with the installation.
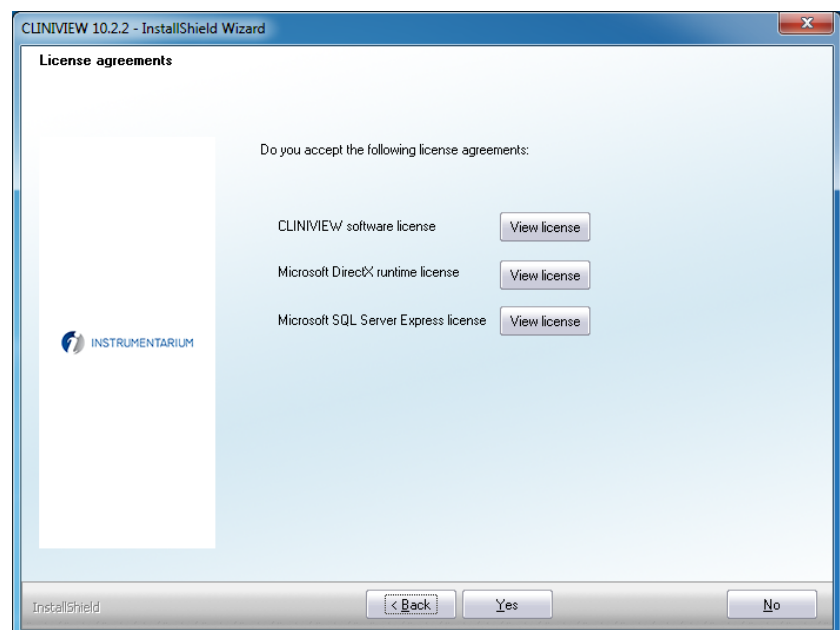
13. Review installation settings and click **Next** to start installation process.
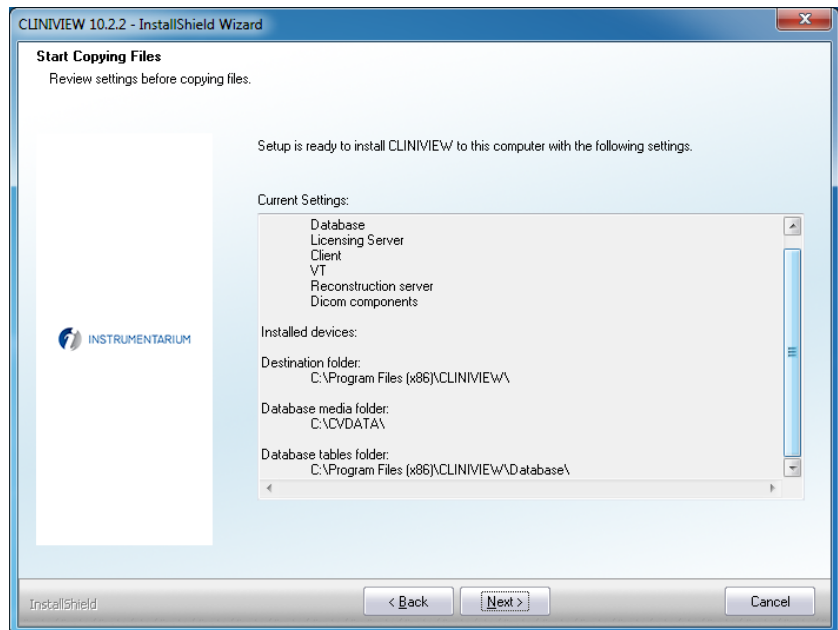
14. Click **Yes** if you wish to view Readme.
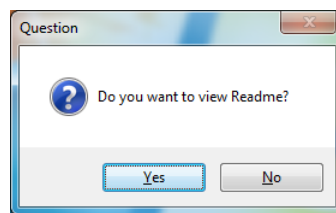
15. Select if you wish to start the software automatically after the workstation is restarted (restart is necessary when DICOM features are installed). Click **Finish** to end the installation.
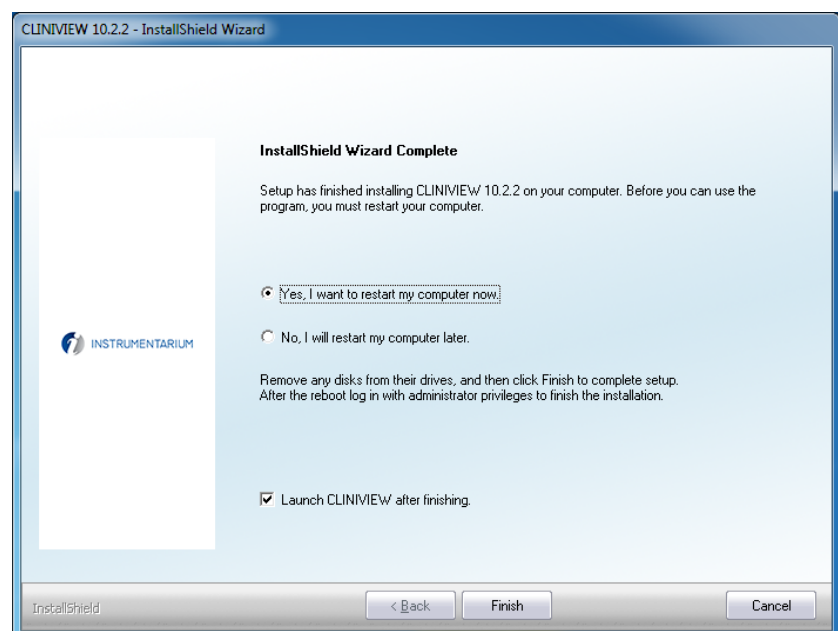
16. Select software default language.

    Note! *Software language can be changed at any time* within the software from the Tools menu, Languages.
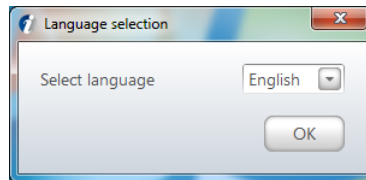
17. To activate the license, select Activate Workstation license. See Chapter **3.2 Licensing CLINIVIEW™ software standalone**.

18. The installed devices window will be displayed. Select the devices to be connected to this workstation and click *OK* to enable the devices.
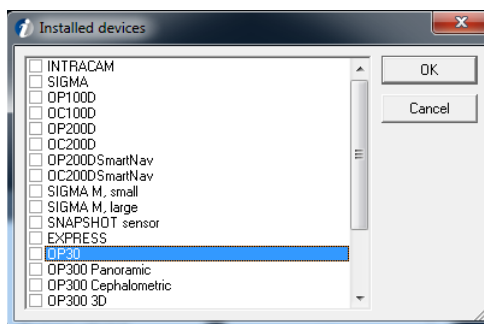
19. If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

    Note! *Only certain devices require a gain file.*

20. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

21. Test installation by acquiring an image according to device user manual or quick guide.

22. Configure the desired user settings for the software. See User manual General Settings chapter for details.

23. Configure the DICOM settings and test their functionality. See chapter **5 Configuring DICOM** for details.

Instrumentarium Dental

3   Licensing CLINIVIEW™

3.1   Important licensing information

CLINIVIEW™ can be used for a trial period of up to 30 days after installation. When the trial period has expired CLINIVIEW™ must be licensed.

To activate the CLINIVIEW™ license you must use the activation key (an alphanumeric code) that is printed on a sticker attached to the CLINIVIEW™ software CD case. Save the activation key in a safe place.

The CLINIVIEW™ license activation requires an Internet connection.

If the computer in which CLINIVIEW™ is to be installed is not connected to the Internet, select the offline activation method and use any computer that is connected to the Internet to activate the license.

If the license activation cannot be completed after installing CLINIVIEW™, activate the trial period by selecting Start Trial Now from License Activation Wizard which is shown when starting CLINIVIEW™. CLINIVIEW™ can now be used for up to 30 days. The offline license activation process can now be completed later at a different location where you have access to the Internet.

Note that the license activation response file that you will receive must be sent back to the site where CLINIVIEW™ was installed to complete the offline license activation process.

In case capturing workstation also acts as Database workstation and is installed with Licensing server and database sharing, activate the standalone CLINIVIEW™ license first and then the CLINIVIEW™ network license. Note that the standalone license and network license is installed using separate License Manager tools, see chapter 3.4 License Manager for more information. When the CLINIVIEW™ network license has been activated, additional viewing workstations can be configured to use the network license, see chapter 3.3 Licensing CLINIVIEW™ network, how to activate a network license and how to configure workstations to use the network license.

3.2 Licensing CLINIVIEW™ standalone

Online connection

The computer is connected to the Internet.

1. When the CLINIVIEW™ is opened for the first time a license activation request window appears.

   Select **Activate workstation (node-locked) license**.

2.   The **Select activation method** window appears.

Select **Online activation** and then press **Next**.

3.   The **Registration** page appears.

Enter all the registration information. It is important to enter the license owner contact information correctly.

Mandatory fields are marked with an asterisk (*).
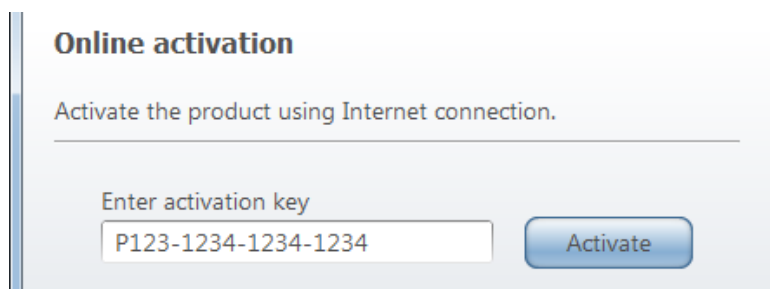
When you have entered all the required information into the Registration page, click **OK**.
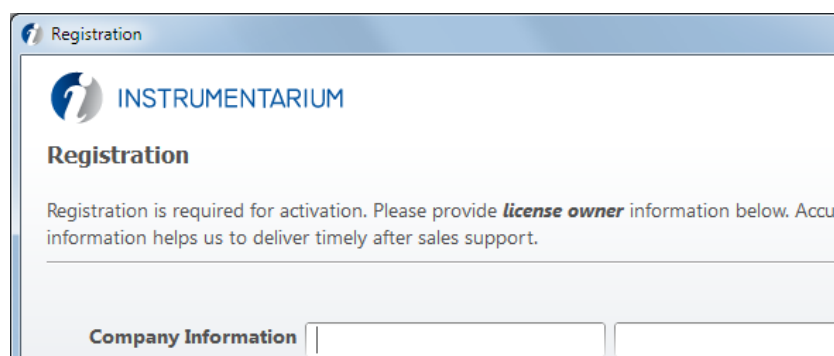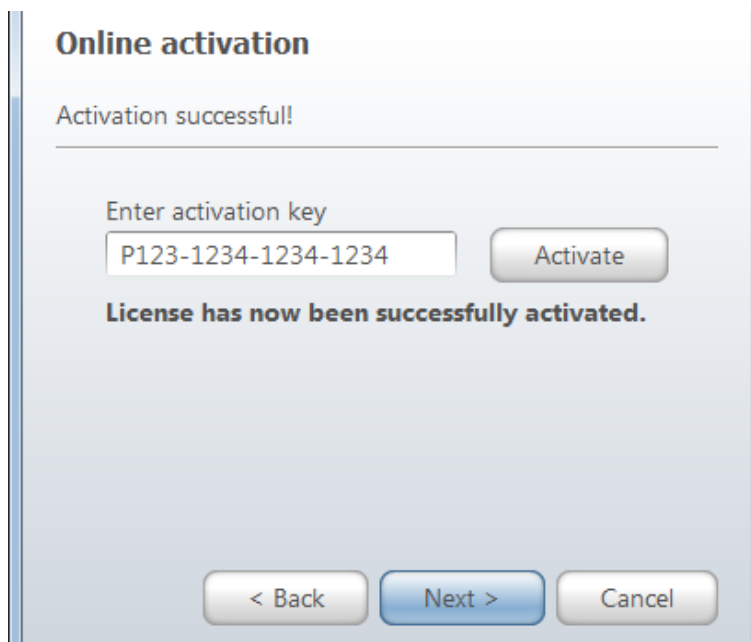
4. The **Online activation** window appears. Enter the software activation key, that is printed on the sticker attached to the CLINIVIEW™ software CD case, into the **Enter activation key** field.

    Click **Activate**.

    CLINIVIEW™ connects to the license server to activate the license.

5. Press **Next** when the license has been successfully activated. The following window asks to submit feedback on the products which were purchased and installed. Press **Register now** to give feedback and to launch CLINIVIEW™ software. Pressing **No thanks** launches CLINIVIEW™ software.

Offline connection

The computer is not connected to the Internet.

1. When the CLINIVIEW™ software is opened for the first time a license activation request appears.

   Select **Activate workstation (node-locked) license**.

2. The **Select activation method** window appears.
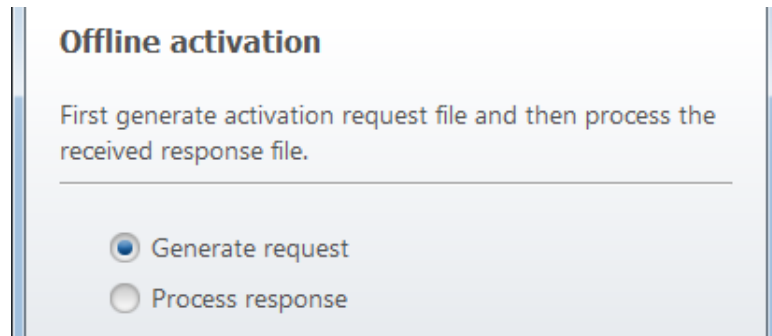
   Select **Offline activation** and then press **Next**.
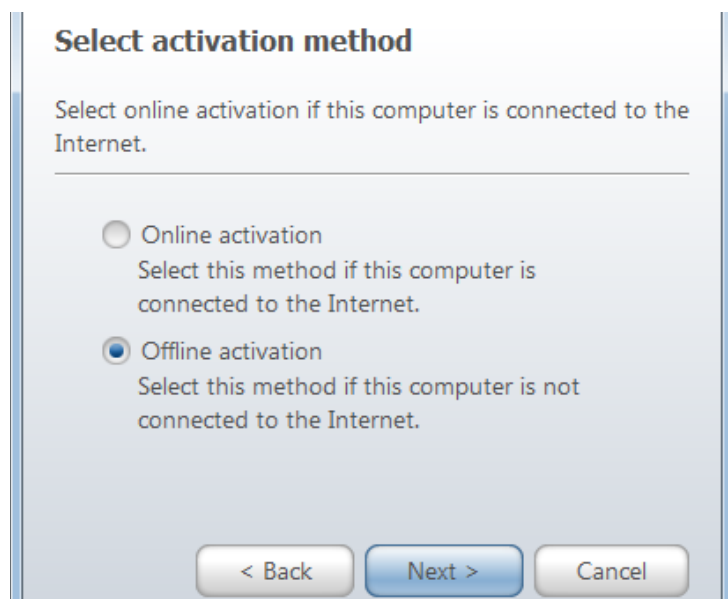
3. The **Offline activation** request window opens. Select **Generate request**.
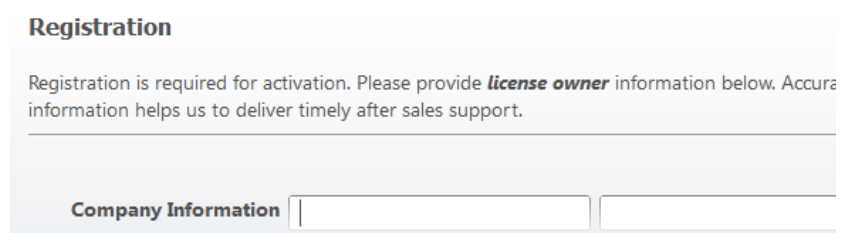
   An offline activation request must first be generated and then sent to Instrumentarium Dental.

   Click **Next**.

   ## Offline activation

   First generate activation request file and then process the received response file.

   ◉ Generate request
   ○ Process response

4. The **Registration** page appears.
   Enter all the registration information. It is important to enter the license owner contact information correctly.
   Mandatory fields are marked with an asterisk (*).
   When you have entered all the required information into the Registration page, click OK.

   ## Registration

   Registration is required for activation. Please provide *license owner* information below. Accura
   information helps us to deliver timely after sales support.

   Company Information

5. The **Offline activation** window appears. Enter the software activation key, which is printed on a sticker attached to the CLINIVIEW™ CD case, into the appropriate field.

   Click **Next**.
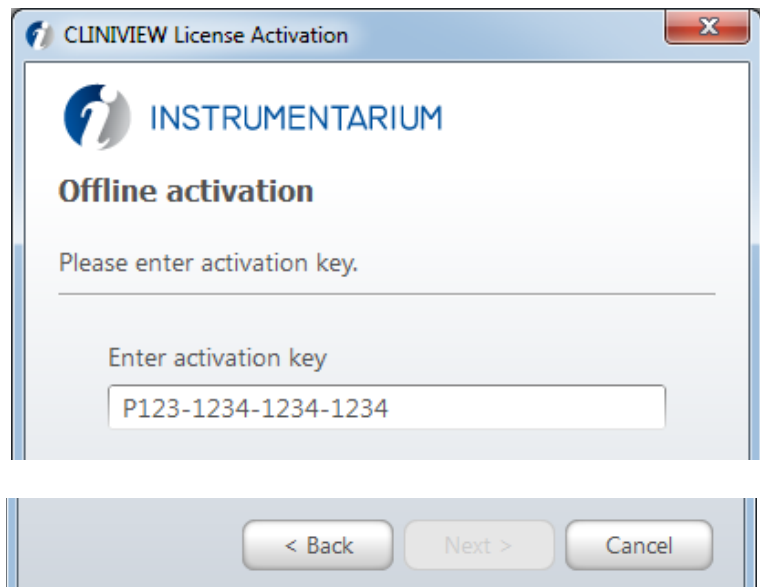
6. The **Save request** window appears.

   Select the location where you wish to save the activation request file and the help file, for example the Windows Desktop.

   Click **Next**.
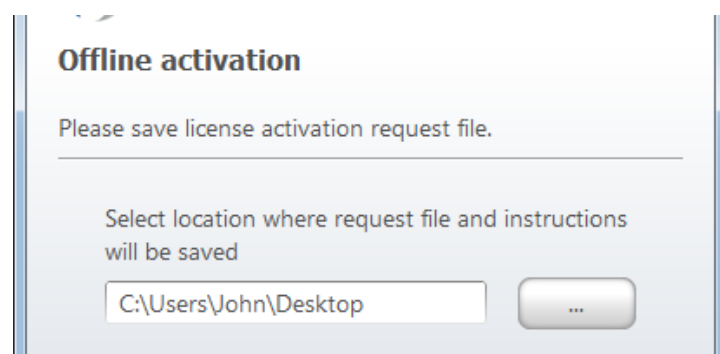
7. The **Request succeed** window appears.
   Click **Show in folder** button to locate the request file (the file ends with .xml).
   Copy the request file and place it into any computer that is connected to the Internet. You can also copy the help file (same name as the request file but ends with .txt) if you wish to refer to the instructions during the activation process.

Offline activation

Request file creation succeeded

Created request file as
C:\Users\John\Desktop\CLINIVIEW_120619084902.xml

Show in folder   Process response
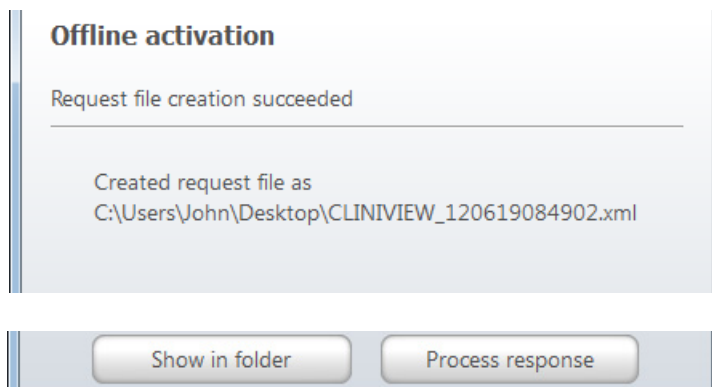
8. Now using the computer connected to the Internet send the request file as email attachment to **licensing@instrudental.com** and wait for a response. The typical response time is between 5 and 20 minutes.

9. When you receive a response email from Instrumentarium Dental, copy the file attached to the email and save it in the computer where CLINIVIEW™ was installed (the response file ends with .lic).

10. In the **Request succeeded** window click the Process response button.

Offline activation

Request file creation succeeded

Created request file as
C:\Users\John\Desktop\CLINIVIEW_120619084902.xml

Show in folder   Process response
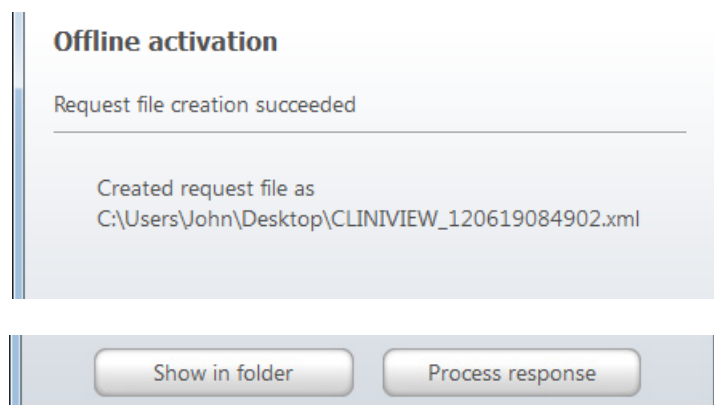
Note! If you are unable to wait for the response from Instrumentarium Dental, press Finish to close the window.

You can continue the activation process later by clicking **Process response** in the **Offline activation** request window.

Offline activation

First generate activation request file and then process the received response file.

◯ Generate request
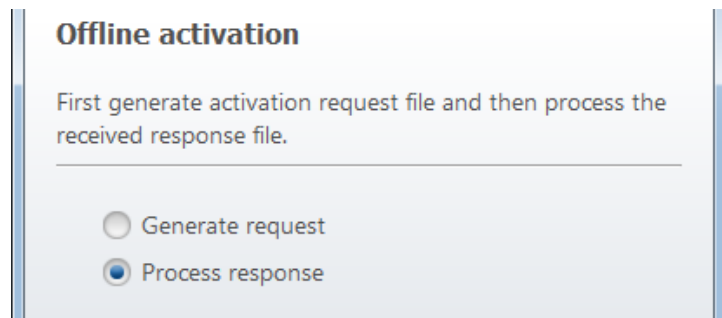
◉ Process response

If you are unable to complete the offline activation process in the time available you can activate the CLINIVIEW™ 30 day trial period so that CLINIVIEW™ can be used temporarily.

11. The **Select response** window appears.
    Select the activation request response file from the folder where it was saved.

Offline activation

Import the received response file to complete the activation process.

Select the activation request response file

C:\temp\SCANORA_120130090013.lic   [...]

[< Back]   [Next >]   [Cancel]
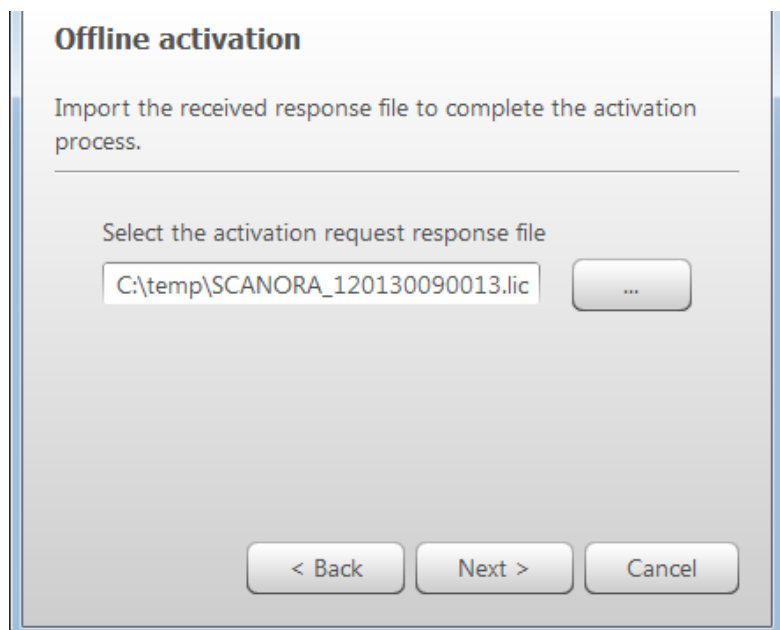
Click **Next**.

A message appears confirming that CLINIVIEW™ is now licensed.

3.2.0.1   Trial period activation

1. In the license activation request window click the **Start trial now** button.
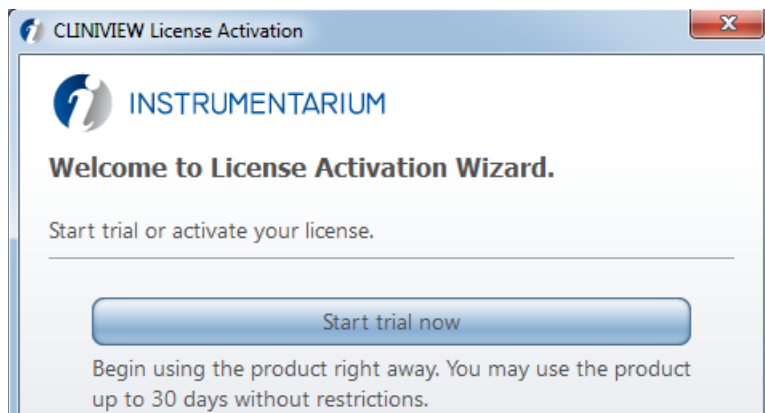
Click **Finish**.

CLINIVIEW™ can now be used for a maximum of 30 days. When the trial license is activated it will automatically expire after 30 days. When the CLINIVIEW™ license is activated it does not cancel the trial license. If trial license expires and a proper license has not been activated, CLINIVIEW™ cannot be started.

Note! When CLINIVIEW™ is used in the 30 day trial mode, the Continue using trial window will appear each time CLINIVIEW™ is started.

Click the **Continue trial** button to continue the trial period and use the software.
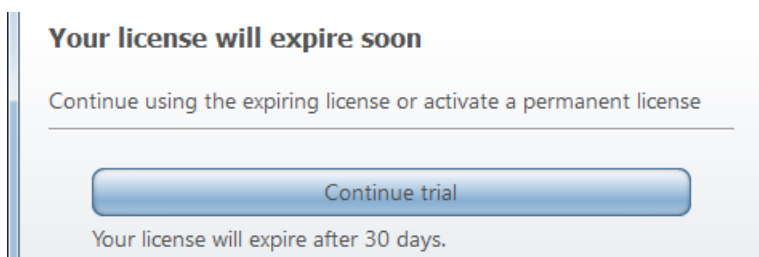
3.2.1 Licensing CLINIVIEW™ network

3.2.1.1 Activating CLINIVIEW™ network license

Open License Manager tool in the computer, where the Licensing Server has been installed. To open License Manager, select Start $\Rightarrow$ Instrumentarium Dental $\Rightarrow$ License Server $\Rightarrow$ License Manager.

Activate the Network License using the License Manager tool. See chapter 3.4. License Manager.

Note! *The License Manager tool is delivered with both CLINIVIEW™ and License Server. You recognize the correct License Manager tool from the large red text "LICENSE SERVER" on the tool window.*
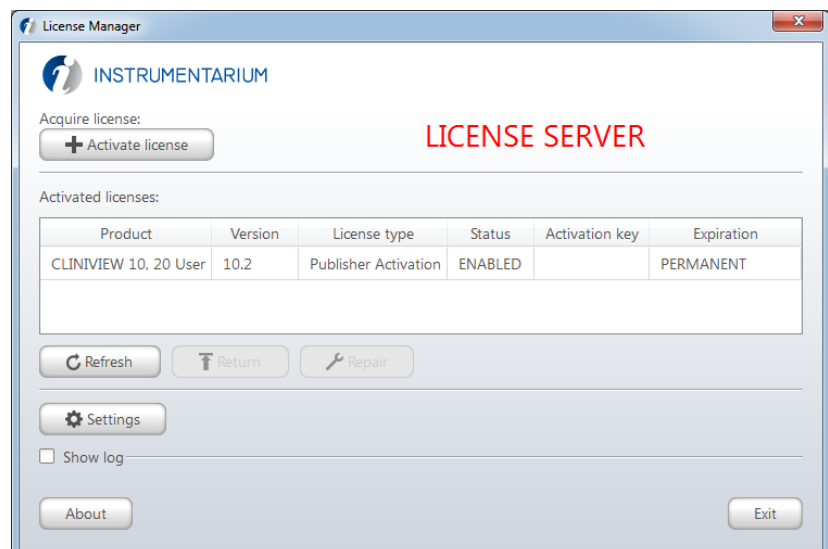
3.2.1.2 Configuring workstations to use CLINIVIEW™ network license

Configure CLINIVIEW™ workstations to use network license by selecting the option "Use network license" from License activation wizard. Enter the Licensing server hostname or IP address to the next screen.
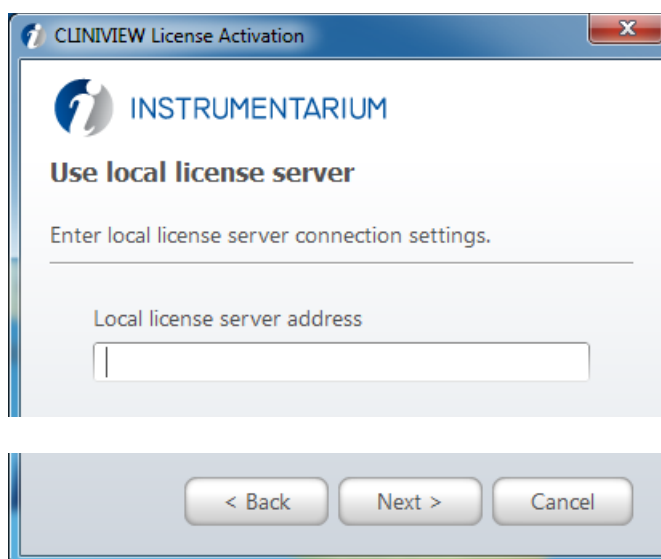
Local license server address can be configured also from workstation License Manager tool. To configure local license server address using License Manager click Settings button and enter the local license server address.

3.2.2 License Manager

The License Manager tool lists all licenses active in the computer and allows the licenses to be managed.

To access the **Licence Manager**, select Start ⇒ CLINIVIEW™ ⇒ Tools ⇒ CLINIVIEW Manager ⇒ Licence

or select CLINIVIEW™ software ⇒ Tools ⇒ License Manager.
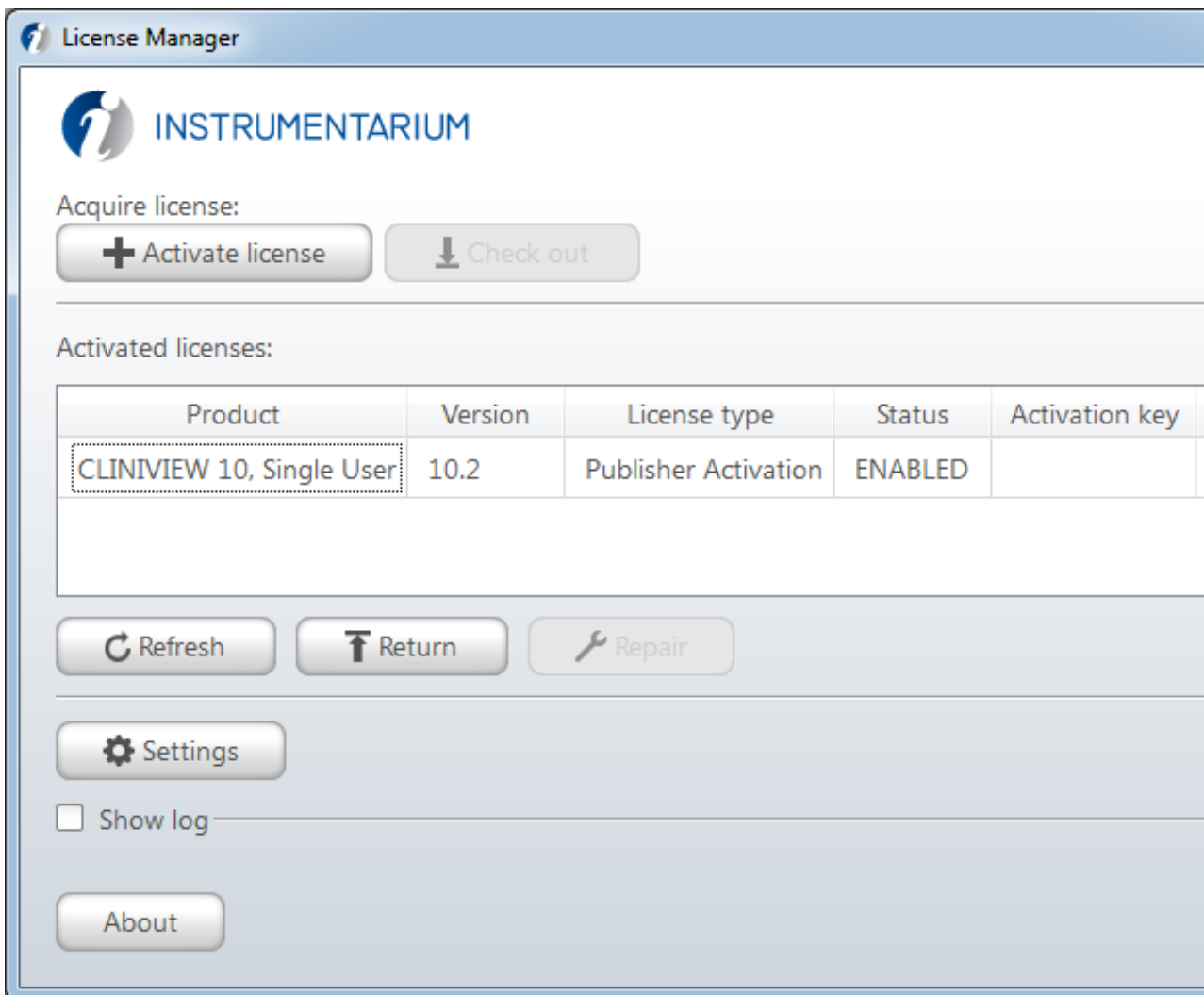
Activate license button
Starts the license activation process, see chapter 3.2.1 Online connection and 3.2.2 Offline connection.

Return license button

CLINIVIEW™ license can be active only in one computer at a time. Any license which has been activated through the INSTRUMENTARIUM DENTAL™ license server can be returned to the INSTRUMENTARIUM DENTAL™ license server.

This is needed when you need to transfer the license to a different computer (for example if the computer is being replaced). Note that trial licenses cannot be returned to INSTRUMENTARIUM DENTAL™ license server.

Select the license you wish to return from the list and click the **Return** button.

The return operation can be done using online or offline methods.

Select **Online** return if the computer is connected to the Internet.

Offline return generates a request file and processes a response file the same way as in Offline connection.

After successful return operation you can then activate the license in another computer.

Repair license button

If the license Status is BROKEN, for example the program has been corrupted, select the license, click **Repair** and then select online or offline repair depending on whether the computer is connected to the Internet or not.

Settings button

Allows you to select the language of the license manager.

Also shows the licence server addresses. These should not be modified unless instructed to do so.

License ManagerLicense users
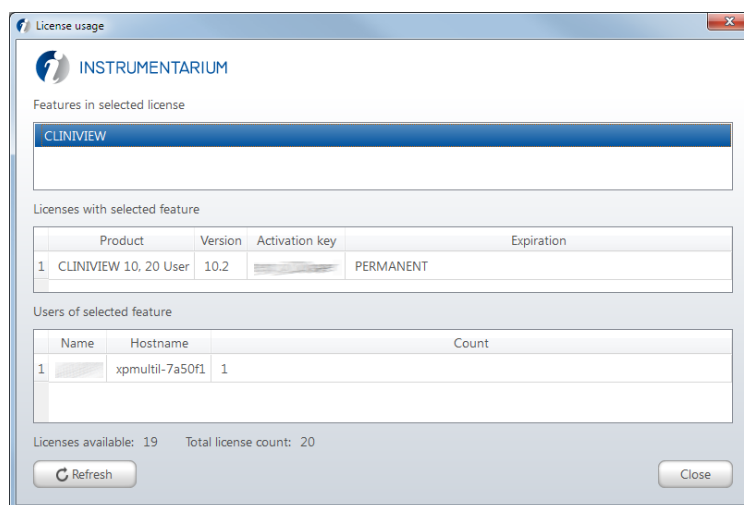
Note! *This feature is only available in License Server version of the License Manager.*

Double clicking a network license opens license usage window. The license usage window shows in the topmost list all software features which are available in the selected network license. Selecting a feature from the topmost list shows all activated network licenses which include the selected feature in the "Licenses with selected feature" list. The list in the bottom of the window titled "Users of selected feature" shows the computer names where the selected feature is currently in use. The "Total license count" is the sum of all licenses which include the selected feature.

Instrumentarium Dental

4   Driver installation

Compatible drivers and firmware must be installed before starting to use the device with the software.

Note! Contact your distributor to check latest device drivers required by different product configurations.

4.1   Device drivers

Device drivers are installed during software installation for all devices supported by the software. Drivers can be upgraded using INSTRUMENTARIUM DENTAL® Driver Updater. See readme.txt in the updater installation media for installation instructions.

4.2   NVIDIA drivers

Validated NVIDIA drivers required for 3D image reconstruction are located on the software installation media in \Drivers\NVIDIA. See readme.txt for installation and upgrade instructions.

4.3   OPD/OCD PCI® driver installation

Note! Install the PCI board driver according to the OP100 D/OP200 D Installation manual, PCI board and fiber-optic cable installation.

*Note! Before installing a PCI driver, the PCI board must be installed. Refer to the instructions in the OP100 D/OP200 D Installation Manual.*When the PC is switched on for the first time after PCI board installation, Windows recognizes the hardware changes and launches a wizard. Follow the instructions on the screen to install the PCI driver.

Note! The screenshots are from Windows XP.

1. Windows recognizes the hardware changes. Select Install from a list. Click **Next**.

2. Select *Don't search*. Click **Next**.
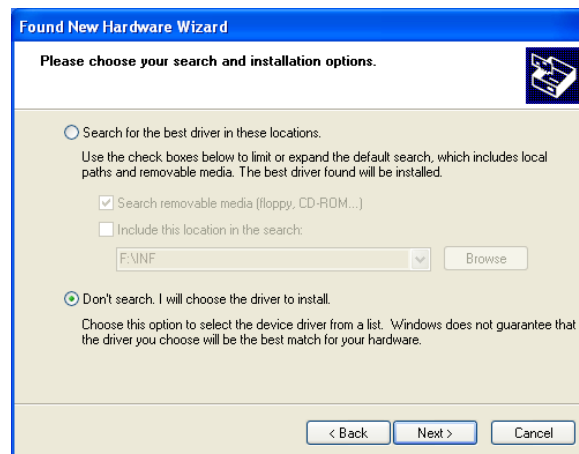
3. Select *Imaging devices* and Click **Next**.

4. Click *Have Disk*.

Found New Hardware Wizard

Select the device driver you want to install for this hardware.

Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.

(Unable to find any drivers for this device)

Have Disk...

< Back   Next >   Cancel
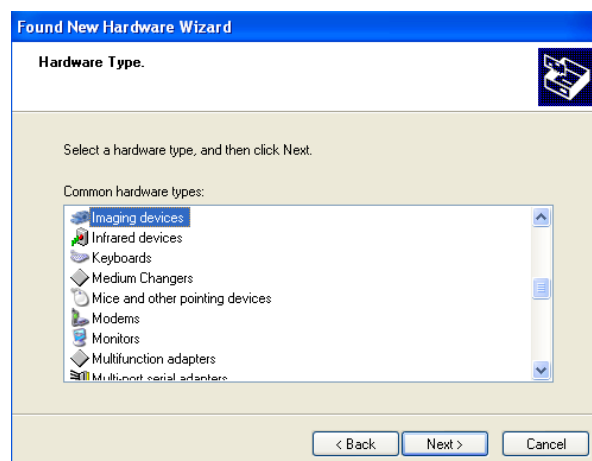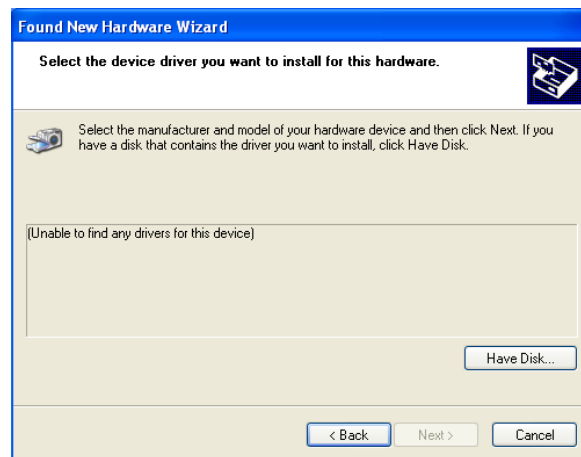
5. Insert the software installation DVD into the DVD-ROM and browse the PCI driver (DdxDrv.inf) from path <Clin-iView DVD>\Drivers\PCIDrv.

Install From Disk

Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.

OK

Cancel

Copy manufacturer's files from:

A:\   Browse...

6. Click *OK*.

Install From Disk

Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.

OK

Cancel

Copy manufacturer's files from:

G:\CliniView\Drivers\PCIDrv   Browse...
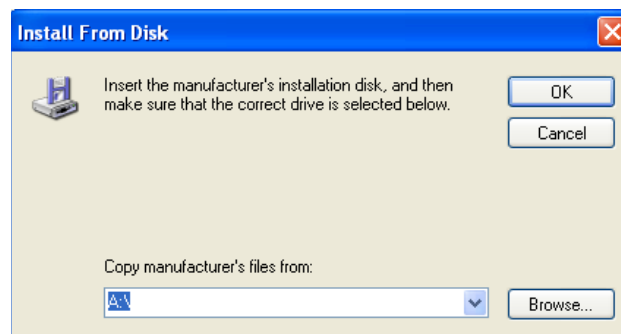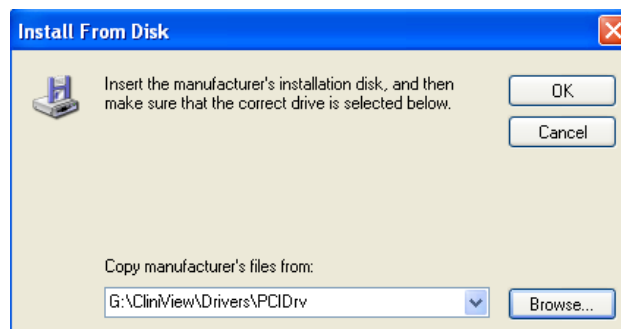
7.   Click *Next*.
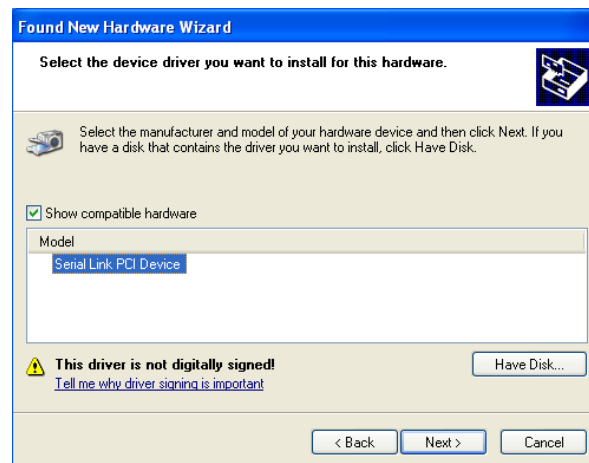
8.   The PCI driver is now installed. Proceed to software in-
     stallation. If the driver installation fails, proceed to the
     chapter 'Uninstalling the driver'.
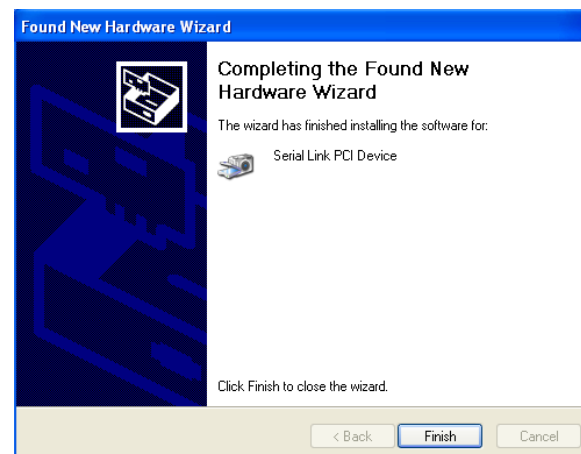
4.3.1   PCI driver update

Software requires PCI driver 2.3. If an older PCI driver is installed, it must be upgraded.

Update the PCI driver as follows:

1.   Right-click **My Computer** and choose **Manager.**

2.   Choose **Device Manager.**

3.   Right-click II Serial link PCI driver (Instrumentarium Imaging DICC devices).

4.   Click **Update Driver**
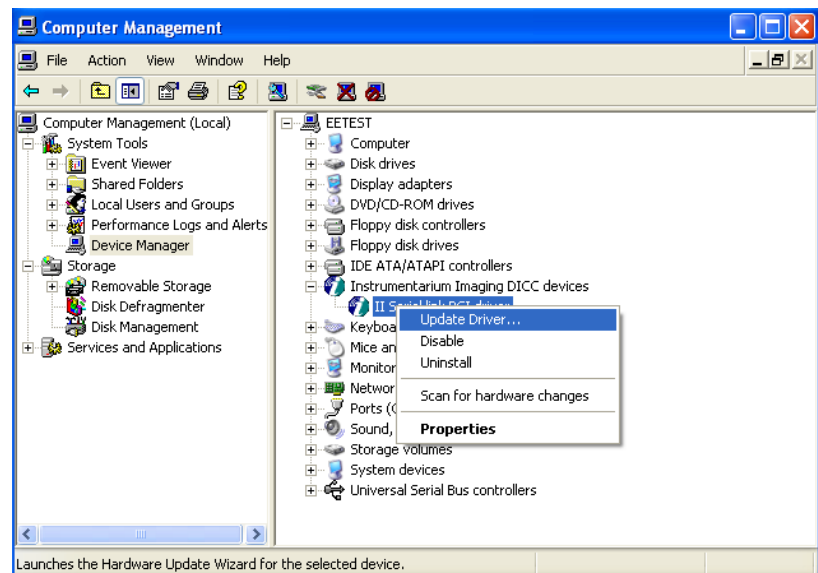
5.   Select Install from a list. Click *Next*.

6. Select *Don't search*. Click **Next**.
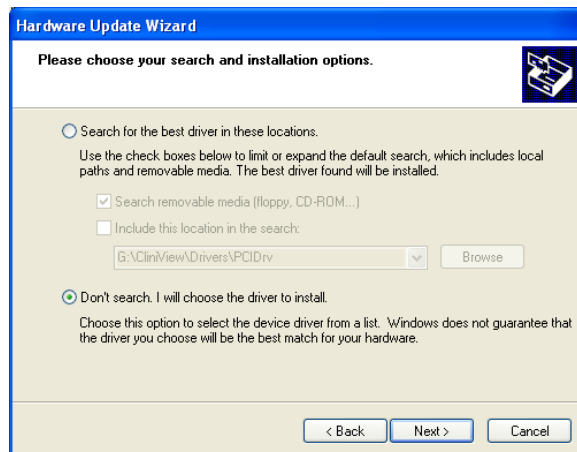
7. Click **Have Disk** and browse a new PCI driver (Ddx-Drv.inf) from the software DVD. Click **Next**.
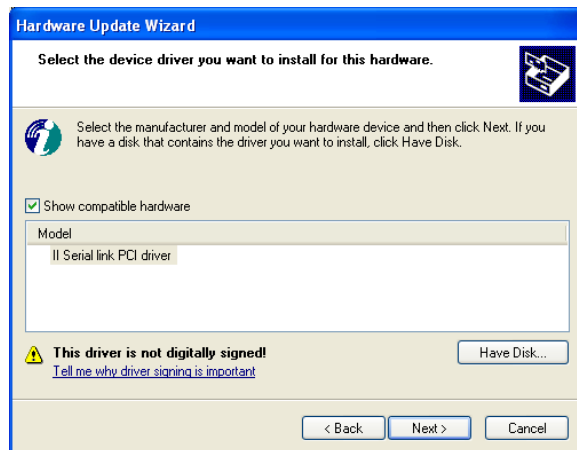
8. The PCI driver is now updated.

4.3.2   Uninstalling the driver

If the driver installation fails, remove the driver and then reinstall it. The procedure is as follows:

1. Open **Control Panel** and select Add/Remove Hardware.

    Or open **System Properties** and select the **Hardware** tab. Click **Device Manager**.
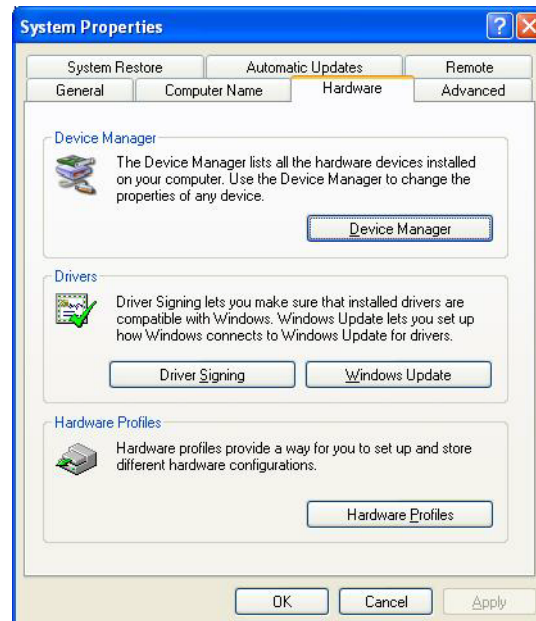
2. Click the driver and select **Uninstall**.
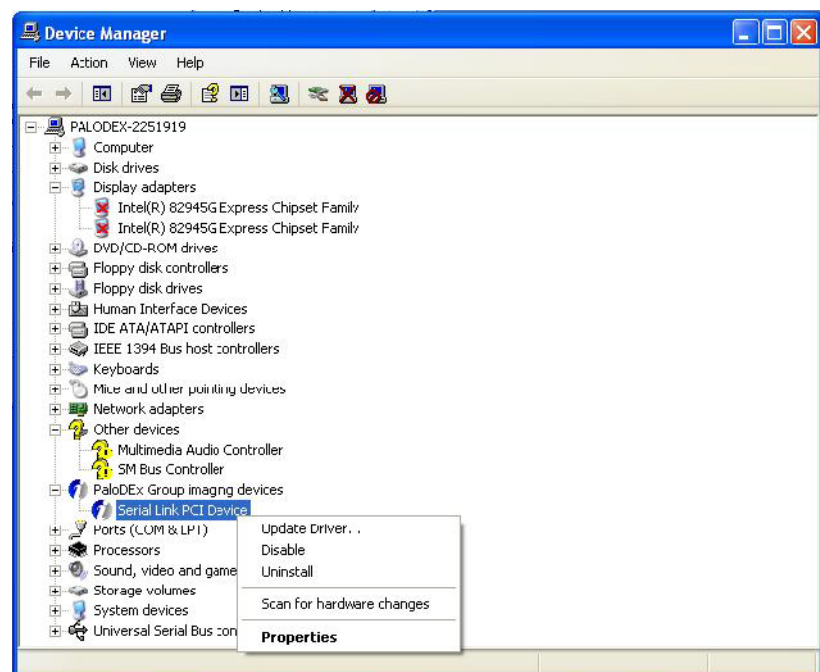
3. Click *OK*.
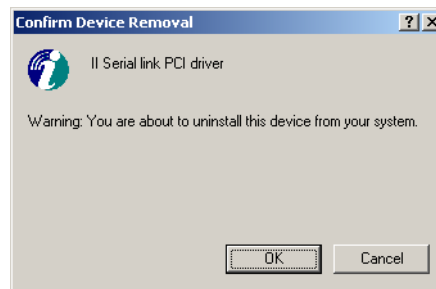
4.4 Sigma

See Sigma Installation & User Manual.

4.5 Intraoral camera installation

The software supports image capturing with WDM (**W**indows **D**river **M**odel) and VFW (**V**ideo **F**or **W**indows). WDM is recommended for the software.

Install the video capture card and the drivers supplied with your intraoral camera, following the intraoral camera's installation instructions.

To enable intraoral camera capture select IntraCam in Tools ⇒ Settings ⇒ Installed devices. Clicking **Intraoral camera capture** opens the intraoral camera window. Click **Settings** to open the settings dialog.

To hide intraoral camera capture button de-select IntraCam in Tools ⇒ Settings ⇒ Installed devices.

To achieve the best possible image quality, it is recommended that the camera device is checked. Click **Settings** to open the settings dialog.
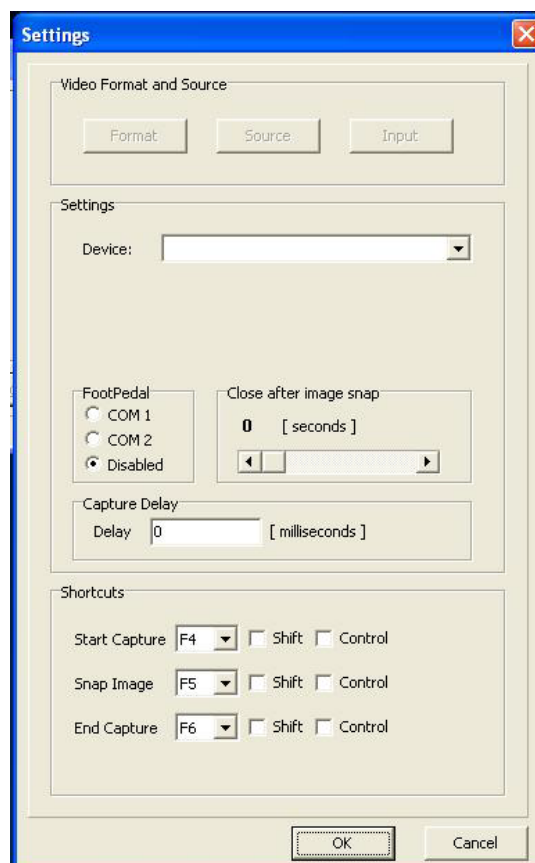
Normally the device is selected automatically.

Use 'Close after image snap' slide bar to specify how many seconds a capture image stays top of the screen after capturing.

Use 'Capture Delay' to prevent camera shake caused by button press. It is the delay between IntraCam's button click and actual image capture. Set the value in the Delay editbox of IntraCam's settings dialog.

Use 'Shortcuts' to configure shortcut keys to start capture session, snap image and end capture session. The default values for the same are -

- Start capture F4

- Snap image F5

- End capture F6

Note! *The software supports Dürr Dental's PC-COM port connectable 3-button foot pedal.*

4.5.1   Video Format dialogs

Format

Click **Format** to open the window.
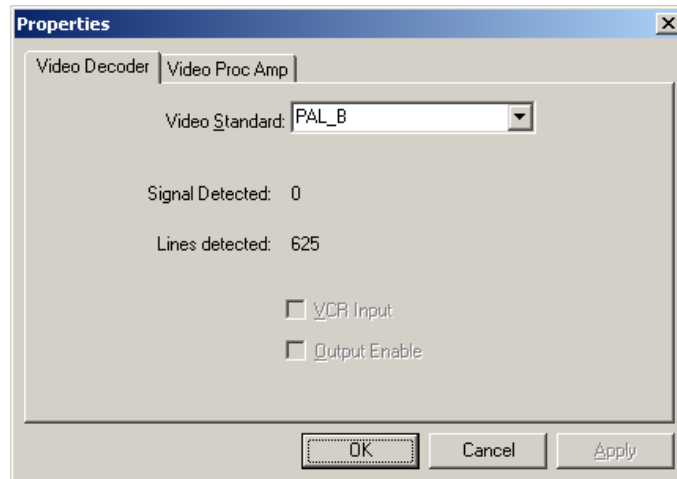
Select the used Video Standard on Video Decoder tab. These alternatives vary according to camera manufacturer and country.
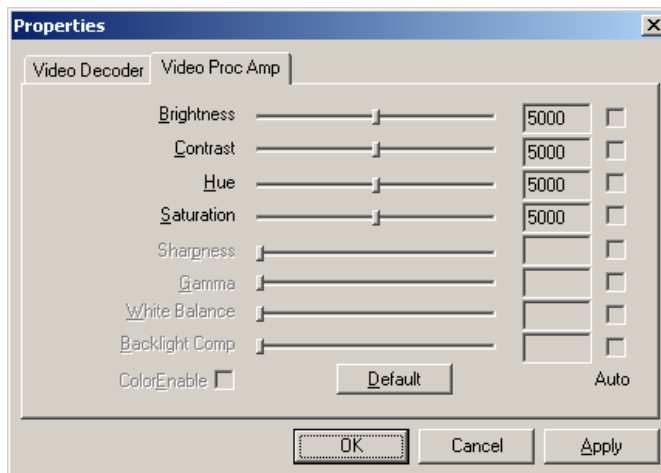
Adjust e.g. the brightness, contrast, hue and saturation. These alternatives vary according to camera manufacturer.

4.5.2   Video Source dialog

Open the Video source dialog by clicking **Source**.
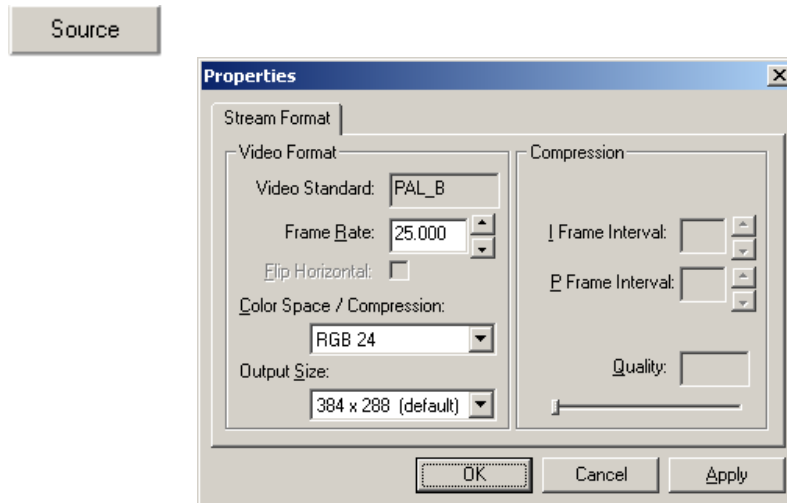
Select the requested dimensions for the camera window from the Output Size list.

Select the requested color setting from the Color Space list. It is recommended to use 24-bit RGB. These alternatives vary according to camera manufacturer and country.

4.5.3 Video Input dialog

Input

Click **Input** to open the window.
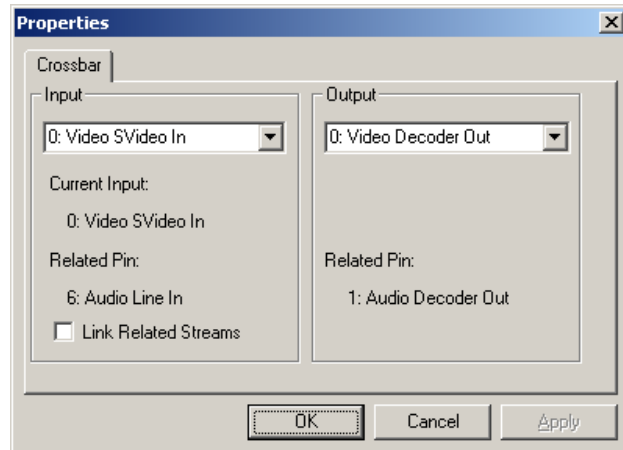
Select the used input video connector from the Input list, S-video is recommended.

4.5.4   Link the software to Intra camera event

If Intra Camera supports events, link the software to the Intra camera event, e.g. "Snapshot Button Pressed" event. When the Intra camera's snapshot button is pressed, the software retrieves an image automatically.

1. Open Scanners and camera properties in the Control Panel. Select your Intra Camera from the devices list and click **Properties**.
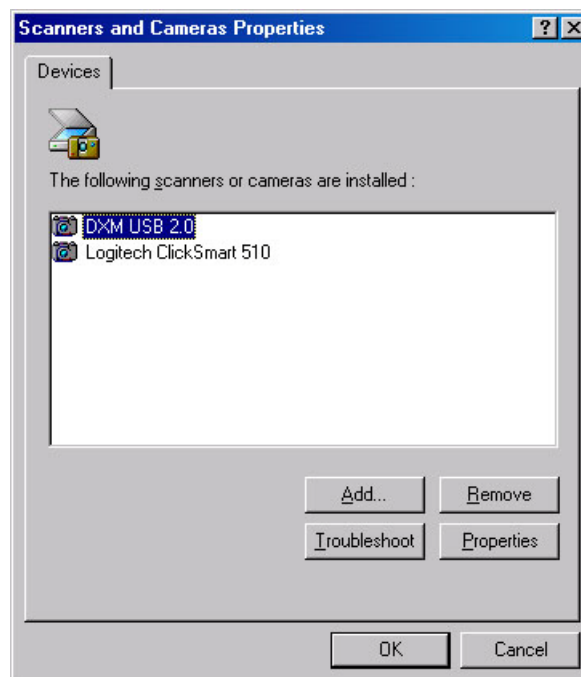
2. Select Events Tab.
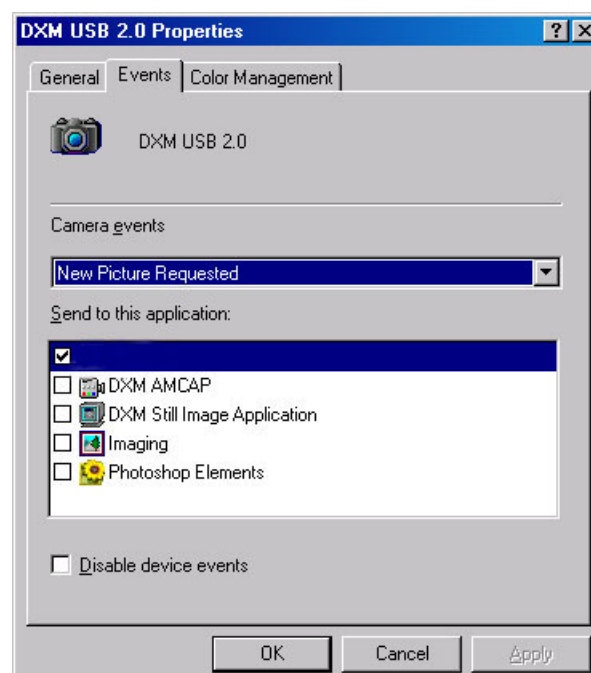
3. Select "New Picture Requested" from the Camera Events list and *Enable CLINIVIEW™* option from the lower list.

4. Change the Camera event to "Snapshot Button Pressed" and *Enable CLINIVIEW™* option.

5. Before the configuration is valid reboot your PC.

Note! *If the Events tab is not displayed, then this feature is not available for the selected Intra Camera.*

5   Configuring DICOM

Before using the software DICOM features the DICOM option must have been installed and the system should be configurated.

Note! *The software DICOM is a licensed feature. A DICOM license key must have been given in either during the software client installation or in CLINIVIEW™ Manager application, after the installation.*

To perform the software DICOM configuration, you need the following information (this information is normally provided by the local network administrator):

- Network configuration information for the software workstation
- Port numbers for DICOM configurations
- IP addresses
- AE titles for the software entities
- AE titles, Port numbers and IP addresses for the needed DICOM devices
  - Storage server
  - Storage Commitment
  - Printer
  - Worklist
  - Query/retrieve

The IP addresses, port numbers and AE titles for all connections can be obtained from the hospital´s ADP personnel & suppliers.

Note! *Access to the DICOM configuration settings is allowed to administrator users only. Either run the software explicitly with administrator rights or in Windows XP use an Windows user account that has administrator rights.*

The DICOM configuration window

The tabbed pages

The DICOM configuration window includes a tabbed set-up/property page for each of the features selected when the DICOM addition was installed. If all four features were selected, there are six tabbed set-up/property pages. These are:

General	Storage
Print	Worklist
Query/Retrieve	Storage SCP
SOP Classes	
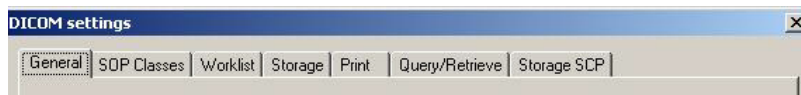
The main configuration buttons
After making configuration changes, click **Apply** or **OK** at the bottom of the DICOM configuration window to accept the changes.
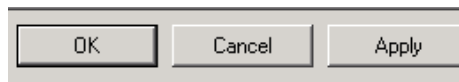
- ■ **Apply** button
  Click to save changes. The DICOM configuration remains open.

- ■ **Cancel** button
  Changes are not saved and the DICOM configuration closes.

- ■ **OK** button
  Click to save changes. The DICOM configuration closes.

5.1 General page

The General page gives an overview of the Local DICOM parameters.
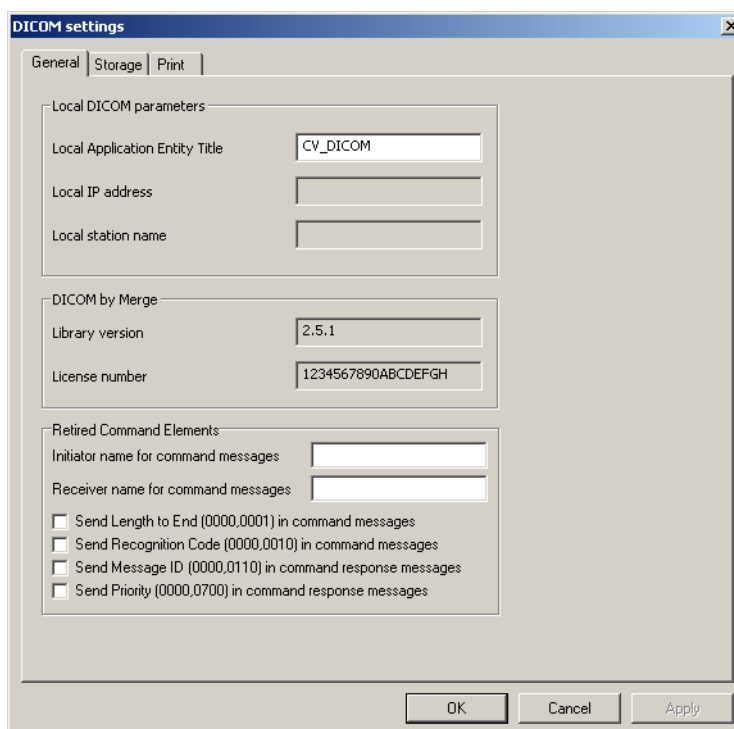
The "Local Application Entity Title" is the DICOM name for the software. The name must be 1 to 16 characters in length (letters A -Z and/or numbers 0 -9) with no spaces.

Contact the (hospital) administrator to obtain the correct "Application Entity Title" (AE-title)

5.1.1   DICOM License number

The DICOM license key is managed through the license key of the software. The license key of the software is entered either during the software client installation or in CLINIVIEW™ Manager after the installation.

5.1.2   Retired Command Elements

Controls are provided to select how the software uses the command elements that have been retired from the DICOM standard 3.0. It is recommended to leave these controls empty.

5.2   SOP Class configuration

The software allows to configure which SOP Class is used to correspond the image types of the software.
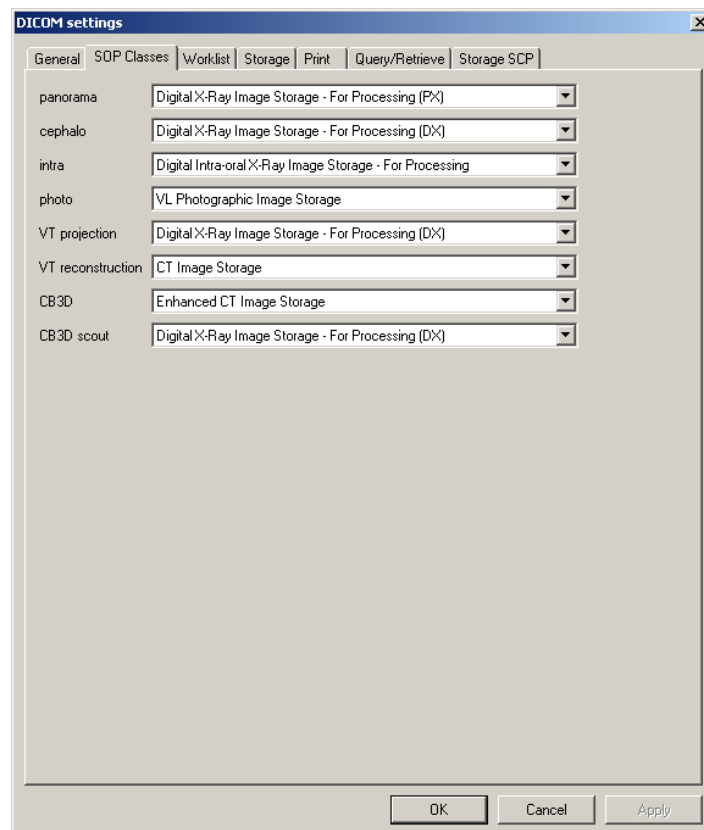
Panoramic images:

- Digital X-Ray Image For Processing (PX) (default)

- Digital X-Ray Image For Presentation (PX)

- Digital X-Ray Image For Processing (DX)

- Digital X-Ray Image For Presentation (DX)

- Computed Radiography Image Storage

Cephalometric images:

- Digital X-Ray Image For Processing (DX) (default)

- Digital X-Ray Image For Processing (DX)

- Computed Radiography Image Storage

Intra images:

- Digital X-Ray Image For Processing (DX) (default)

- Digital X-Ray Image For Processing (DX)

- Digital Intra-oral X-Ray Image Storage
  - For Processing

- Digital Intra-oral X-Ray Image Storage
  -For Presentation

Photographic images:

- VL Photographic Image Storage (default)

- Secondary Capture Image Storage

- Multi-frame Grayscale Byte Secondary Capture Image Storage

- Multi-frame Grayscale Word Secondary Capture Image Storage

- Multi-frame Truecolor Secondary Capture Image Storage

CB3D

- Enhanced CT Image Storage (default)
- CT Image Storage

CB3D scout

- Digital X-Ray Image For Processing (DX) (default)
- Digital X-Ray Image For Processing (DX)
- Computed Radiography Image Storage

(Single-) VT Projection images

- Digital X-Ray Image For Processing (DX) (default)
- Digital X-Ray Image For Processing (DX)
- Computed Radiography Image Storage

(Single-) VT Reconstruction images

- Digital X-Ray Image For Processing (DX) (default)
- Digital X-Ray Image For Processing (DX)
- CB3D Image Storage
- Computed Radiography Image Storage

5.3 Worklist configuration

The DICOM Modality Worklist Server allows information about patients to be obtained from the Hospital Information System. The software supports the Modality Worklist Service as a Service Class User. The Modality Worklist Service Class Provider is a program which purpose is to provide information to the Modality Worklist Service Class User. Worklist Page allows a connection to the Modality Worklist Service Class Provider (SCP) to be configured.

5.3.1   WorkList SCP Box

AE Title
This option specifies the Application Entity Title for the SCP application.

The AE Title is a characters string with a maximum length of 16 characters. The AE Title is a DICOM name for a DICOM Modality Worklist Service Class Provider (SCP) which can receive DICOM queries from the software.

Host Name
Is the remote host name or its IP-Address. For example: 10.1.1.0.

Port
Is the TCP port on which the remote DICOM system listens for connections. The default DICOM port number is 104. Obtain from the (hospital) administrator.

Polling interval (sec)
Specifies the polling interval in seconds, the software makes queries to the Modality Worklist SCP.

If 0 seconds is set here, no polling is done. The user has to update the contents of the worklist dialog with the Refresh button when needed. This setting is not available in the Search from worklist SCP mode.

Refresh Timeout
This value specifies the timeout, that the application waits for the worklist service to finish the refreshing. The value is given as seconds.

Search method
If Refresh from worklist SCP mode is selected, the manual refreshing of the worklist, cause the worklist query (C-FIND) to be sent to the Worklist SCP. This is the recommended option for cases, where the C-FIND operations are fast or the user wants full control of the refreshing.

If Refresh from local database mode is selected, the manual refreshing does not send a Worklist query, but only reads the latest data from the local worklist database. This local database has the results of the worklist polling done on the background. Note: make sure the polling is enabled. This is the recommended option for cases, where the C-FIND operations take a relatively long time.

If Search from worklist SCP mode is selected, the Worklist SCP is searched directly for worklist items using only the filters provided in the worklist search dialog. There is no automatic polling, but the C-Find query is sent only when the user initiates the search. This mode is potentially the slowest, but provides the most control for the user.

The Verify Button
See the Storage Page in this manual for more information.

5.3.2   Search for worklist items by date

Set the number of day(s) before and after today that are taken into account in worklist search. Using values 0 and 0 here, means that only worklist items scheduled for today are queried from the worklist server. This setting is not available in the Search from worklist SCP mode.

5.3.3   Modalities Box

Checking the modality boxes allows the chosen modalities to be retrieved from the Modality Worklist SCP.

Modality	SOP Class Name
DX	Digital Radiography
IO	Intraoral Radiography
PX	Panoramic X-Ray
CR	Computed Radiography
XC	External camera Photography
CT	Computed Tomography
Other	User-defined modlity: can be left empty, in which case modality is not used as a search criteria. Also several modalities can be defined (separated by a space).

(This setting is not available in the Search from worklist SCP mode.)

5.3.4   Scheduled Station

This option can be used to retrieve only the items scheduled for the specified workstation (AE Title). This setting is not available in the Search from worklist SCP mode.

5.3.5   Worklist Page buttons

Columns button

Define the attributes and the order in which they appear in the Worklist window in the "Set Columns" dialog. Click **Columns** and the "Set Columns" window opens. The Set Columns window is divided into two lists:

1.   Hidden Attributes List.
2.   Shown Attributes List.
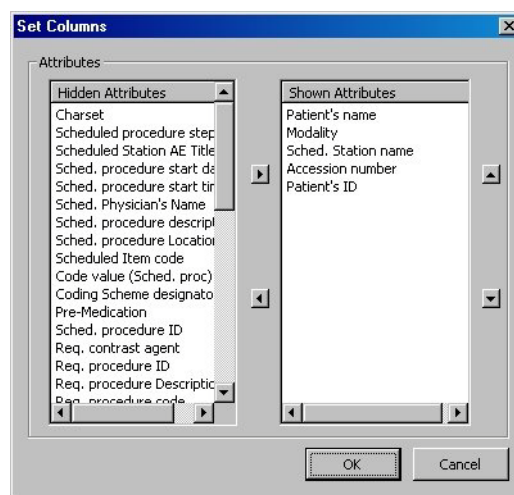
The "Shown Attributes" list includes the attributes that appear in the software Worklist window. The attributes in the hidden attributes list does not appear in the window.

To move the attributes from one list to another:

- Click on the attribute to move (the attribute changes color). Click the arrow to move the attribute in the direction required.

or

- Click on the attribute to activate it. Without releasing the mouse button, drag the attribute to the other list or within the list to change the place of the attribute, then release the mouse button (drag and drop).

Note! *All the changes made in the 'Columns' window remains temporary after clicking* ***OK***. *To save the changes permanently, click* ***OK*** *or* ***Apply*** *in the DICOM Worklist configuration tab.*

Colors button

Click **Colors** and the "Set Colors" window appears. To change a status color, click the appropriate arrow button beside each color.

A "Color selection" window appears.
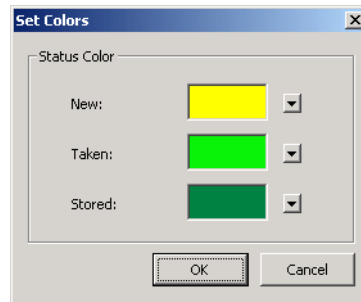
Select a basic or custom color for the required status and click **OK**.

Note! All the changes made in the 'Color' window remains temporary after clicking OK. To save the changes permanently click OK or Apply in the DICOM Worklist configuration tab.

Advanced button

The "Log Files" and "Performance" pages provide parameters for adjusting the low level settings of the DICOM network services. There are similar settings for all the DICOM network services. See chapter 5.8, Log File and Performance Settings.

5.3.6 Other options

Hide following worklist items

Choose the option that suits best.

Option	Effect
None	Items are not hidden
Older than current date	All items older than current date are hidden
Stored (older than current date)	All items that are stored and older than current date are hidden

Copy Scheduled Procedure Step Description to Study Description

If this option is selected then Scheduled Procedure Step Description is copied automatically to the Study Description tag.

Copy Requested Procedure Description to Study Description

If this option is selected then Requested Procedure Description is copied automatically to the Study Description tag.

Study date/time

This setting controls how the Study Date and Study Time tags of a new study are filled, when the study is created from a worklist item, that lacks the Study Date and Study Time values.

5.4 Storage and Storage Commitment configuration

The Storage page allows the storage and storage commitment parameters to be defined. When this page is opened for the first time after installation, two empty lists appear.

-The Storage Destination List (upper).

-The Storage Attributes List (lower).

The Storage Destination List (upper).
Add storage servers to the storage server destination list, e.g. DICOM ARCHIVES.

The Storage Attributes (Tag) List (lower).
Add and edit DICOM Tag information to the tag list.

5.4.1 Storage page - Destinations

Storage page - **Add new**... button
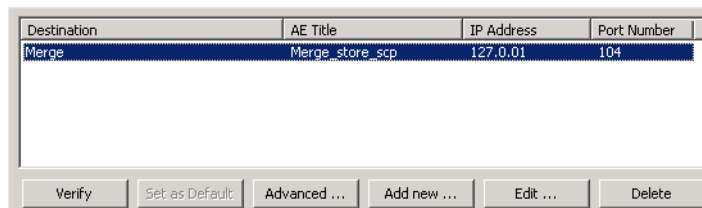
Allows a new destination for the images to be added. Click **Add new** and the "Add New Destination" window appears.

Fill in the fields as follows:

1. Destination: Section describing a remote DICOM application. Client refers to the destination by a DICOM Application Entity Title (AE Title) and this is the same way it is referred to in the application profile. A destination name can be, for example, DICOMArchive.

2. AE Title: The AE Title is a string of 16 characters or less with no spaces, for example, STORAGE_SCP.

   Note! The AE Title string is case sensitive.

3. IP Address: a remote host name or its IP address, for example, 10.0.0.2.

4. Port: a TCP port which the remote DICOM system listens to. The default DICOM port number is 104. Obtain from the (hospital) administrator.

5. If Storage Commitment -feature is used, define the Storage Commitment SCP settings: either choose the "Use the same destination for Storage Commitment" -option or define the Storage Commitment SCP AE Title, IP address and TCP port explicitly. (Note! Port number must not be greater than 65535).

When defined the storage destination, click **OK**. The storage page appears with the new destination in the upper list and the attributes in the lower list.

This indicates that you have successfully added a new destination to the storage application.

Repeat the above steps each time to add a new destination.

Storage page - Delete button
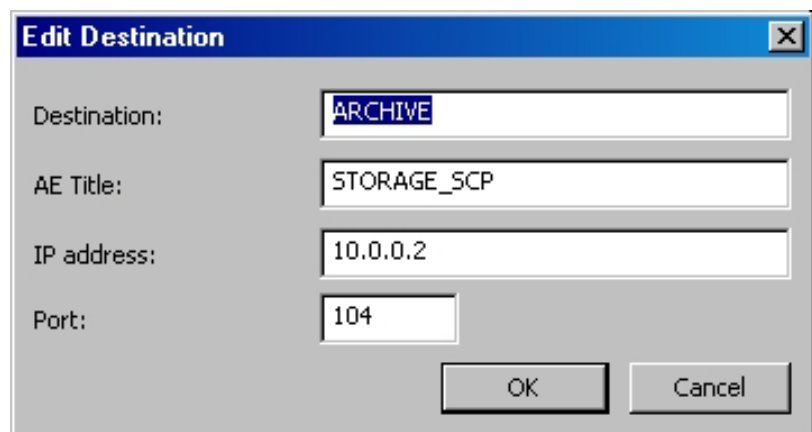
Allows a destination to be deleted from the destination list. To do this:

1. Select the destination to be deleted, the line is highlighted.

2. Click *Delete*.

3. A delete confirmation message appears.
   Click *Yes* to delete the destination.

Storage page - Edit... button

Allows the destination information in the storage destination list to be changed. To do this:

4. Select the destination to be edited, the line is highlighted.

5. Click *Edit*.

6. The Edit Destination window appears.

7. Edit the destination information.

8. Click *OK* to accept the changes. The destination information in the storage window is updated.

Storage page - Advanced... button

The "Log Files" and "Performance" pages provide parameters for adjusting the low level settings of the DICOM network services. There are similar settings for all the DICOM network services. See chapter 5.8, Log File and Performance Settings.

In addition to the settings common to all services, there are following Storage SCU specific settings:

Retry count

The number of retry attempts to made if the storing of an image has failed. Use 0 to disable the retrying.

Retry interval

The time period, in minutes, that is waited between the retries.

Storage page -Set as Default button

Allows the default destination to be set if there are more than two destination places in the Destination List.
Select the destination entry to be set as the default. Click **Default** to set this destination as the default.

Storage page -Verify button DICOM Verification

All communications and image transfer with the remote application are accomplished using the DICOM protocol over a network using the TCP/IP protocol stack.

Verify application level communication between DICOM application entities (AE's), click **Verify**. If there are no selected items (highlight) in the destination list, the Edit, Delete, Set as Default, and Verify buttons are disabled. Select the destination item to be verified. All buttons are enabled. Click **Verify**.

The DICOM Verification window gives information on the state of communication between the destination and computer. If communication is successful, a verification window appears showing all the parameters.
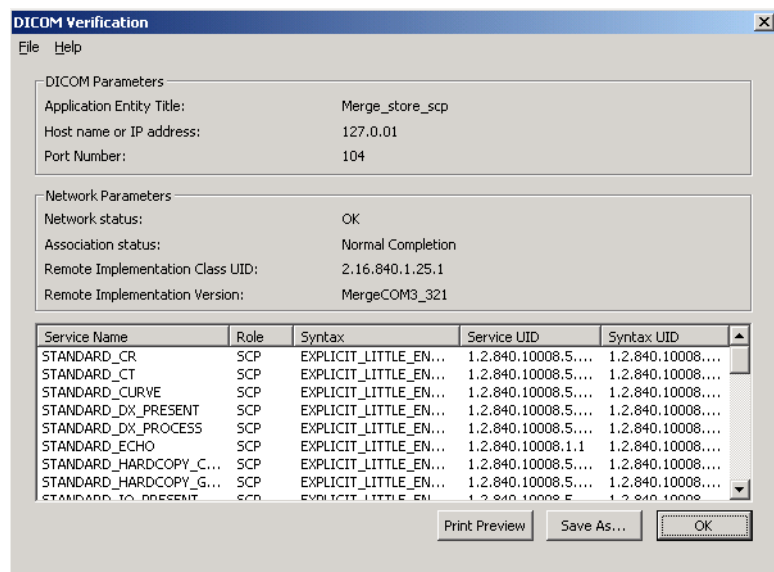
The 'DICOM parameters' are from the destination. The 'Network Parameters' are parameters that provide information about the status of the communication with that remote entity. If communication fails, the 'Network status' is Failure, and the 'Association status' explains the cause of the failure, for example "Failed to connect to remote host". NA appears in both the Remote Implementation Class UID and Remote Implementation version and the list of services is empty.

The results of the communication between entities can be printed or saved.

To save select *File ⇒ Save as...* or click **Save**.

To print select *File ⇒ Print* or click **Print**.

5.4.2   Storage page -Attributes List buttons

If the focus of the window is in one of the destinations in the storage destination list, only **Add New** is enabled. Once the focus (the line is selected) is put into one of the attributes in the storage attributes list, the rest of buttons are enabled.
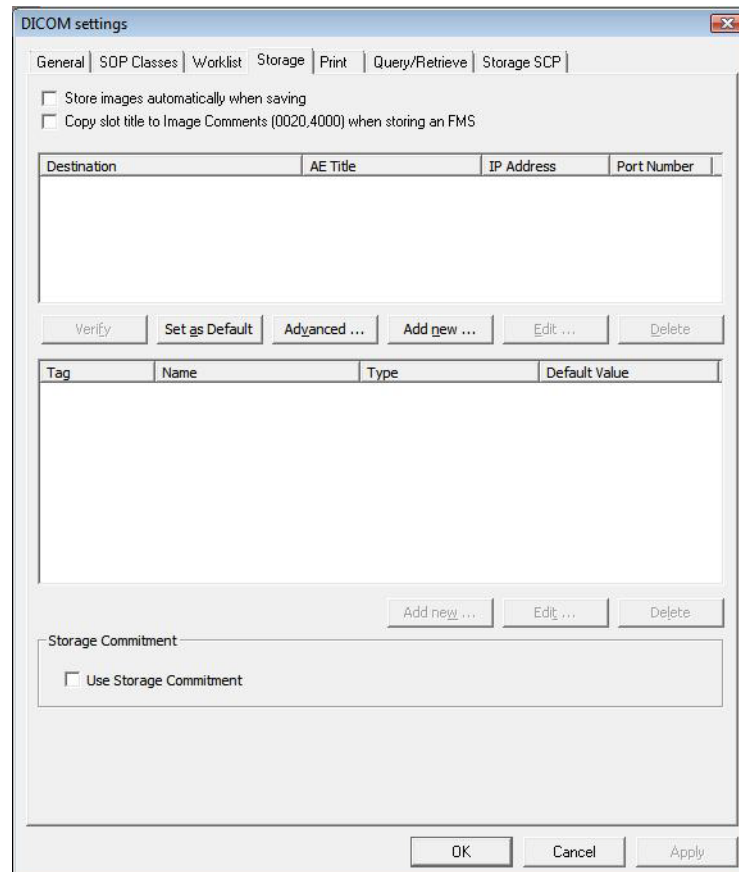
The Attributes list includes default attributes for the DICOM application. Add and edit the attributes or delete them from the list.

Attributes list - Add new... button

To add a new attribute to the storage attribute list, click **Add New**. The "Add New Tag" window appears:
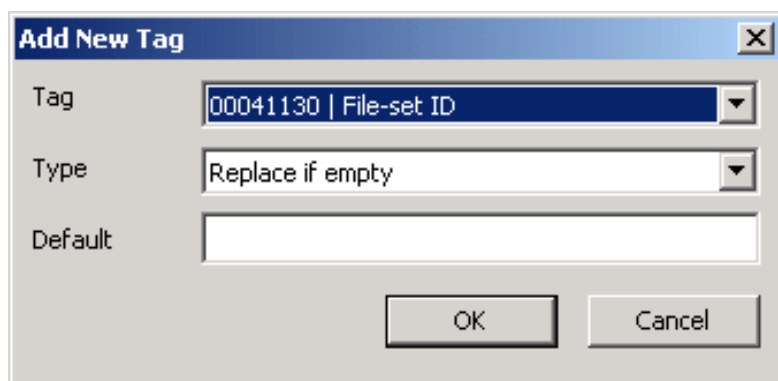
A message is constructed from attributes having values, and each attribute is identified by a tag. An attribute is a unit of data (e.g., Patient's Name, Patient 10, ...). A tag is a 4-byte number identifying an attribute (e.g., 00100010H for Patient's Name, ...).

A tag is usually written as an ordered pair of two-byte numbers. The first two bytes are sometimes called a group number, and the last two bytes are called an element number (e.g., (0010,0010), (0038, 001C),...). This terminology is partly a remnant of the DICOM Standard.

DICOM specifies Information Object Definitions (IOD's) as being composed of modules. Each module contains attributes. Attributes can be required, optional, or only required under certain conditions (conditional attributes). Conditional attributes are always specified along with a condition.

Storage list - Edit... button

To change information of one of the destinations' attributes that is already in the storage attributes list, perform the following steps:

1. Select the attribute to be changed (the line is selected).

2. Click **Edit**. The Modify Tag window appears.

3. Enter the new information and click **OK**. The changes appear in the storage attributes list.
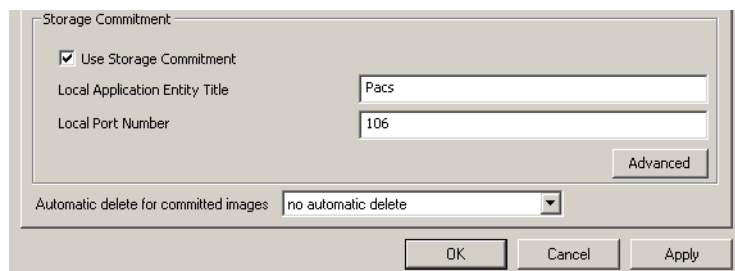
Storage list - Delete Button

Allows an attribute to be deleted from the storage attributes list. To do this:

1. Select the attribute to be deleted (the line is selected).

2. Click **Delete**.

3. A delete confirmation message appears.
    Click OK to delete the attribute.

5.4.3   Storage Commitment settings

The Storage Commitment -feature can be enabled or disabled with the check box control.

When enabled, both the storing of images and requesting commitment for the images use the software Storage SCU Application Entity. The details of this AE must be configured: AE Title and Port number. Contact the local system administrator to get these values.

Note! *Do not use the same AE Title and port number as in Storage SCP.*

Automatic delete for committed images

When the Storage Commitment -feature is enabled, an automatic image deletion can be defined. Only the images that are successfully committed are affected by this feature. If the patient is left with no images after the image deletion, the patient is also deleted. Log entry of the deletions will be made into the System Log, see chapter 9.4.4 System Logs. All deleted images are put into the Trash (see chapter 9.4.3 Trash), from where they can be either restored or permanently deleted. The following options are available for automatic deletion:

- no automatic delete

- delete immediately after commitment

- delete 12 hours after commitment

- delete 24 hours after commitment

- delete 48 hours after commitment.

Note! *Use this feature carefully, since it removes captured X-ray images from the software without user's explicit acceptance for each image, and the images may need to be retrieved from the PACS, if they are needed.*

Storage Commitment - Advanced

Maximum retry count for failed Commitment attempts

This parameter defines the number of retries to be made if the Storage Commitment attempt fails for some reason. Use 0 to disable the retry feature.

Retry interval for failed commitment attempts

This parameter defines the wait time period between the retries. Minutes are used.

Wait for commitment report in N-ACTION Association

Some Storage Commitment SCPs are able to send the Storage Commitment report within the same association as the Storage Commitment request. This attribute defines the time period, in seconds, that the software Storage Commitment SCU waits for the report message. Use 0 to always require separate association to be used for the Storage Commitment report.

Wait time for storage commitment report

The time period, in minutes, that Storage Commitment SCU waits for Storage Commitment report after requesting it. After this time period expires, the status of the Storage Commitment task goes either into Waiting for Storage Commitment Retry,if the retrying is enabled and there are retries left, or to Storage Commitment Failed. Reports can still be received, and they are processed, even after this timeout has expired.

Delay between storage and commitment

The time period that Storage Commitment SCU waits after Storage before sending the Storage Commitment request.

5.5 Print configuration

Open this page for the first time after installation and see two empty lists.

1. The Print Destination List.

2. The Print Attributes List.
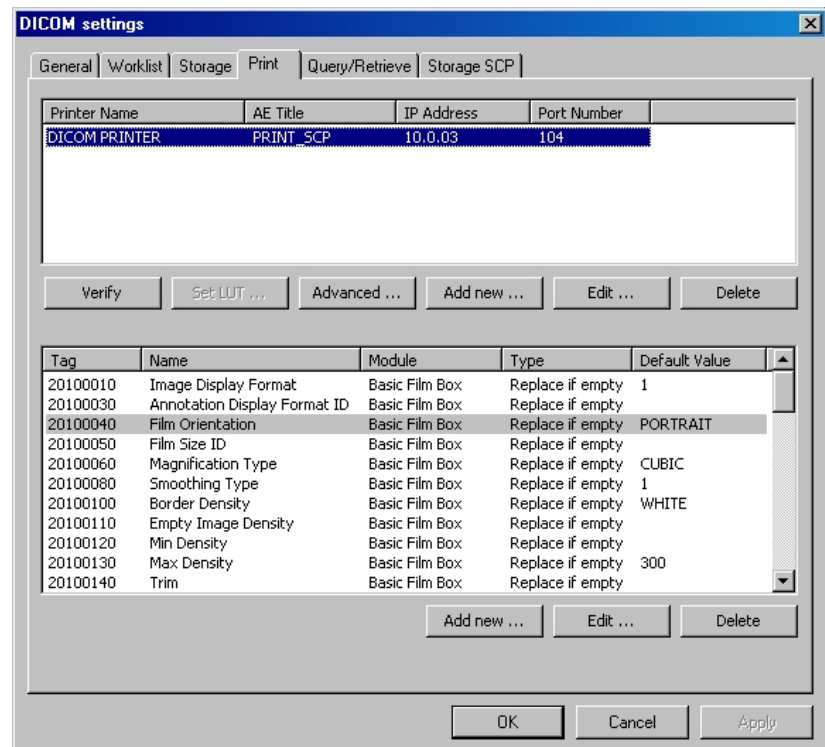
Print Destination List.
To the Print Destination List add DICOM printers.

Print Attributes (Tag) List
To the Print Tag List add settings for every DICOM printer, e.g. media size.

5.5.1   Print page - Destinations

Print page - Add new... button

Add a new DICOM printer by clicking **Add new**.

Complete the fields as follow:

1. Printer name:
    Application refers to the printer by a DICOM Application Entity Title (AE Title) and this is the same way it is referred to in the application profile. In this field, enter a name for AE Title, for example DICOM_PRINTER.

2. AE Title:
    Obtain from the (hospital) administrator, for example PRINT_SCP.

3. IP address:
    Obtain from the (hospital) administrator, for example 10.0.0.3.

4. Port:
    The TCP port on which the remote DICOM system listens for connections. The default DICOM port number is 104. Obtain from the (hospital) administrator.

5. Capabilities:
    If the DICOM printer supports grayscale OR color printing, select

    -   Basic Grayscale Print Management
    -   Basic Color Print Management

If the printer supports both printing modes, select either or both modes. Refer to the operating manual supplied with the DICOM printer for more information.

Click **OK** after entering all the required information.

A print page appears, which indicates that a new printer has been successfully added to the list.

The top list shows the configuration information that has been entered. The bottom list shows all the printer's attributes and their characteristics (Tag number, Name, Module, Type and default value).

Repeat the above procedure each time to add a DICOM printer.

Print page - Edit... button

Change the information in the printer list.

1. Select the printer to be edited.
2. Click **Edit**.
3. The Edit Printer Properties window appears.

    Enter new printer information.

4. Click **OK** to accept the changes. The destination information in the printer destination window is updated.

Print page - Delete button

Delete a printer from the print list.

1. Select the printer to be deleted.
2. Click **Delete**.
3. A delete confirmation message appears.
    Click **Yes** to delete the printer.

Print page - Advanced... button

The "Log Files" and "Performance" pages provide parameters for adjusting the low level settings of the DICOM network services. There are similar settings for all the DICOM network services. See chapter 5.8 Log File and Performance Settings.
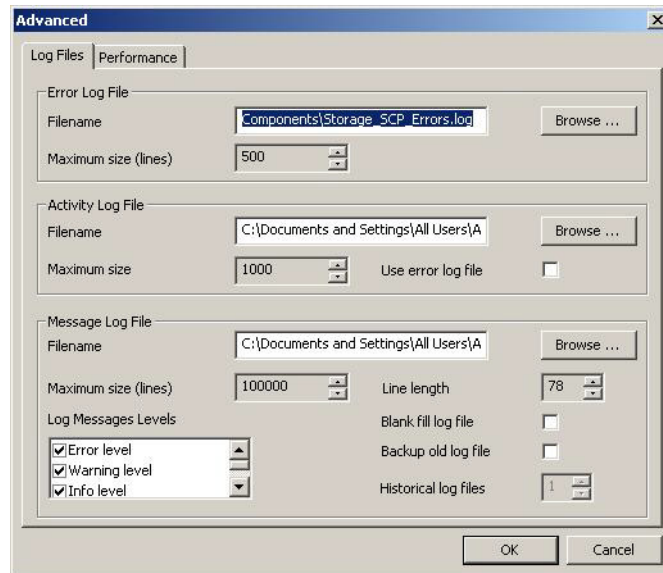
Print page - Verify button
Verify DICOM printer connection.

5.5.2   Print page - Attributes List buttons

With the attribute list buttons you can edit the printer default settings.
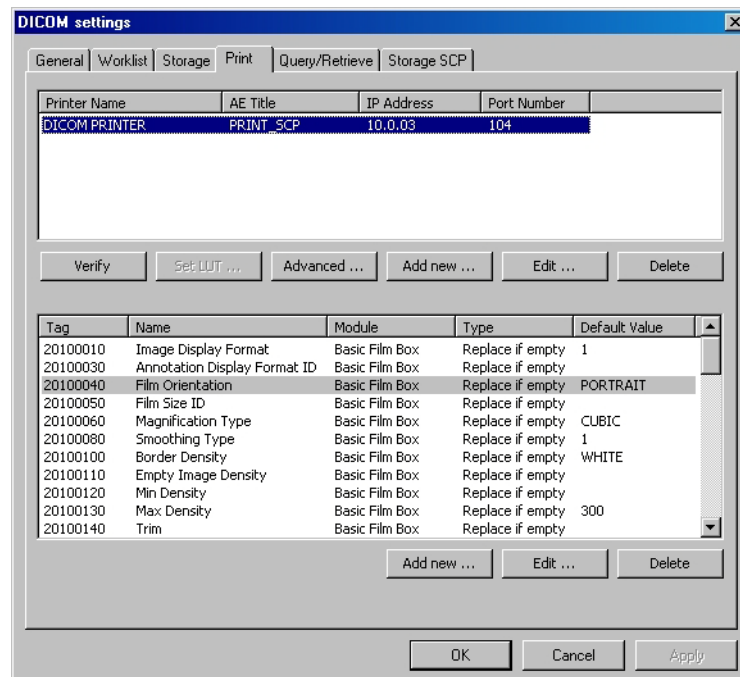
Edit... button
Select the attribute in the list, which is needed to be changed (the line turns blue)

Click **Edit**.
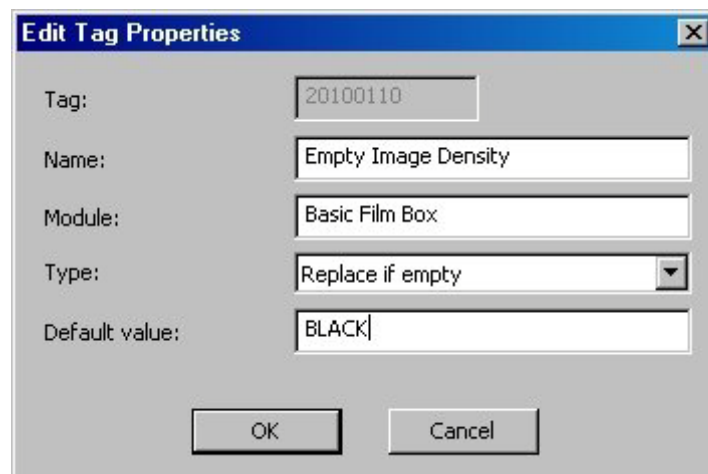
Check the correct default values from the printer documentation or (hospital) administrator. Enter new information and click **OK**. The changes appear in the Print Attributes list.

Delete button:
Delete an attribute from the print attributes list.

1. Select the attribute to be deleted.
2. Click **Delete**.
3. A delete confirmation message appears.
4. Click **Yes** to delete the print attribute.

5.6 Query / Retrieve configuration

The Query / Retrieve service provides a tool for search and retrieve of patients and images from image archives.

Query / Retrieve page:

Complete the fields as follow:

AE Title:
Obtain from the (hospital) administrator, for example QR_SCP.

IP address:
Obtain from the (hospital) administrator, for example 10.0.0.2.

Port:
The TCP port on which the remote DICOM system listens for connections. The default DICOM port number is 104. Obtain from the (hospital) administrator.

Verify button

See the **Verify** button in the previous chapters of this manual for more information.

Application Entity Title for Move Service

Specify the AE Title of the target Application Entity, i.e. the AE where the retrieved images are sent. Typically, this is the local Storage SCP AE.

Query Model

Select either Patient Root or Study Root.

Failed Retrieve Retry Count

This is the limit for the retry attempts that would made after retrieving is failed. 0 means that not retries are done if the initial retrieve attempt.

Retry interval

This is the time interval in minutes, that will be waited between the retries.

The Advanced Button

See or make any changes to the patient/image search, click **Advanced**. The Advanced window appears.

The Advanced window shows default patient search criteria, normally these can be left empty.

5.6.1   Query options

Editing default Query / Retrieve messages
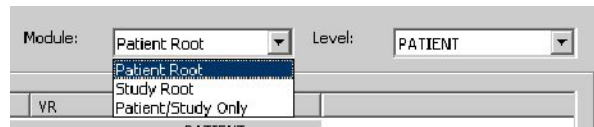
From the module and level scroll boxes choose different types of query levels.

In these boxes the following information can be found:

Module	Level	
Patient Root	-	Patient
	-	Study
	-	Series
	-	Image
Study Root	-	Study
	-	Series
	-	Image

Add, Edit and Remove buttons

Click **Add** to increase the items in one of the lists (request or response).

The following dialog appears which allows relevant information to be entered into the fields.
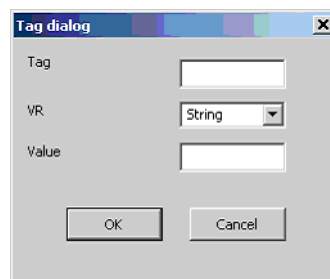
Remember that a Tag is usually written as an ordered pair of two-byte numbers. The first two bytes are sometimes called a 'group' number, with the last two bytes being called an 'element' number (e.g., (0010, 0010), or (0038, 001C)).

The VR or Value Representation can be thought of as the 'type specifier' for the values that can be assigned to an attribute. This includes the data type, as well as its format.

The Value is the variable to which the value stored in the attribute is assigned.

To change or remove one of the list items, first select the item in the list and then click the corresponding button.
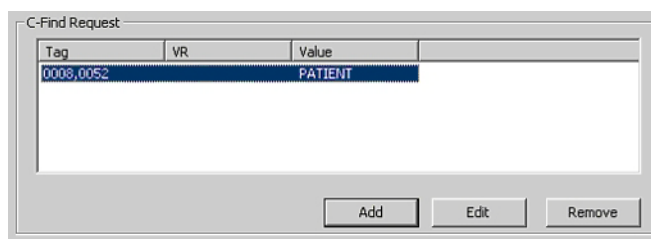
The edit or remove dialog appears with the fields containing the data of the item to be changed or removed.
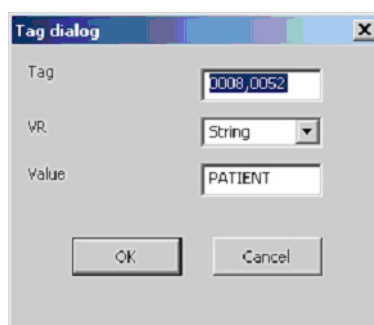
After the changes, click **OK** to accept them.

To remove an item, the following confirmation message appears.
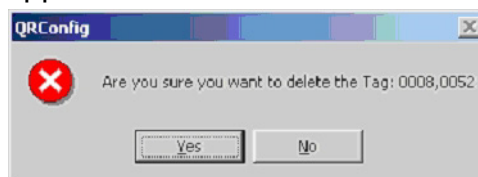
Up and Down buttons

These buttons are located in the bottom left-hand corner of the advanced dialog in the C-Find Response group box. They can only be used with that list.

C-Find Response

Tag	VR
0010,0010	
0010,0020	
0008,0054	
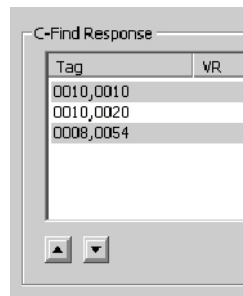
With the Up and Down buttons change the order of the list items. Select the item to move up or down the list and then click **UP/DOWN**.

5.6.2   The Log Files and Performance pages

The "Log Files" and "Performance" pages provide parameters for adjusting the low level settings of the DICOM network services. There are similar settings for all the DICOM network services. See chapter 5.8, Log File and Performance Settings.

5.7 Storage SCP

Storage SCP page

The Storage SCP page allows the storage parameters to be defined. The service is used when a remote DICOM application sends the images to the software. The software works as Storage Service Class Provider (SCP) to the remote system.

Define the software storage service application entity title and TCP port number on the Storage SCP page.

Note! *Do not use the same AE Title and Port numbers for Storage SCP and Storage SCU (in chapter 4.4.3) services*
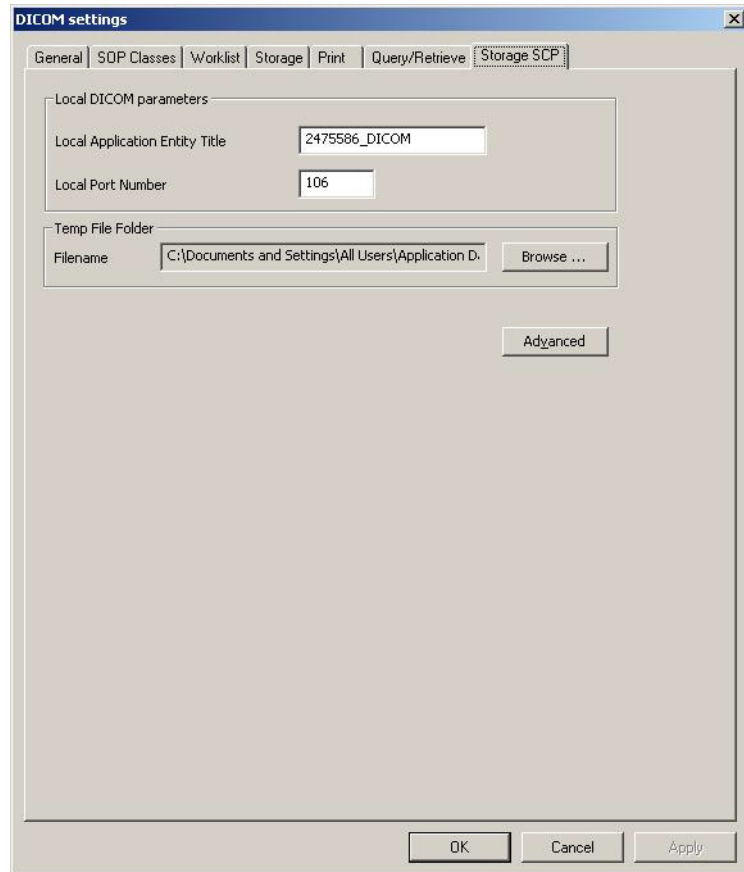
Click **OK** or **Apply** to save the configuration parameters.

Temp File Folder

The folder on the local hard drive, where the retrieved images are saved temporarily before saving them to database, can be configured here.

Storage SCP page - Advanced button

The "Log Files" and "Performance" pages provide parameters for adjusting the low level settings of the DICOM network services. There are similar settings for all the DICOM network services. See chapter 5.8, Log File and Performance Settings.

5.8 Log File and Performance Settings

The **Log File Page** allows the configuration, the database, the error log file or the storage service log file destinations and parameters to be changed.

- Configuration Database field:
  Allows the database name (Data Source Name) and location (Filename) to be changed. Key in the specified path directly or click **Browse** and select the required name and location.

- Write ODBC:
  When the ODBC check box is selected, a new DSN entry is to be inserted into the system DSN list. Refer to ODBC and Microsoft Windows documentation for details.

- Error Log File field:
  Allows the errors log file name and its maximum size in bytes to be selected.

- Storage Service Log File field:
  Allows the Storage Service message log file to be selected and configured. The log file name, maximum size, the line length, and log message levels are configurable.
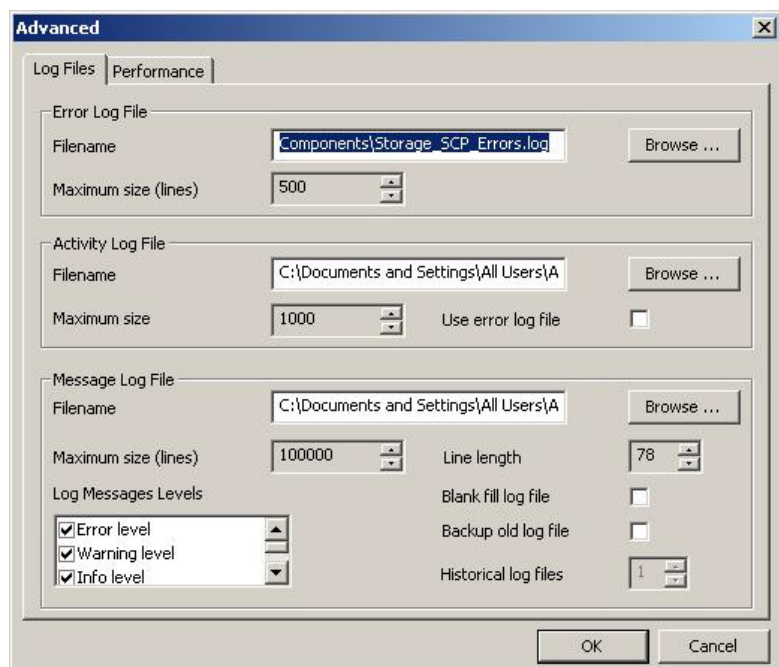
The Log message levels are as follows:

- Error level:
  This level logs error messages. These messages mainly occur when the network fails, or when reading in or writing DICOM messages.

- Warning level:
  This level logs warning messages.

- Info level:
  This level logs informational messages.

- T1 level: not used

- T2 level:
  This level logs the entire contents of messages sent or received over the network.

- T3 level:
  This level logs information related to association negotiation.

- T4 level:
  This level logs information when incoming associations are being rejected.

- T5level:
  This level logs information when a message is validated.

- T6 level:
  This level logs the contents of the Merge tool kit configuration.

- T7 level:
  This level logs the contents of a the command elements (group 0) for received and sent messages.

- T8 level:
  This level logs warning messages related to streaming in or out messages and files.

- T9 level:
  This level logs information about PDUs sent or received.

- Blank fill log file:
  If this feature is selected the log file size is to be expanded to the maximum possible size.

- Backup old log files:
  If this feature is selected old log files are backed up.

- Historical log files:
  To select the number of historical log files saved.

The Performance Page allows various parameters to be changed to improve performance.
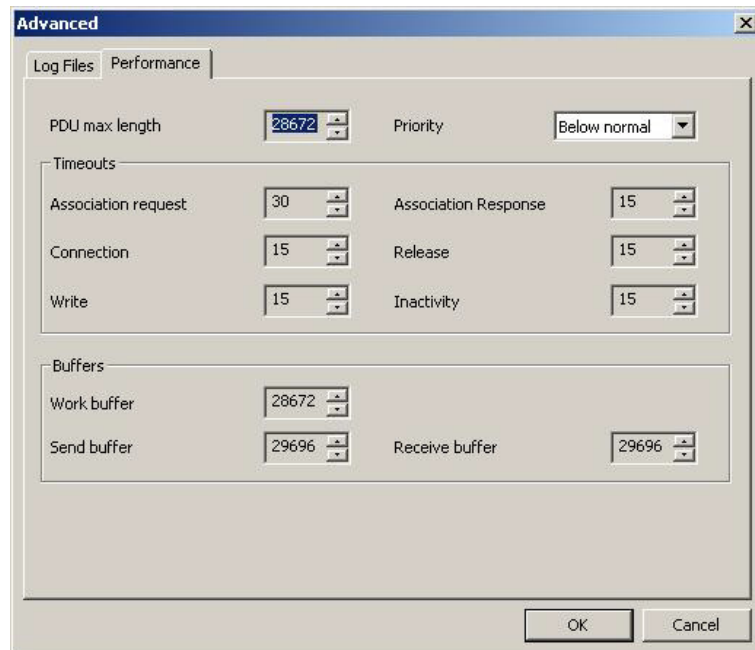
PDU max. length:
Maximum size of Protocol Data Units that can be sent or received by the software DICOM.

Timeouts box:
Allows various timeouts (in seconds) to be set. If the application is running in a multi-tasking environment, the process is blocked during this waiting period and the system processor is available for other processes. If all the timeouts are set to 0 this is equivalent to polling, as DICOM returns immediately, whether a message has been received or not.

- Association Request:
  The waiting time for association request or for the peer to shut down an association.

- Association Response:
  The waiting time for a reply to an associate request.

- Connection:
  The waiting time for a network connection to be accepted.

- Release:
  The waiting time for a reply to an associate release.

- Write:
  The waiting time for a network write to be accepted.

- Inactivity:
  The waiting time for data between TCP/IP packets

Buffers:

This box allows various buffers to be configured to improve performance.

- Work Buffer:
  This option sets the buffer size before DICOM application stores the data or passes it. Setting higher values for this option increases performance.

- Send Buffer:
  This option sets the TCP/IP send buffer size. Higher values for this buffer increases the network performance of the tool kit for client (SCU) applications. This value is larger than the PDU max length.

5.9 Glossary

ACR:
American College of Radiology; Initiated the DICOM standardization effort in the early 80's

ACR-NEMA:
Predecessor of the DICOM standard defined by the ACR and NEMA; two versions were defined 1.0 and 2.0

AE:
Application Entity; a software process which implements DICOM. Most implementations use multiple AE's when implementing multiple Service Classes.

Attribute:
Attributes are the components of an information object definition (100), describing its properties.

DICOM:
Digital Imaging and Communications in Medicine standard.

IOD:
Information Object Definitions.

MergeCOM-3:
Merge Technologies Inc. provided toolkit performing low-level DICOM communication.

Modality:
Acquisition system such as a CT, MR, US, NM, CR.

NEMA:
National Electrical Manufacturing Association.

PDU:
Protocol Data Unit, a packet that is created at the DICOM lower-level protocol.

SCP:
Service Class Provider

SCU:
Service Class user

SOP:
Service Object Pair

TCP/IP:
Transmission Control Protocol/Internet Protocol.

UID:
Unique Identifier.

5.10   The software DICOM SOP Classes

SOP Class Name	SOP Class UID
Verification	
Verification Service Class	1.2.840.10008.1.1
DICOMDIR	
Basic Directory	1.2.840.10008.1.3.10
Storage SCU	
Digital X-ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Intra-oral X-ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra-oral X-ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.3.1
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4
Storage Commitment SCP	
Storage Commitment Push Model	1.2.840.10008.1.20.1
Query/Retrieve SCU	
Patient Root Find	1.2.840.10008.5.1.4.1.2.1.1
Patient Root Move	1.2.840.10008.5.1.4.1.2.1.2
Study Root Find	1.2.840.10008.5.1.4.1.2.2.1
Study Root Move	1.2.840.10008.5.1.4.1.2.2.2
Modality worklist SCU	
Modality Worklist	1.2.840.10008.5.1.4.31
DICOM Print SCU	
Printer SOP Class	1.2.840.10008.5.1.1.16
Basic Grayscale Print Management	1.2.840.10008.5.1.1.9
Basic Film Session	1.2.840.10008.5.1.1.1
Basic Film Box	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box	1.2.840.10008.5.1.1.4
Basic Color Print Management	1.2.840.10008.5.1.1.18
Basic Color Image Box	1.2.840.10008.5.1.1.4.1

6 Software database

6.1 Changing the software database location

Note! *If content of local database needs to be moved, see chapter 6.3 Restoring database to a new installation and/or location.*

6.1.1 Changing database location by uninstalling local database using Modify

This procedure removes the database from the local computer, where the software client is installed. If you do not want to remove the local database, see chapter 6, Changing database location by modifying ODBC alias.

1. Go to Control Panel ⇒ Add or Remove Programs (Programs and Features in Vista).
2. Select **CliniView** and click **Change**. Wait for the software Setup Maintenance program screen to load.
3. Select "Modify" and click **Next** .
4. Unselect "Database" feature and click **Next**.
5. A question "If database is uninstalled, all patient data is going to be deleted from the database tables. Are you sure you want to continue?" is shown.
   Click **Yes**.
6. Select or enter the database server, where remote the software database resides e.g. enter the value under key "hostname" from server's DataSource.ini and click **Next** (default location of DataSource.ini in the server is C:\CVData\Client).
7. Wait while Microsoft SQL Server 2008 database engine is being uninstalled.
8. When restart is suggested, select "Yes, I want to restart my computer now" and click **Finish**.
9. Log on to Windows using an account with administrator rights to finish maintenance.

6.1.2 Changing database location by modifying ODBC alias

Client computer is configured to use other than local database, and the local database is kept installed although the software client is no longer using it.

1. Go to Control Panel $\Rightarrow$ Administrative Tools $\Rightarrow$ Data Sources (ODBC).
2. Select "System DSN" tab.
3. Select **CliniView** and click **Configure**.
4. Modify the "Server" field to correspond with the new database location.

   Change "(local)\CliniView" to "SERVER\CliniView" (or you can use the drop down menu which shows all available SQL Servers).
5. When the new SQL Server is written in the "Server" field, click **Next**.
6. Select "With SQL Server authentication using a login ID and password entered by the user." Also, check "Connect to SQL Server to obtain default settings for the additional configuration options." and fill in a valid Login ID/Password (admin/admin by default).
   Click **Next**.
7. Click **Next**, **Finish** and **OK**.

After both cases 6.1.1 and 6.1.2 client computer is configured to use the external software database.

6.1.3 Changing updated Standalone database to Network database

Note! This instruction is valid only for a database upgraded from a software version older than CLINIVIEW™ 10.2.2. Databases installed with CLINIVIEW™ 10.2.2. or later can be used as standalone or network database without any modifications needed.

Client and database are installed on modality workstation and the database is not shared, i.e. database has been installed without the "Database sharing" feature. The standalone database is modified so that it is shared to network and clients installed on other computers are able to connect to it.

1. Go to Control Panel ⇒ Add or Remove Programs (Programs and Features in Vista).
2. Select **CliniView** and click **Change**. Wait for the software Setup Maintenance program screen to load.
3. Select "Advanced Modify" and click **Next**.
4. Select "Database sharing" feature under Database title and click **Next**.
5. If license key is asked, enter your license and click **Next** and **Next**.
6. When restart is suggested, select "Yes, I want to restart my computer now" and click **Finish**.
7. Log on to Windows using an account with administrator rights to finish maintenance.
8. Now the database is shared to network and other client computers can be configured to use it. See chapter 6, Changing database location by modifying ODBC alias.

6.2 Database backup and restore

Database backup and restore utilities are installed under Tools folder in the software installation directory, e.g. \Program Files\CliniView\Database\Tools\. The backup of the CVDATA folder, including all subfolders, can be made with any backup software and media type that the user has available.

Note! This describes a procedure, as an example, to backup both the database tables and medical images. Therefore ensure that all the CVDATA contents fit in the backup media – it can be up to several gigabytes. The necessary backup software is supplied with the backup device (e.g. Magneto optical tape drive).

6.2.1 Making instant backup from the software database

Note! *If you use 32-bit SQL Server in 64-bit Windows, do the following modification in BackupDB.bat before executing it. Replace instance of Program Files with Program Files (x86) in OSQLEXE definition.*

Note! *It is highly recommended that all users are logged off the software database.*

Note! *Running the backup/restore batch files under the Tools directory could fail under Windows Vista and later operating system due to missing permissions to create files under the Program Files directory. In such cases the problem can be circumvented by e.g. adjusting permissions or moving the Tools folder under some other directory.*

1. Run BackupDB.bat (located in the Tools folder mentioned in the beginning of the chapter).
   In Windows 7 run file in command line opened with "Run as administrator".
2. Enter the administrator password in the command-line (=admin by default).
3. The software database file is backed up ('pidbms-de.dat' in the backup directory, e.g. \CVDATA\Backup).
4. Make a backup of the image directory (e.g. C:\CVDATA), INCLUDE ALL CONTENTS!
5. Mark the backup media with the current date and store it in a safe place.

6.2.2   Restoring the software database from the backup

Note! *If you use 32-bit SQL Server in 64-bit Windows, do the following modification in ImportDB.bat before executing it. Replace instances of Program Files with Program Files (x86) in OSQLEXE and SQLCMD definitions.*

Note! *This procedure overwrites any existing patient data stored in the software database.*

Note! *This procedure does not restore users and creates default users. Use CLINIVIEW™ Manager to recreate users.*

1. Make sure that all users have been logged off the software database (restore does not succeed if the database is in use) e.g make sure that "PaloDEx 3D Reconstruction Service" and "CliniView Database Backup Service" are not running.
2. Restore the image directory (e.g. C:\CVDATA) from the backup, INCLUDE ALL CONTENTS!
3. Run ImportDB.bat (located in the Tools folder).
In Windows 7 run file in command line opened with "Run as administrator".
4. Enter the administrator password in the command-line (=admin by default).
5. The database along with all the image data is now restored.

6.3 Restoring database to a new installation and/or location

Note! This procedure has to be applied whenever MS SQL Server database has been re-installed. Otherwise the new database installation does not read any of the existing data or images but is running the newly created empty database.

6.3.1 How to restore a database to another installation or new location

Note! If you use 32-bit SQL Server in 64-bit Windows, do the following modification in ImportDB.bat before executing it. Replace instances of Program Files with Program Files (x86) in OSQLEXE and SQLCMD definitions.

Note! In Windows Vista and later, run the files Back-upDB.bat and ImportDB.bat in command line opened with "Run as administrator".

If you already have an up-to-date backup of the whole image folder (CVDATA) and you have a matching 'pidbmsde.dat' file there in the Backup folder, skip step 1.

1. Make backup from the existing database (source) by running the backup batch file (location e.g. "C:\Program Files\CliniView\Database\Tools\ BackupDB.bat", Username/Password: admin/admin by default).
2. Make a backup of the image folder (e.g. "C:\CVDATA"), INCLUDE ALL CONTENTS!
3. Install the software database to the new computer (destination) and restart the computer when asked.

   NOTE! *For the system to work correctly the Database tables and Database media files must be located in the same computer.*

4. Delete the whole "Files" folder under the image folder on the destination computer (location e.g. "C:\CVDATA\DB\Files").

5. Copy the database backup file 'pidbmsde.dat' from source (=your backup) to the Backup folder on the destination (location e.g. "C:\CVDATA\Backup"). Replace existing 'pidbmsde.dat' if a file with that name already exists.

6. Copy the whole "Files" folder including all files and sub-folders from source (=your backup) to destination (e.g. "C:\CVDATA\DB\Files").

7. In case the database backup is from the same software database version as the new database, perform step A). In case the database backup is from the older software database version than the new database, perform step B).

   A) Run ImportDB.bat
   (location e.g. "C:\Program Files\CliniView\Database\Tools\ImportDB.bat") and enter Username/Password (= admin/admin by default).

   B) See Old Backup Importer instructions found in installation media under Tools\OldBackupImporter to import a backup from **CliniView** 7.1.0.2 or later to current version of the software.

8. Reconfigure the database connection (ODBC) of the clients as explained in the next chapter 6, How to reconfigure Database connection (ODBC).

(clients = all **CliniView** 8.2 or later software on workstations and server if any).

Note! *Make sure that nobody uses the software before the database connection has been completely reconfigured (otherwise some data is saved to the old database).*

6.3.2 How to reconfigure Database connection (ODBC)

1. Open Start ($\Rightarrow$ Settings) $\Rightarrow$ Control Panel ($\Rightarrow$ Switch to Classic View) $\Rightarrow$ Administrative Tools $\Rightarrow$ Data Sources (ODBC).
2. Select the "System DSN" tab.
3. Select **CliniView** and click **Configure.**
4. Select "[The new server]\CliniView" from the list and click **Next**.

5. Select "With SQL Server authentication using a login ID and password entered by the user." Also "Connect to SQL Server to obtain default settings for the additional configuration options." must be checked. Write user-name (by default: admin) to the "Login ID" field and password (by default: admin) to the "Password" field and click **Next**.
6. Click **Next** (again).
7. Click **Finish**, **OK** and **OK**.

6.4 Renaming Database Computer

There are certain steps that need to be taken when renaming computer, which hosts the software database with database sharing. These steps are done after the renaming is completed.

6.4.1 Configuring the file server

To configure file server to use the new computer name, open CLINIVIEW™ Manager and select File ⇒ File Server Configuration. In the File Server Configuration dialog change the 'IP or computer name' to match the new computer name and then click **Save**.

6.4.2 Modifying Datasource.ini

Modifying the Datasouce.ini is essential to new clients that are installed after renaming the database computer. Datasource.ini is located at the folder CVDATA\ClientConfiguration\.
File should contain the following lines:

[Data Source]
hostname=OLD_COMPUTER_NAME\CliniView
OLD_COMPUTER_NAME should be replaced with the new computer name.

6.4.3 Modifying Already Installed Clients to Use New Database Computer Name

Note! This step must be done in every client computer.

To modify already installed clients to use new database computer, open Control Panel and select Administrative Tools. In the Administrative Tools open Data Sources (ODBC) and go to System DSN page. Now select a system data source named **CLINIVIEW** and click Configure.
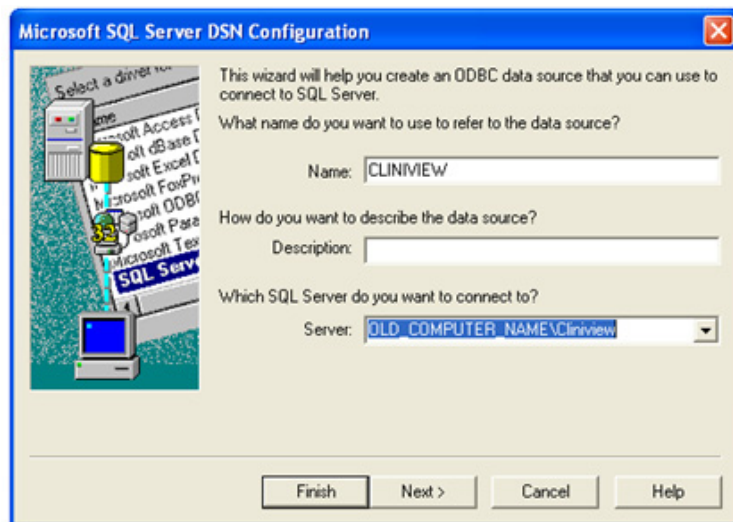
Replace the OLD_COMPUTER_NAME with the new one and click finish.

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7 Upgrading the software

Note! *Check CLINIVIEW™ system requirements before starting upgrade and also requirements for any devices that will be connected to the software.*

⚠ **WARNING!**

Before you start the upgrade, back up the database and images.

Note! *Install latest OP100 D/OP200 D PCI card drivers after upgrading software.*

Note! *Upgrading will create Windows Firewall settings automatically.*

7.1 Upgrade from CLINIVIEW™ 7.1.0 or newer

1. Insert the software DVD into the DVD-ROM drive.
2. If the InstallShield Wizard does not appear after a few moments, browse to the software DVD and double-click **CLINIVIEWSetup.exe** to begin installation.

   Note! *If the User Account Control window appears, you must allow changes to continue installation.*

3. Click *Next* to begin CLINIVIEW™ upgrade
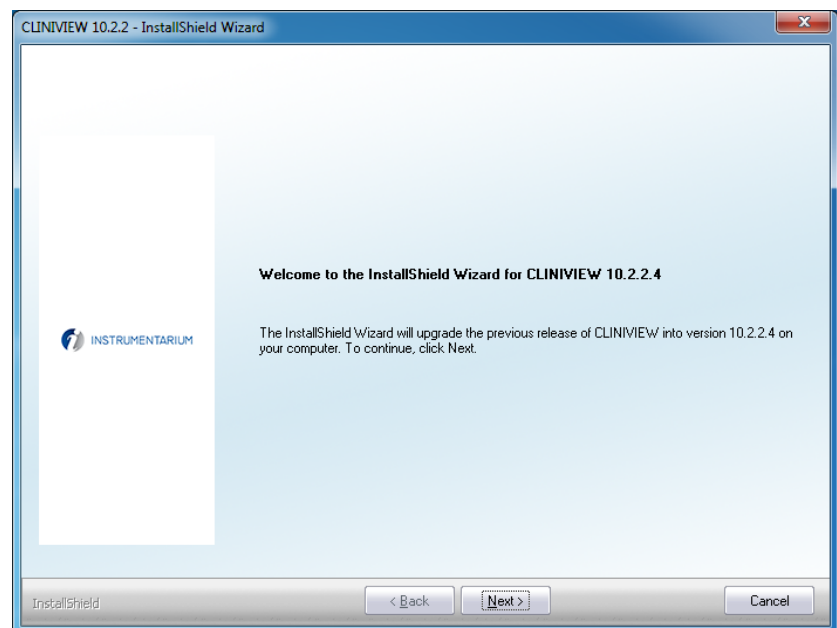
4. Review the license notification and click **Yes** to continue upgrading.
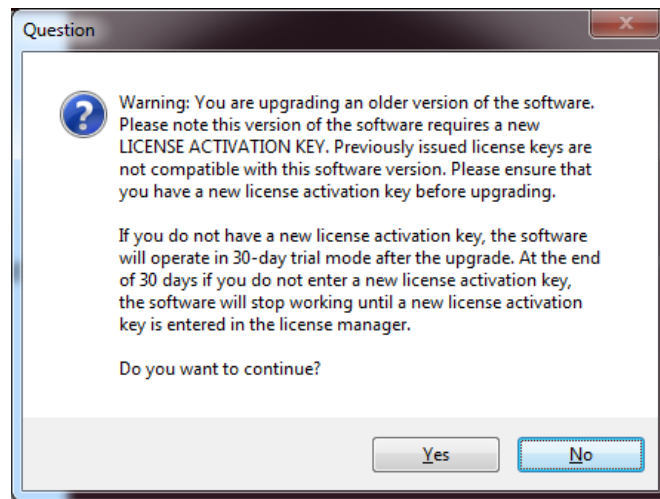
5. If upgrading a version older than 10.2.0, then you must install one License Server in the local network.
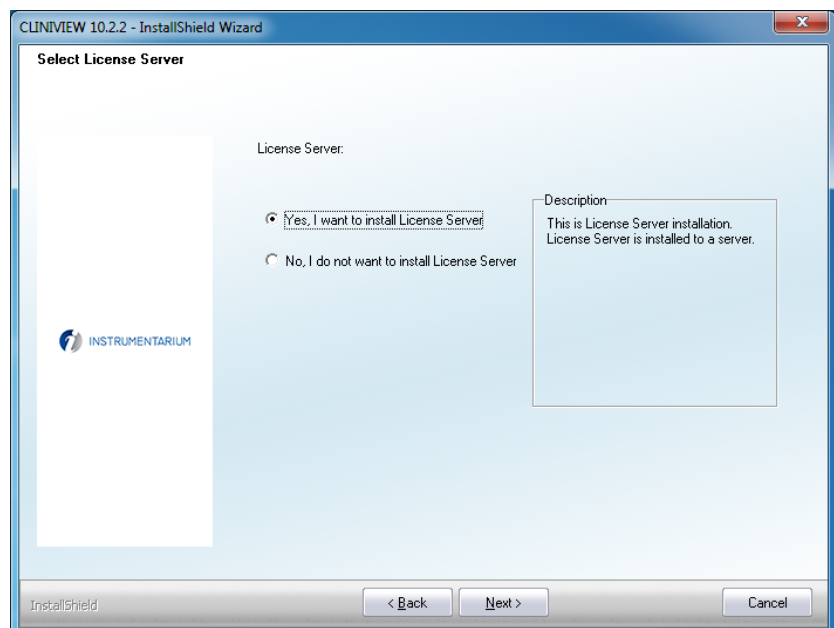
6. Review License Agreements and continue.
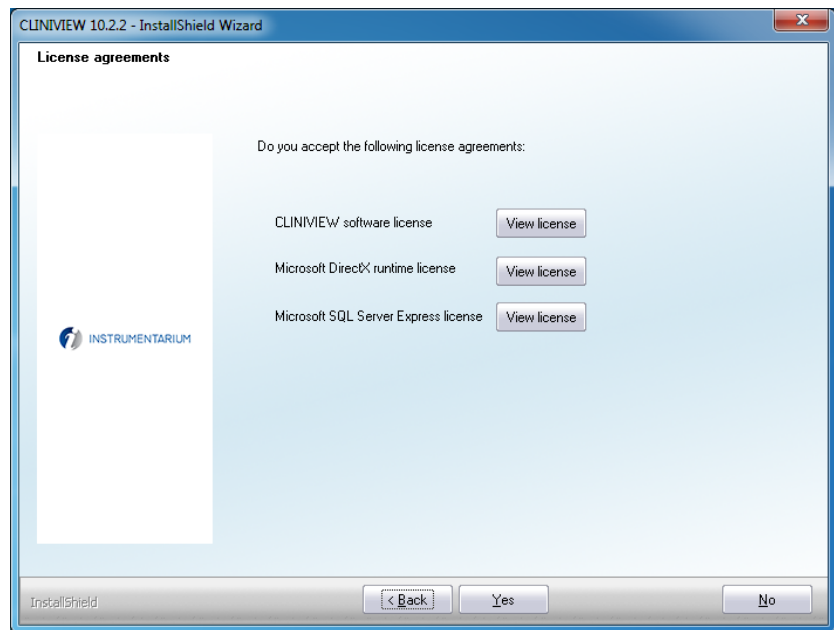
7. Review the settings and click *Next* to start installation process.
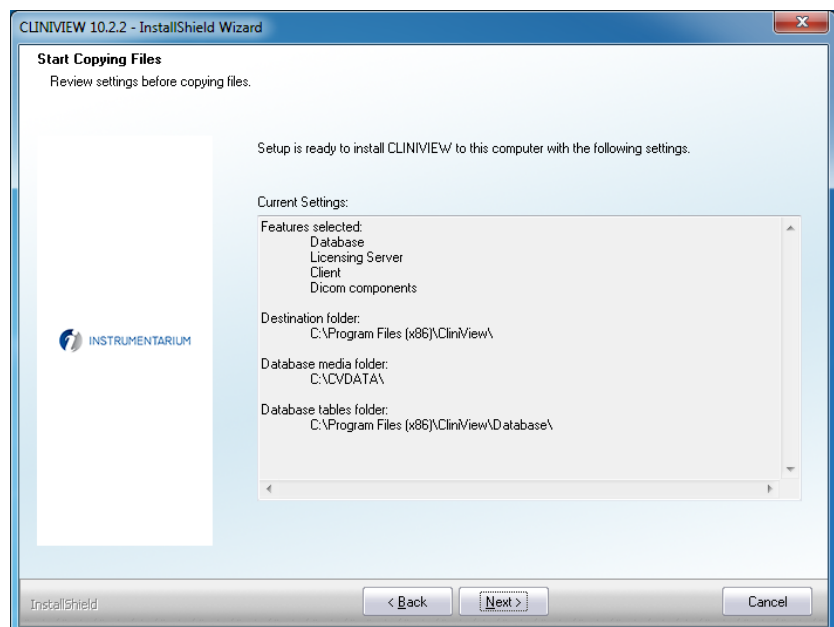
8. If you wish to read Readme file, click *Yes*.

9. Select if you wish to restart (recommended) the workstation now and select if software will automatically start after restarting the workstation.
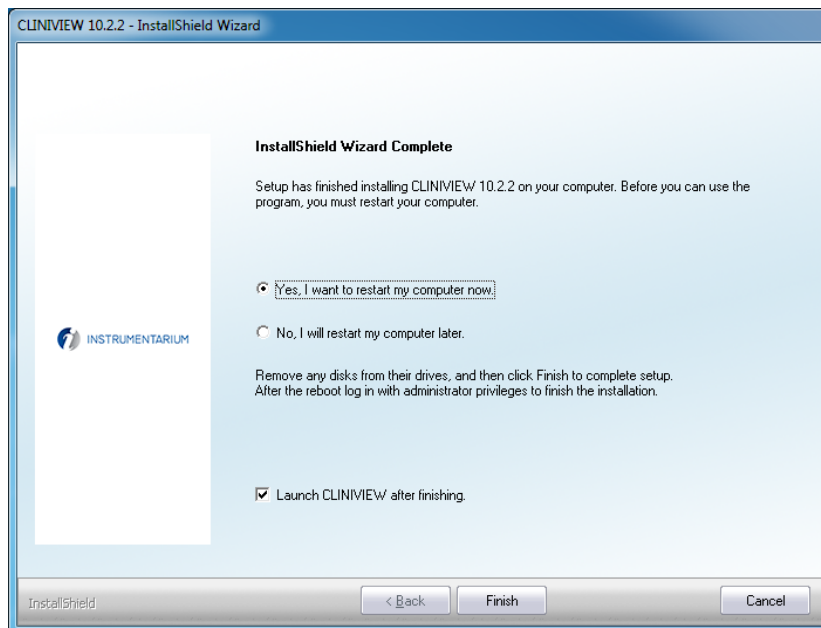
10. Select software default language, click **OK** to continue.

    *Note! Software language can be changed at any time within the software from the **Tools** menu, **Languages**.*

11. To activate the license, see chapter **3.2 Licensing CLINIVIEW™ software**.

12. The installed devices window will be displayed. Select the devices to be connected to this workstation and click **OK** to enable the devices.

    If the selected device requires a gain file, the software will prompt to open the GainInstaller tool. Browse to the location of the gain file(s) and install them using the GainInstaller tool.

    Note! Only certain devices require a gain file.

13. Software is ready for use. A patient named *Calibration Patient* will be created and opened. This patient can be used to store all calibration images for the installed device(s).

14. Test upgrade by acquiring an image.

7.2 Upgrade from CLINIVIEW™ 7.0.2 or older

Upgrading directly from CLINIVIEW™ 7.0.2 or older is not supported. When upgrading from CLINIVIEW™ 7.0.2, first upgrade to CLINIVIEW™ 7.1 using the instructions provided in CLINIVIEW™ 7.1 and then follow the instructions in the previous chapter.

8 Adding features

It is possible to add features or modalities at any time after the installation (e.g. VT, DICOM).

8.1 Adding devices

Device support in the software is installed during the software installation. You can add a new device at any time after the installation. Add devices in the software by selecting Tools ⇒ Installed devices.
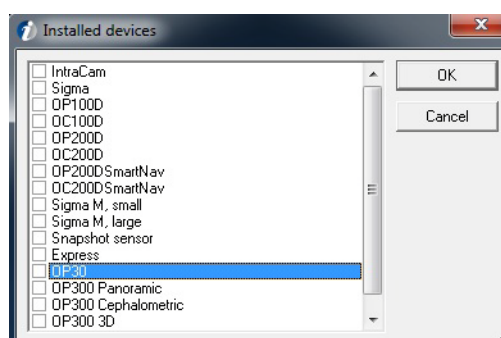
Note! IntraCam is shown in the list only when Intra Camera is installed to the workstation.

After closing the dialog the device specific image capturing button will be visible in the software main window. Configure the device according to device installation manual or Quick guide.

To use a device, install also the sensor-specific gain file.
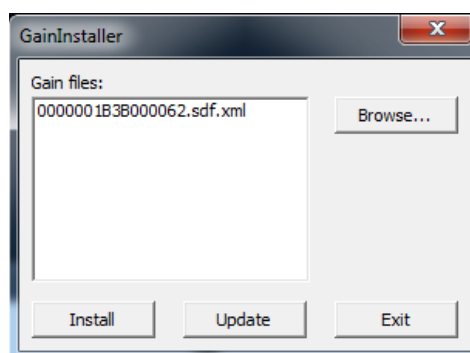
Note! Only for OP100 D, OC100 D, OP200 D, OC200 D, Sigma and Sigma M:
To use an X-ray device, install also the sensor-specific gain file by using Gain Installer: Start ⇒ Programs ⇒ CLINI-VIEW ⇒ Tools ⇒ GainInstaller

Note! Snapshot gain files are installed automatically, when the Snapshot image capture is performed for the first time.

Insert the Gain file media and browse the Gain file. Select all the gain files and click **Install**. Remember to copy the gain files for each sensor.

If the gain files need to be updated, click **Update** to copy the files to local workstations.

8.2 Enabling SmartNav in the software

Start the software and select Tools $\Rightarrow$ Installed devices.
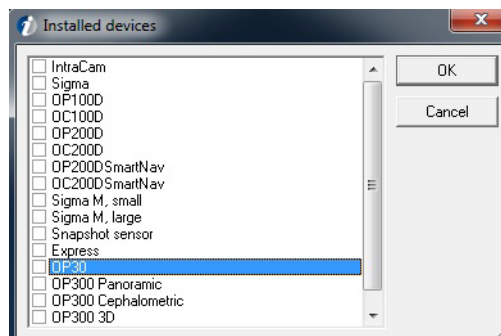
Enable SmartNav by selecting OP200DSmartNav/ OC200DSmartNav from the list. The OPD/ OCD image capturing button appears in the software image capturing tool bar and file menu.

8.3 Adding options

8.3.1   Adding options using Advanced modify

You can add a new option DICOM at any time after the installation.

1.   Start $\Rightarrow$ Control Panel $\Rightarrow$ Programs and Features.

2.   Select CLINIVIEW™. Click Change.
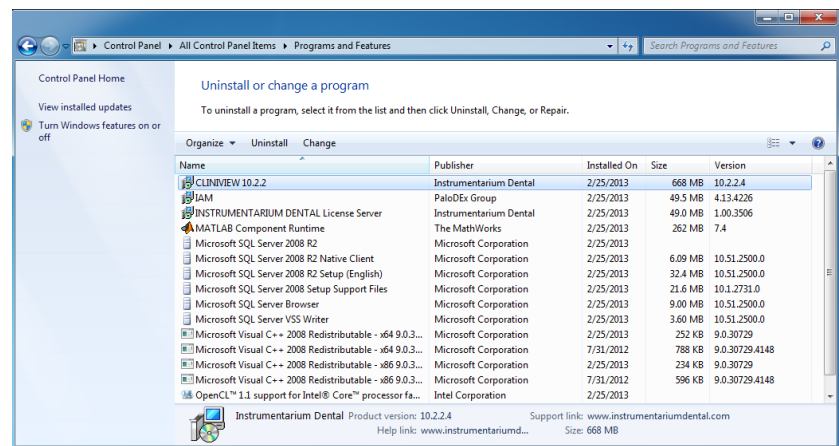
3.   The software Setup Maintenance mode starts. Select CLINIVIEW™ Advanced Modify and click **Next**.
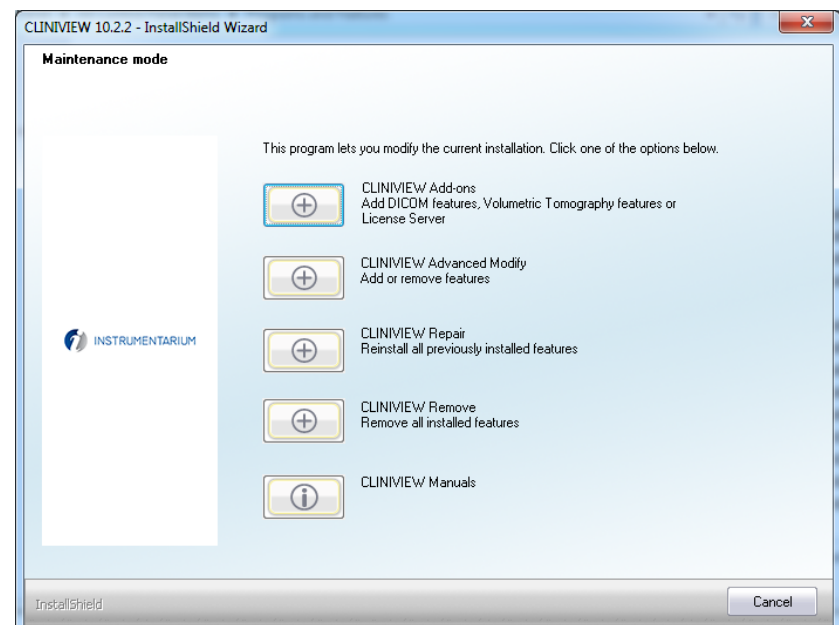
4. See already installed features in the Select Features dialog. Add features by selecting the needed features, e.g. DICOM. Click **Next**.
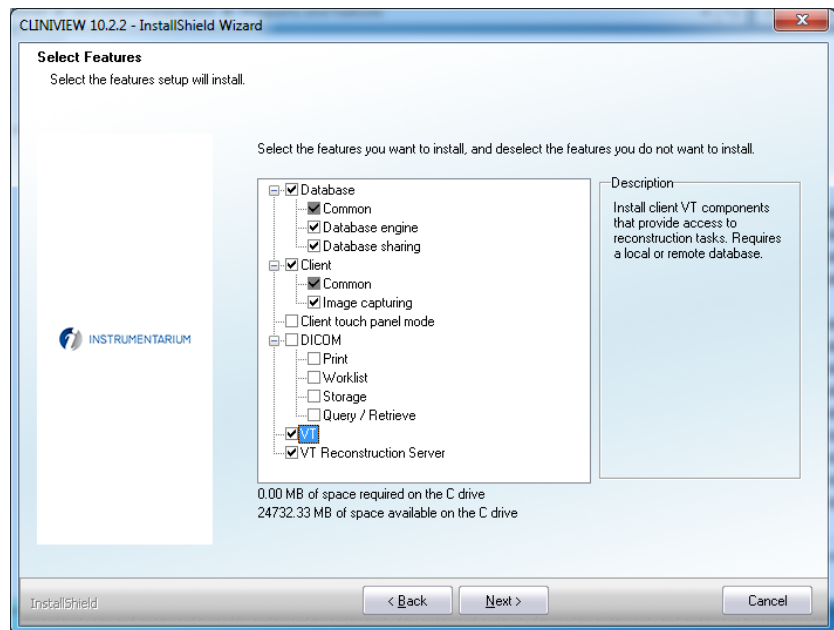
5. System is successfully modified, a restart is recommended.

8.3.2   Adding options using Add-ons

You can add a new option (e.g. License Server, DICOM) at any time after the installation.

1.   Start $\Rightarrow$ Control Panel $\Rightarrow$ Programs and Features.

2.   Select CLINIVIEW™. Click Change
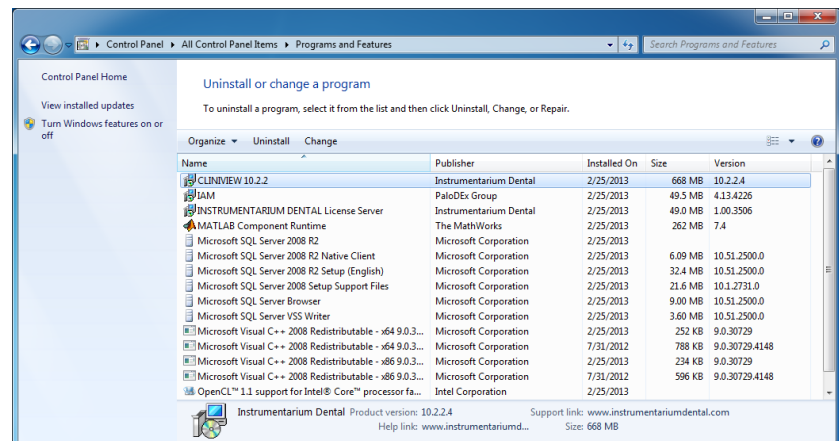
3.   The software Setup Maintenance mode starts. Select CLINIVIEW™ Add-ons and click Next.
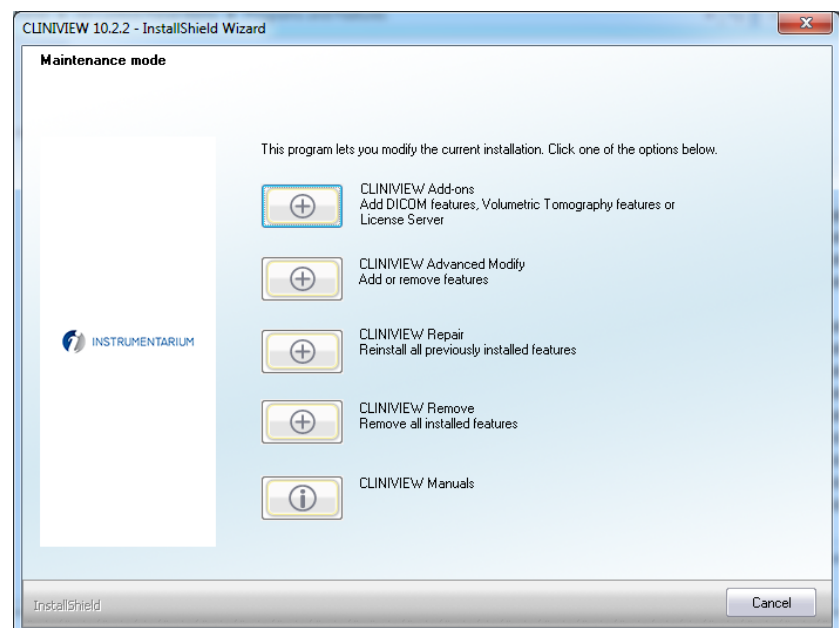
4. See already installed add-ons features in the Add-ons dialog. Add features by selecting the needed features, e.g. DICOM. Click **Next**.
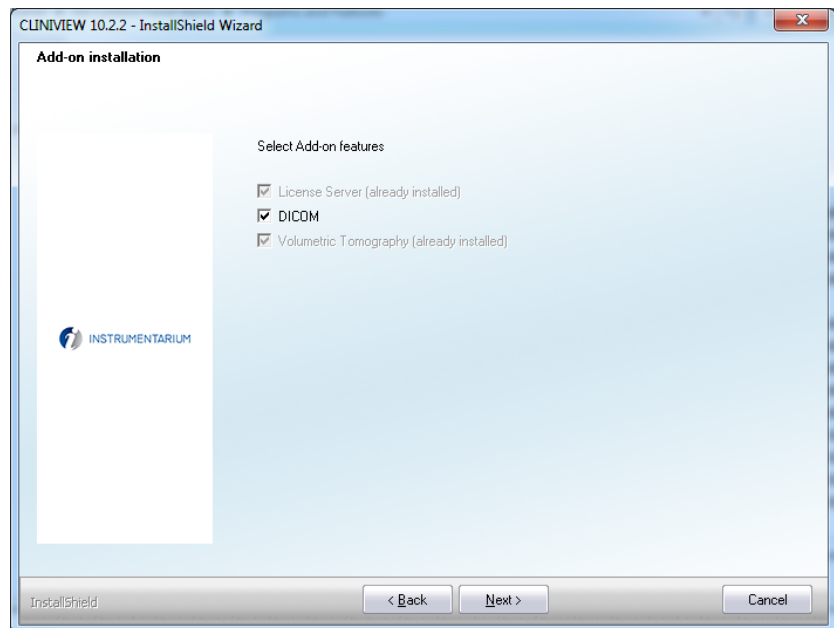
5. Select DICOM components.
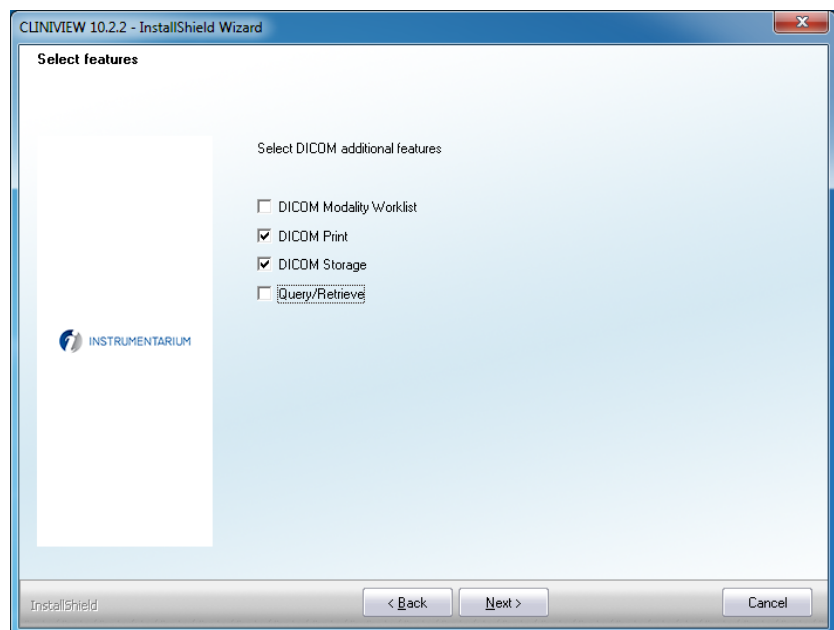
6. InstallShield Wizard may ask:

7. System is successfully modified, a restart is recommended.

9 Uninstalling

9.1 Uninstalling the software

To uninstall the software, select Start $\Rightarrow$ Control Panel $\Rightarrow$ Programs and Features, select CLINIVIEW™ and click **Remove**. Follow the instructions on the screen.

Or

To uninstall the software, insert software DVD. The software installation program starts its Maintenance mode. Click the Remove button to uninstall the software.

Software uninstallation leaves folders on the hard drive and saves the database and images. Uninstallation is for removing the software only. Uninstallation does not remove any device drivers that may be installedSigma USB or.

Repeat the software unistallation as needed for all computers (Modality workstation, viewing workstation, server) having any software components.

⚠ **CAUTION!**

When software and database is uninstalled, access to images and patient data will be lost until the software is reinstalled and the data restore procedure has been completed. Please refer to chapter 6.3 for details. After restore, images and patient data will be accessible again.

Note! If uninstallation shows a warning "Database could not be locked", close the software from all client computers and try again. If all clients are closed and the error still occurs, restart the computer and retry uninstallation.

Note! Only the CLINIVIEW™ is removed. Other software components that may be installed during CLINIVIEW™ installation such as IAM and License Server can be uninstalled if no longer needed.

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10 CLINIVIEW™ Manager

The CLINIVIEW™ Manager is used to archive images, restore archives, alter image saving format, define data directory (images) location, manage users, schedule backups, manage trash and logs.

10.1 Login

The CLINIVIEW™ Manager can be launched from
Start ⇒ Programs ⇒ CLINIVIEW ⇒ Tools ⇒ Manager

Most of the features in CLINIVIEW™ Manager are password protected to prevent unauthorized usage.
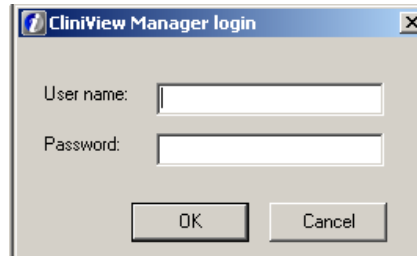
Enter the user name, password and click **OK**.
Default user name is **admin**, and password is **admin**.
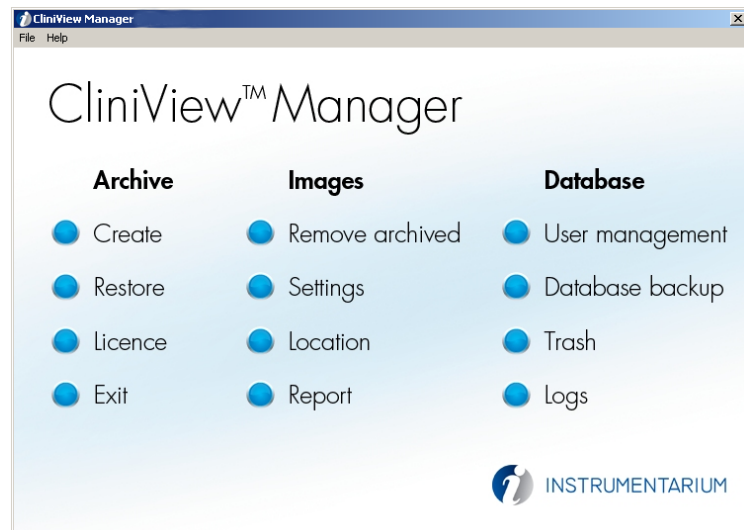
10.2 Archiving

To release hard disk storage space on the server, the unused images can be copied or moved to an archive media. The information and scout images of these images remain in the database, allowing easy retrieval whenever it becomes necessary to view any of the archived images.

10.2.1 Create archive

1. To archive images, select Create from CLINIVIEW™ Manager dialog.
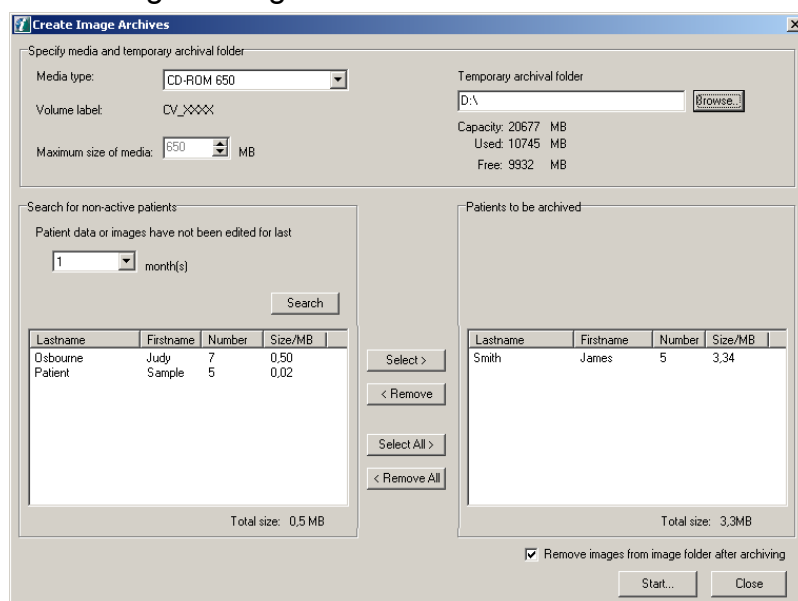
2. Select media type for archiving. Select the temporary archival folder.
3. Define the time for inactive patients. For example, if you select inactive patients or data within the past six months, the program offers all images of those patients to be archived.
4. Select the patients whose images you want to archive. Also select if you want those images to be removed from the patients image folder on the hard disk. Otherwise the archived images are shown as archived images in the patients image folder.
5. To start the archiving, click **Start**.
6. Archive operation creates archive folders (CV_xxx) in the temporary archival folder. To burn archived images to DVD-ROM, use DVD-disk software and burn CV_xxx folders to DVD.

Note! Store CLINIVIEW™ installation and archive DVD's very carefully.

10.2.2   Restore archive

1. To restore the archive, select **Restore** from CLINI-VIEW™ Manager dialog. To restore an archive from another path than the default, click **Restore from**.
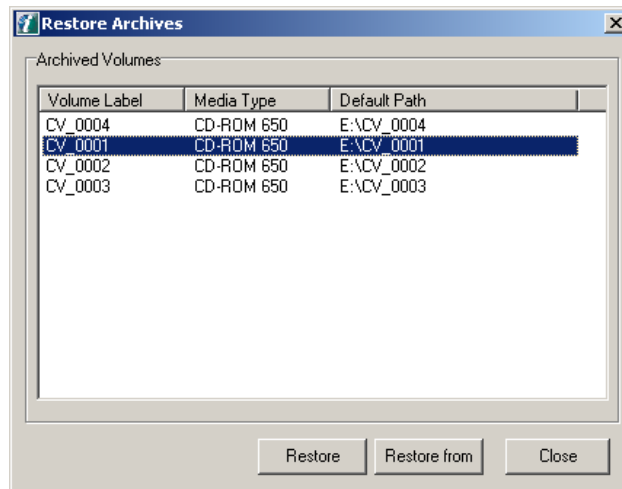
2. Select the archive to be restored and click **Restore**.
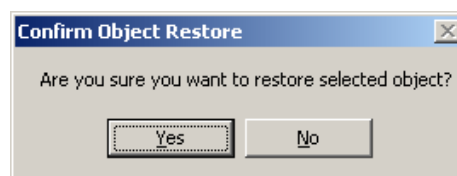
3. Click **Yes**.
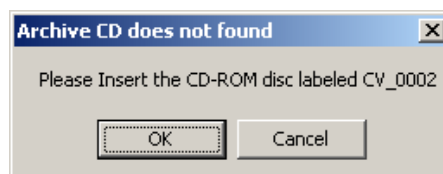
4. After clicking **Restore from**, browse the directory for archives.
5. Select a folder and click **Yes**.

10.3   Images

10.3.1   Remove archived

Note! *Removing archived images can be done automatically after archiving by checking the* ***Remove images from image folder after archiving*** *box on the "Create Image Archives" dialog.*

Previously archived images can be removed from the server to free up more storage space. Select the removal criteria between 0 to 12 months of time during which the patient´s images have not been reviewed.

To remove the archived images from the patient image folder, select Remove achieved from CLINIVIEW™ Manager dialog.

1.   Select the appropriate time and click **Start**.
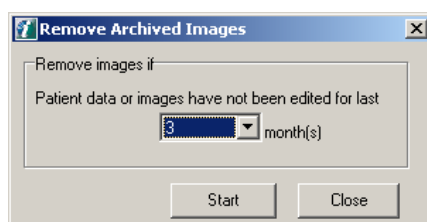
2.   Click **Yes** to start removing the archived images.
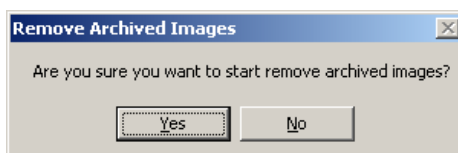
10.3.1.1   Settings

Select PNG or JPG as the saving format.
Select 60%—100% quality for JPG.
Compressing images may decrease the image quality.

For VT projection JPG images, the image quality cannot be chosen. For VT slice images the file format choices are PNG and TIF.
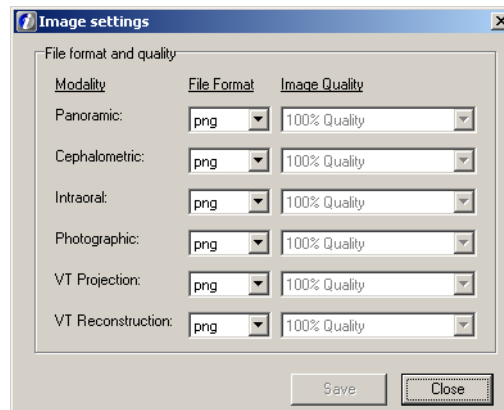
10.3.1.2 Image folder location

Note! *Do not use drive mapping when changing the data directory. The software database backup will not work when a mapped network drive is used to access the CLINI-VIEWData folder. If you have a network installation, please only use an UNC path to define the data directory location in CLINIVIEW™ Manager.*

1. To change data directory (images), select Location from CLINIVIEW™ Manager dialog.
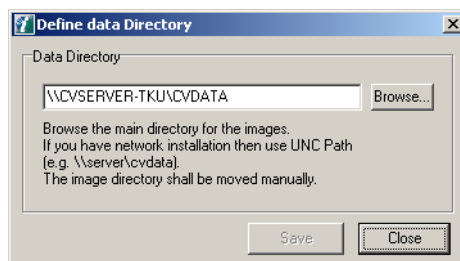
2. Create a new data directory and share it (if network installation).
3. Copy all files and subdirectories from main directory (e.g 'CVDATA') to the new data directory.
4. Browse the new data directory and click **Save**.

Note! *Be sure that the software is not used when changing the data directory.*

10.3.1.3 Report, Exposure statistics

1. To create an exposure statistics report, select Report from CLINIVIEW™ Manager main view.
2. Enter the report parameters and click **Generate** to create a report.
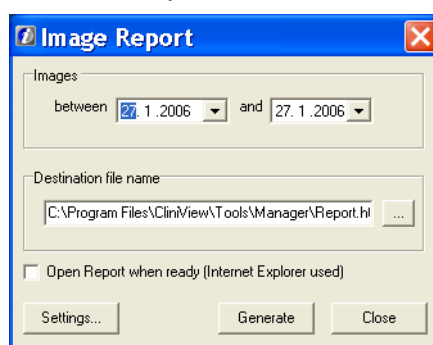
Viewing report

Open *.**htm** file (e.g. Report.htm) with Internet Explorer.

The report contains the following data:

- Header: 'Exposure statistics', Report date
  (e.g. **CLINIVIEW** 2006-01-30)

- Total count of images by modality

- Date Range

- Image list with values: Image Date, Modality, Patient name, Exposure values and DAP value

The image list is sorted by modality and image date.

Note! *Only images that are captured with the software version 7.1 or later are shown.*

Export Data

The easiest way to export data is to use the clipboard as following:

- Select Edit ⇒ Select All (Ctrl+A) from Internet Explorer

- Select Edit ⇒ Copy (Ctrl+C)

- Open third party software (e.g. Word or Excel)

- Select Edit ⇒ Paste (Ctrl+V)

Make your own report

It is also possible to make your own style sheet, but XML skills are required.

Choose Style Sheet for a report

- Click 'Settings…' on Image Report dialog

- Browse or enter Style Sheet path and click 'Save'

CLINIVIEW™ Manager remembers the last used style sheet.
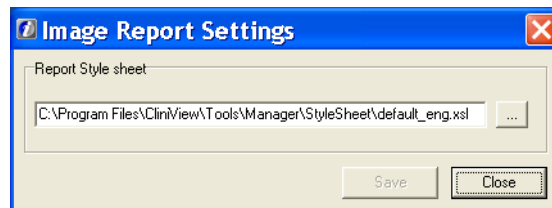
10.4 Database

10.4.1 User Management

User management makes it possible to define categories for different users and define passwords for each user.

Select *User management* from CLINIVIEW™ Manager dialog.
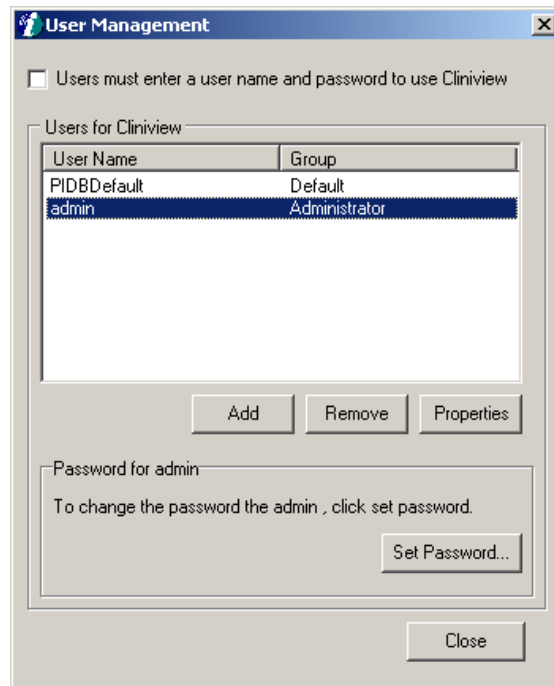
Administrator category means that the user has rights to both the software and CLINIVIEW™ Manager. Users in default category are entitled to start the software program only. RRRR

Mark the upper left corner to activate the user management function. Add and remove users.

To add a user, click **Add**.

Select the name of the user from the list or click **Add** to create a new user.
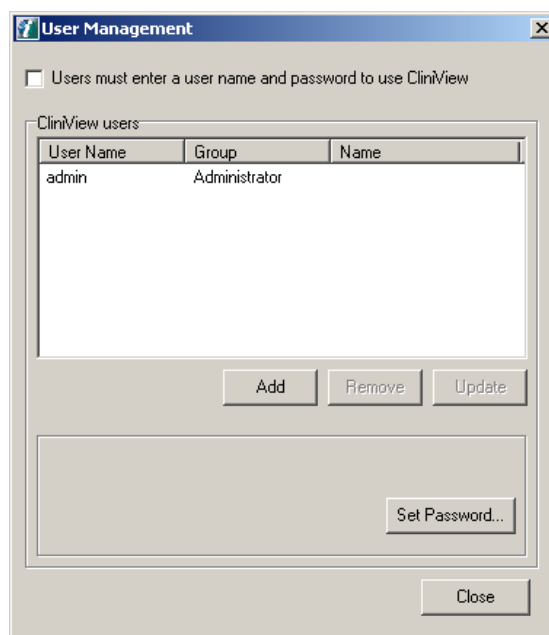
Enter the information for the new user and click **OK**.

Note! *The maximum length of the user name is 36 characters and the maximum length of the password is 64 characters.*

User names and passwords must be composed of printable ASCII characters. The following characters are reserved and cannot be used in user names or passwords:
*<tab> <space> [ ] { } ( ) , ; ? * ! @ "*

To change the password for user click **Set Password**.
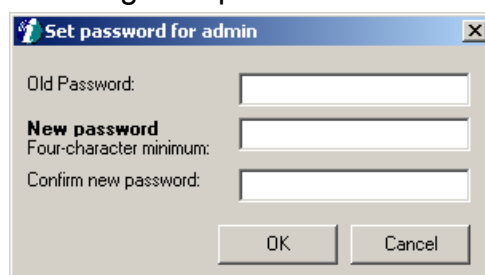
Fill in the fields and click **OK**.

10.4.1.1   Database backup

Choose the schedule for automated backup of the Database tables.

Note! *This function does not create a backup of the images. See Chapter 6.3, Database backup and restore.*
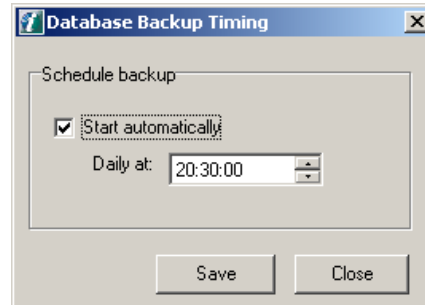
Define the schedule and click **Save**.
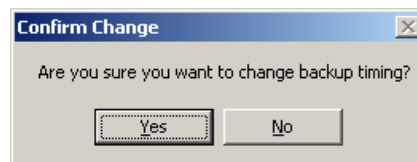
Click **Yes**.

10.4.1.2   Trash

Various objects that have been previously marked as deleted in the software can be permanently deleted from the database in the trash menu. This means that the software user can not permanently delete any information unless the administrator empties the "deleted" information from the trash.

Select Trash from the from CLINIVIEW™ Manager dialog.
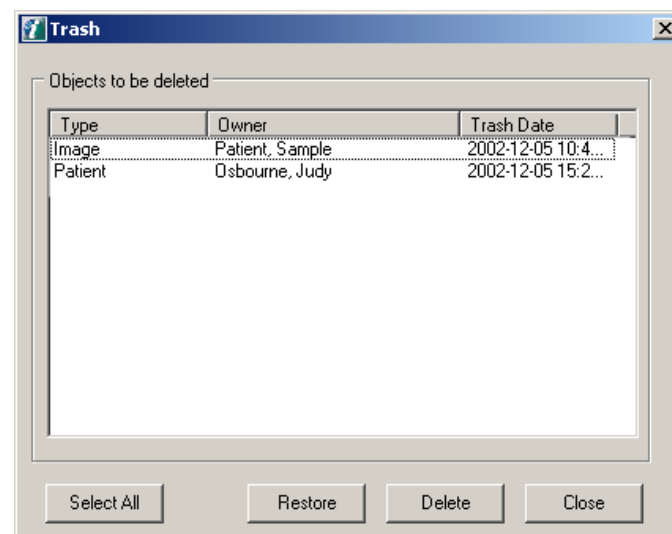
Select all

All objects can be selected for deletion.

Restore

Deleted information can be restored for further usage.
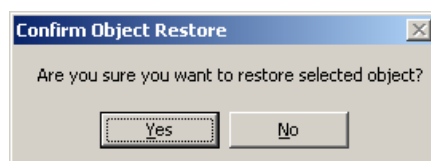
Confirm restore.

Delete

Information is deleted permanently.
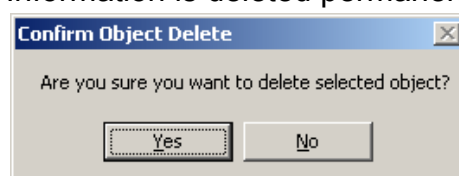
To confirm removal, click **Yes**.

10.4.1.3   System Logs

To view user actions in the software, select **Logs** from CLINIVIEW™ Manager dialog.
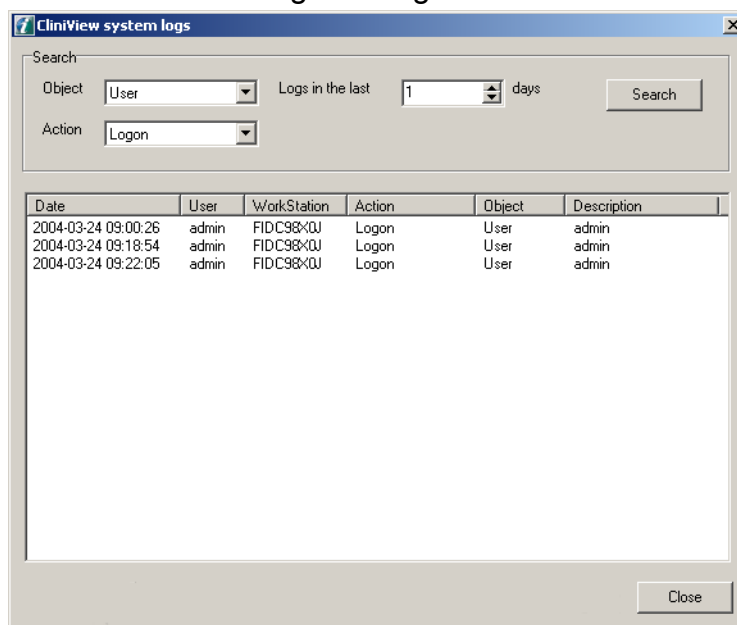
10.4.1.4   Search logs

It is possible to restrict search results with the following filters: Object, Action and number of 'last days'.

Select **Object** where action is targeted as: All, Database, Image, Patient, Study or User.

Select **Action.** The following combinations are possible:

Object

All	All Actions
Database	Update
Image	Archive, Capture, Delete, Hide, Import and Re-store
Patient	Delete and Hide
Study	Delete and Hide
User	Login and Logoff

Define the number of days you want to look back for the software system logs.

If '1' is selected then today's logs are shown, and if '2' is selected then today's and yesterday's logs are shown, and so on.

To start searching logs, click **Search**. The search list can show 500 items at a time. If more items exist, it is necessary to restrict search with filters or by removing log items.

10.5 File Server Configuration

In a network configuration, as a default, computer name is used instead of IP address. In case of misconfigured DNS server or absence of a local DNS server, it is recommended to use the IP address. This can be manually done using the file server configuration by specifying the correct IP address instead of the computer name.

The default port for File Server is 898. In case the default port is being used by some other application, default port can then be changed using File Server configuration.

Select File Server Configuration from the Manager dialog. File ⇒ File Server Configuration.
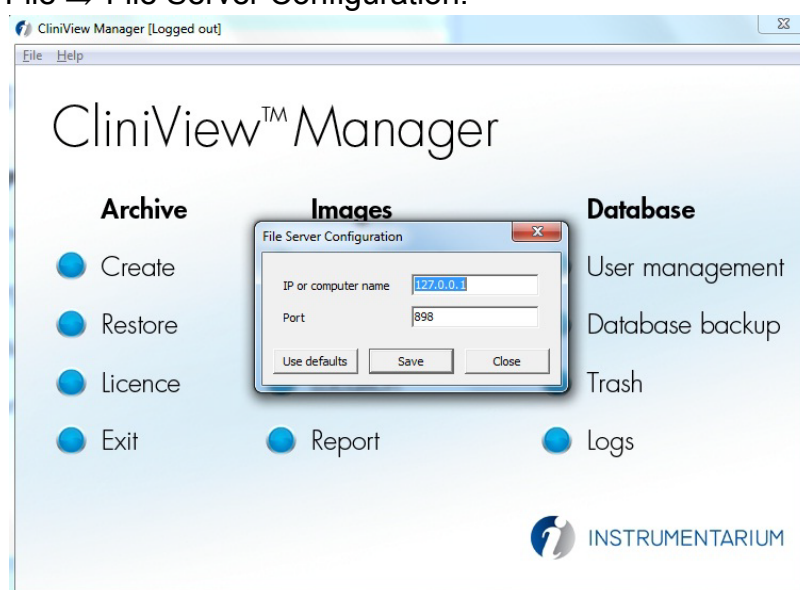
Note! *The File server IP must not be configured to a different computer than where the Database is running.*

10.6 License

The License button opens the license manager window. See the chapter 3 Licensing.

11 Using practice management interface

Note! *If patient data is tranferred in to the software by other software, this software must conform to applicable local laws and regulations on patient information softwares.*

11.1 Introduction

The software uses an initialization file called CLINIVIEW.ini.

Starting from CLINIVIEW™ 7.0.2 the file is installed in the software settings directory, which is operating system specific:

- Windows XP: C:\Documents and Settings\All Users\Application Data\CLINIVIEW

- Windows Vista: C:\ProgramData\CLINIVIEW

However, for compatibility reasons, the software still uses the old CLINIVIEW.ini file path, in Windows XP, if the practice management software continues to write data to it. This file is installed in %windir% folder, and %windir% is the folder where Windows is installed, for example C:\Windows (Windows XP).

Viewing System Variables (e.g. %windir%)

1. Click Start, point to Settings, and then click Control Panel.
2. Double-click System.
3. On the Advanced tab, click Environment Variables.
4. All current system variables and their associated values are listed in the lower list.

CLINIVIEW™ 8.1 or later installation directory and executable path are defined in Windows registry.

HKEY_LOCAL_MACHINE\SOFTWARE\Instrumentarium Dental\CLINIVIEW

- ProgramDir-CLINIVIEW path, for example C:\Program Files\CLINIVIEW

- ExeFile- CLINIVIEW executable, for example C:\ProgramFiles\CLINIVIEW\ CLINIVIEW.exe

Earlier versions of the software (before 5.0) uses program directory defined in CLINIVIEW.ini (Windows directory).

Example:

[Settings] ProgramDir=C:\ Instrumentarium Imaging\ CLINIVIEW\

When starting the software, the settings are read from the CLINIVIEW.ini configuration file. It is allowed to run only one instance of the software on a computer at a time. If starting the software while the software is already running, no additional instances of the program are started. However, the already running the software reads the Practice Management Interface section of the CLINIVIEW.ini file and acts accordingly. Finally, the software sets all entries in the Practice Management Interface section to 0.

The Practice Management Interface section in the CLINIVIEW.ini file is described below.

The mandatory fields are:

USE_PRACTICE_MANAGEMENT:

If set to 1, the software reads the Practice Management Interface section at startup and on activation and users are not allowed to change or add new patients manually from the software user interface

CLEAR_PRACTICE_MANAGEMENT_AUTOMATICALLY:

If set to 1, the software resets USE_PRACTICE_MANAGEMENT and the patient keys every time the software reads the CLINIVIEW.ini file. If set to 0, the software does not reset (to 0) the keys.

PATID:

Patient ID shall be unique and defined by PMS software.

Practice Management Interface PATBD defines date of birth, which shall be formatted as defined in system regional settings.

CLEAR_PRACTICE_MANAGEMENT_AUTOMATICALLY =1 USE_PRACTICE_MANAGEMENT= 1

PATID = 00000

PATLNAME = 0

PATMNAME = 0

PATFNAME = 0

PATSOCSEC = 0

PATBD = 0

PROVIDER1 = 0

PROVIDER2= 0

ADDRESS1 = 0

ADDRESS2= 0

CITY = 0

STATE = 0

ZIP = 0

HOMEPHONE = 0

WORKPHONE = 0

FAX = 0

EMAIL1 = 0

EMAIL2 = 0

Some PMS software that uses previous versions of the software might require that USE_PRACTICE_MANAGEMENT is permanently set by the user to 1 and that CLEAR_PRACTICE_MANAGEMENT_AUTOMATICALLY =0.

It is recommended that the PMS application sets both USE_PRACTISE_MANAGEMENT=1 and CLEAR_PRACTISE_MANAGEMENT_AUTOMATICALLY =1.

The CLINIVIEW™ 7.1 and later can read patient information from any ini file if the following line is added to [PracticeManagementInterface]- section:

BRIDGEFILE_LOCATION_OVERRIDE =C:\my_ini_file.ini.

11.2 How to use CLINIVIEW.ini

Set CLEAR_PRACTICE_MANAGEMENT_AUTOMATICALLY =1, if the PMS software automatically sets USE_PRACTICE_MANAGEMENT = 1. Otherwise, set the key to 0.

To add a patient:

- Set USE_PRACTICE_MANAGEMENT = 1 ·

- Set PATID to a patient ID that does not exist in the software database yet.

- Fill in the patient data fields

- (Re)start the software

To alter patient information:

- Set USE_PRACTICE_MANAGEMENT = 1

- Set PATID to match the patient whose information is to be changed.

- Fill in the patient data fields to be changed.

- If the content of a specific data field is not needed to be changed, set its value to 0.

- (Re)start the software

To preselect a patient:

- Set USE_PRACTICE_MANAGEMENT = 1

- Set PATID to match the patient to be preselected.

- Set all data fields to 0.

- (Re)start the software

To disable the practice management interface:

- Set USE_PRACTICE_MANAGEMENT = 0

11.3   Interface to access image information

Note! *If images are brought into another software and to be used for diagnostic purposes, this software must conform to applicable local laws and regulations on patient information softwares.*

The software supports external application called PMSif which provides direct access to images in the software database. CLINIVIEW.ini has four fields which can be used together with PMSif to export the image.

[Image]

ActiveImageGUID=

ActiveImageID=

LastCaptureGUID=

ActiveImageIndex=

Use ActiveImageGUID or ActiveImageID to export the image visible in currently active image window from database. ActiveImageGUID is preferred over ActiveImageID (retried). Use LatestCapturedImageID to export latest captured (saved) image from database.

Only the latest ID's of the saved images are shown.

LastCaptureID and LastCaptureGUID are visible after the first image is captured.

Use ActiveImageIndex to see the number of the active image of the active image series, e.g. VT slice series.

See InstrumentariumSOREDEX® web page to get additional information about PMS interface.

Instrumentarium Dental

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