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Sante DICOM Viewer Pro

Quick start guide

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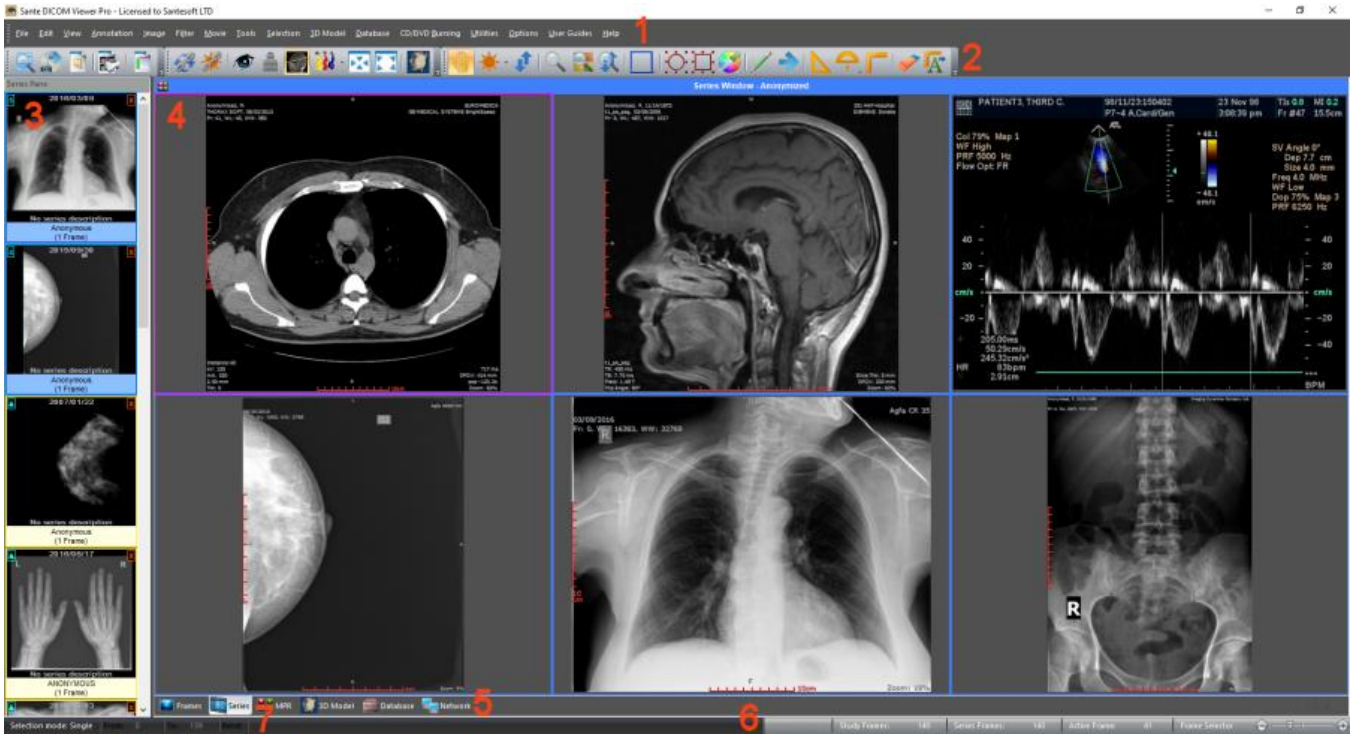
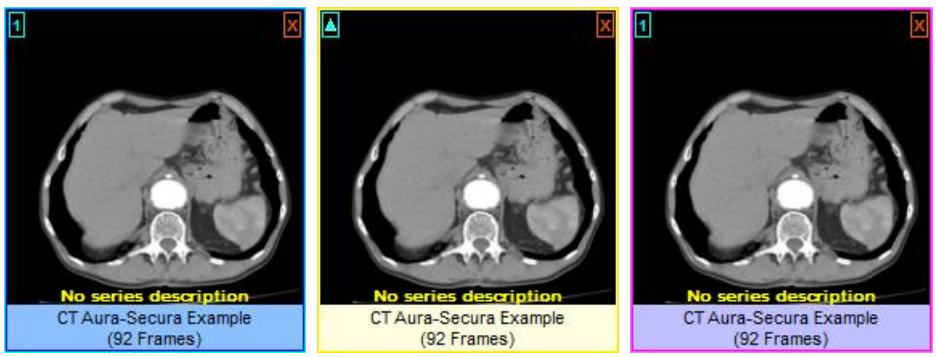
The user interface



The user interface is divided in 7 parts:
1. The menu bar
2. The toolbars
3. The series pane
4. The main window
5. The Frames/Series/MPR/3D Model/ Database/Network Mode selection tab
6. The frame selection slider
7. The frame range selection buttons

The program works with DICOM series. When the user opens a single file, the program creates a series with this file in the memory and works with this single-file series. When the user opens a study, the program works with all the series of this study. All the loaded series are displayed in the series pane (3) as thumbnails. The user can load a series in the main window by double-clicking its thumbnail in the series pane (3), or by clicking the green arrow in the upper-left corner of the thumbnail.

Series that have been loaded in the main window have blue color, and series that have not been loaded in the main window have yellow color. The active series has magenta color.



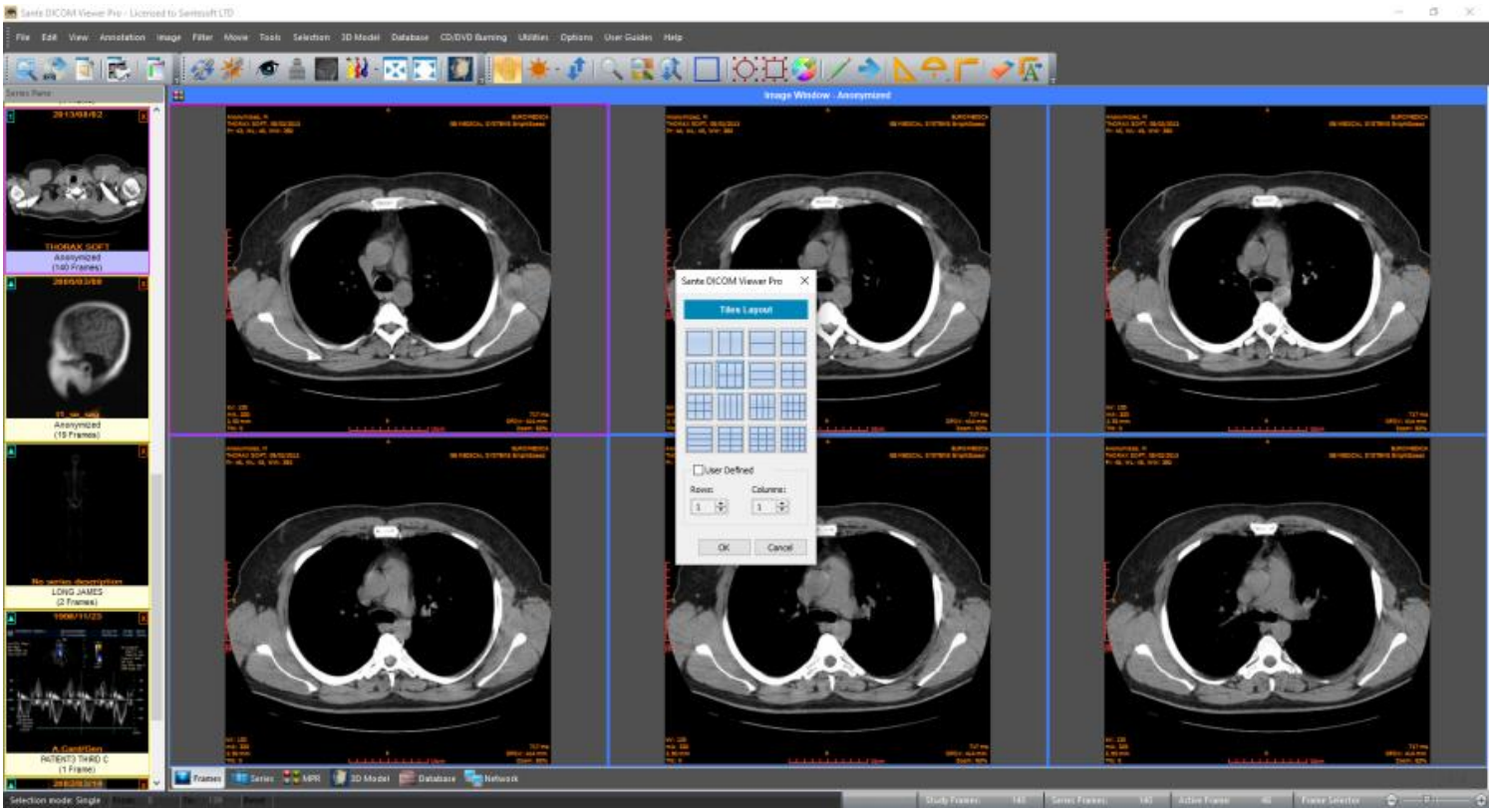
The user can close a series by clicking the red **X** symbol in the upper-right corner of the thumbnail.

1. Menu bar
The menu bar contains all the commands of the program.

2. Toolbars
The toolbars provide shortcut buttons for the most useful commands of the program.

3. Series Pane
This pane displays thumbnails of the open series. Every series thumbnail has the patient name, the series description and the number of frames of the series.

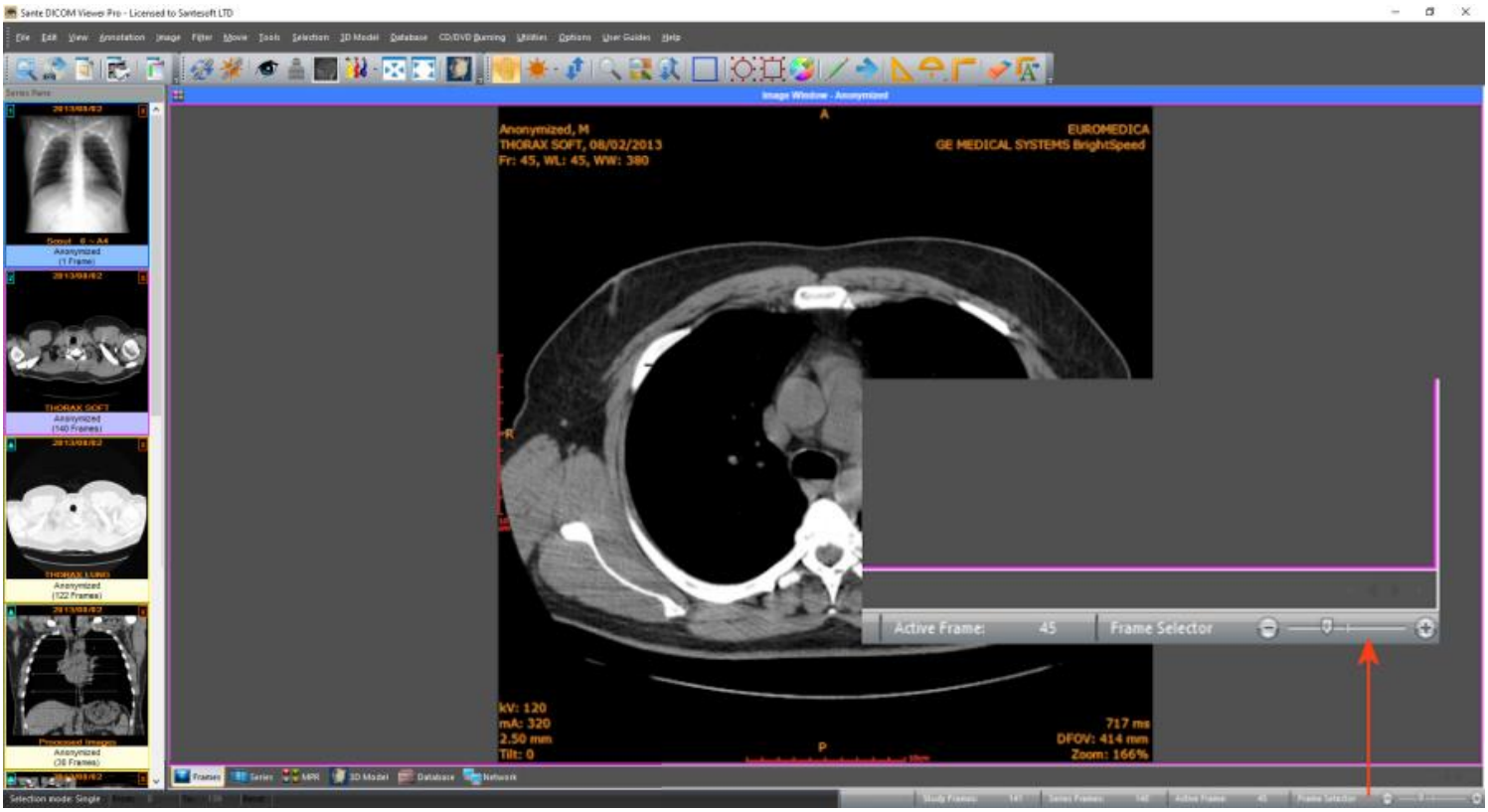
4. Main window
The main window is the working area of the user. The main window displays the frames of the active series (Frame mode), or one frame of all the loaded series (Series mode).
The user can select the mode of the main window from the Frames/Series selection tab.
Every mode can have different number of tiles, and the user can select the number of tiles with the **"Options Tiles Layout"** menu command.



5. Frames/Series/ MPR/3D Model/ Database/Network selection tab
If the tab "Frames" is selected the main window displays the frames of the active series (Frame Mode).
If the tab "Series" is selected the main window displays all the loaded series (Series Mode).
If the tab "MPR" is selected the main window displays the scout image/localizer and the axial/coronal/sagittal volumes of the series (MPR Mode).
If the tab "3D Model" is selected the main window displays the 3D model of the active series.
If the tab "Database" is selected the main window displays the interface of the local database (Database Mode).
If the tab "Network" is selected the main window displays the interface that allows the user to query and retrieve series and studies from remote PACS server (Network Mode).

6. Frame selection slider

If the active series has many frames, this slider lets the user to select the active frame. Otherwise is disabled.



7. Frame range selection buttons

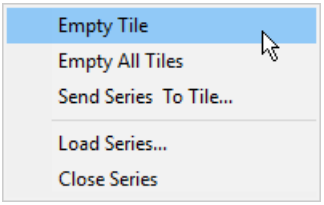
Processing, selection, annotation and zoom actions can work with the current image or with a range of images.
Use these buttons to select the frame range for these actions.
By pressing the **"From"** button of the status bar, the current frame becomes the first frame of the range.
By pressing the **"To"** button of the status bar, the current frame becomes the last frame of the range.
By pressing the **"Reset"** button of the status bar, the frame range involves all frames of the multi-frame file or the multi-file series.
The user can set up the frame range with the menu command **"Edit➡ Set Frame Range"** as well.

The modes of the Main Window

The Main Window **(4)** is divided in tiles and it has four modes:

1. The **"Frames Mode"** that displays in its tiles the frames of the same series (the active series).
The user can select the number of the tiles with the **"Options Tiles Layout"** menu command.

2. The **"Series Mode"** that displays in its tiles all the loaded in the main window series.
The user can select the number of the tiles with the **"Options Tiles Layout"** menu command.
The active series is displayed in the "Series Mode" with a red rectangle around its tile (4). The user can select the active series by clicking its tile in the "Series Mode", or by single-clicking its thumbnail in the series pane. If a series is loaded in the main window, in the upper-left corner of its thumbnail is displayed the number of its "Series Mode" tile. If the user presses the right mouse button in a "Series Mode" tile, a pop-up menu appears and lets the user to empty the tile, empty all tiles, change the series tile, load another series to this tile and close the series that is loaded in this tile. This menu is not available in the "Frames Mode".



3. The **"MPR Mode"** that displays the scout image/localizer, the axial volume of the series and the volumes of the coronal and sagittal reconstructions of the series.

4. The **"3D Model Mode"** that displays a 3D model of the active series.

5. The **"Database Mode"** that allows the user to query and retrieve series and studies from the local database.

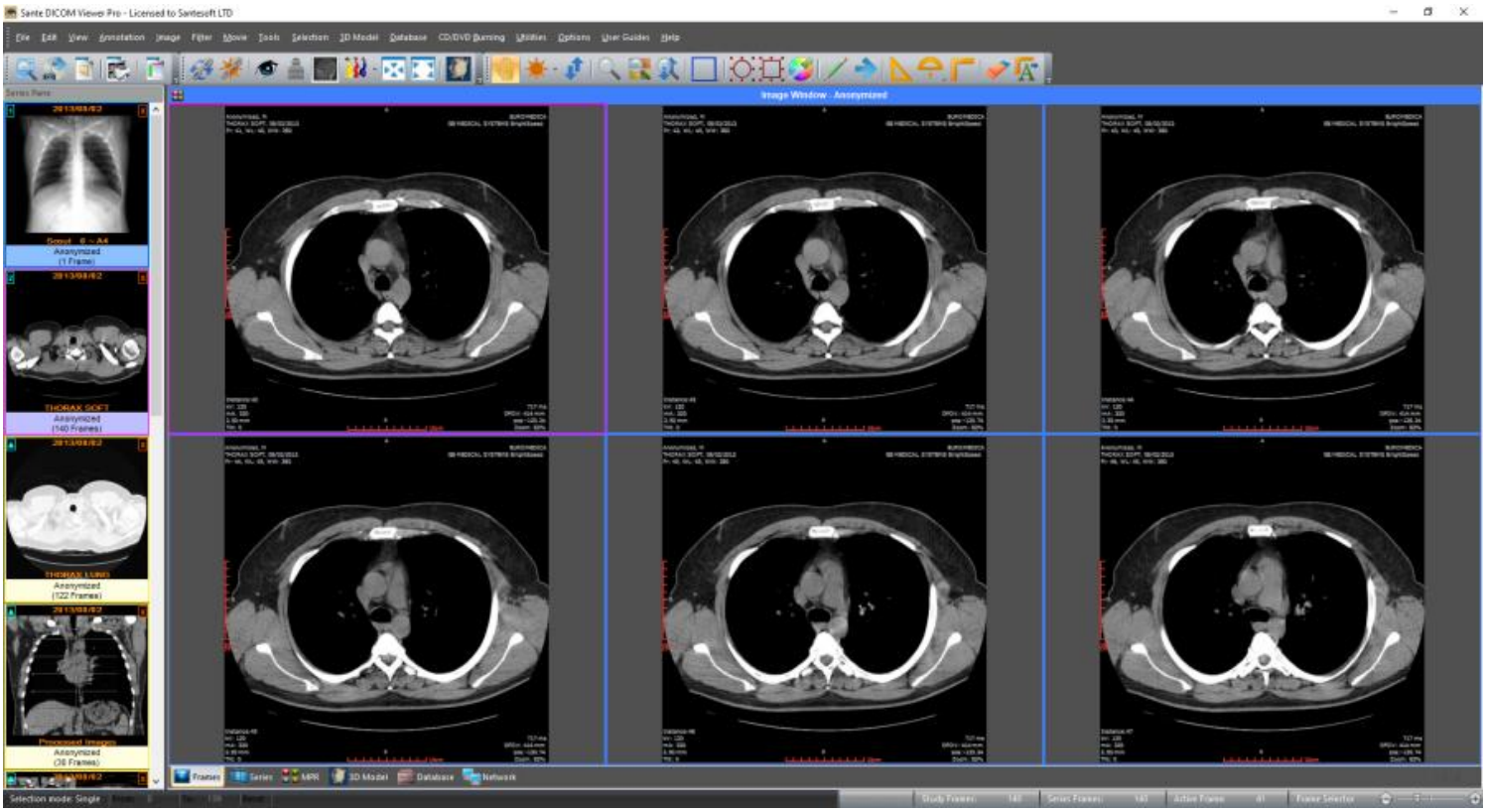
6. The **"Network Mode"** that allows the user to query and retrieve series and studies from remote PACS servers.

The main window in the frame mode (one tile)

Displays one frame of the active series. The number of the tiles is selectable by the user.

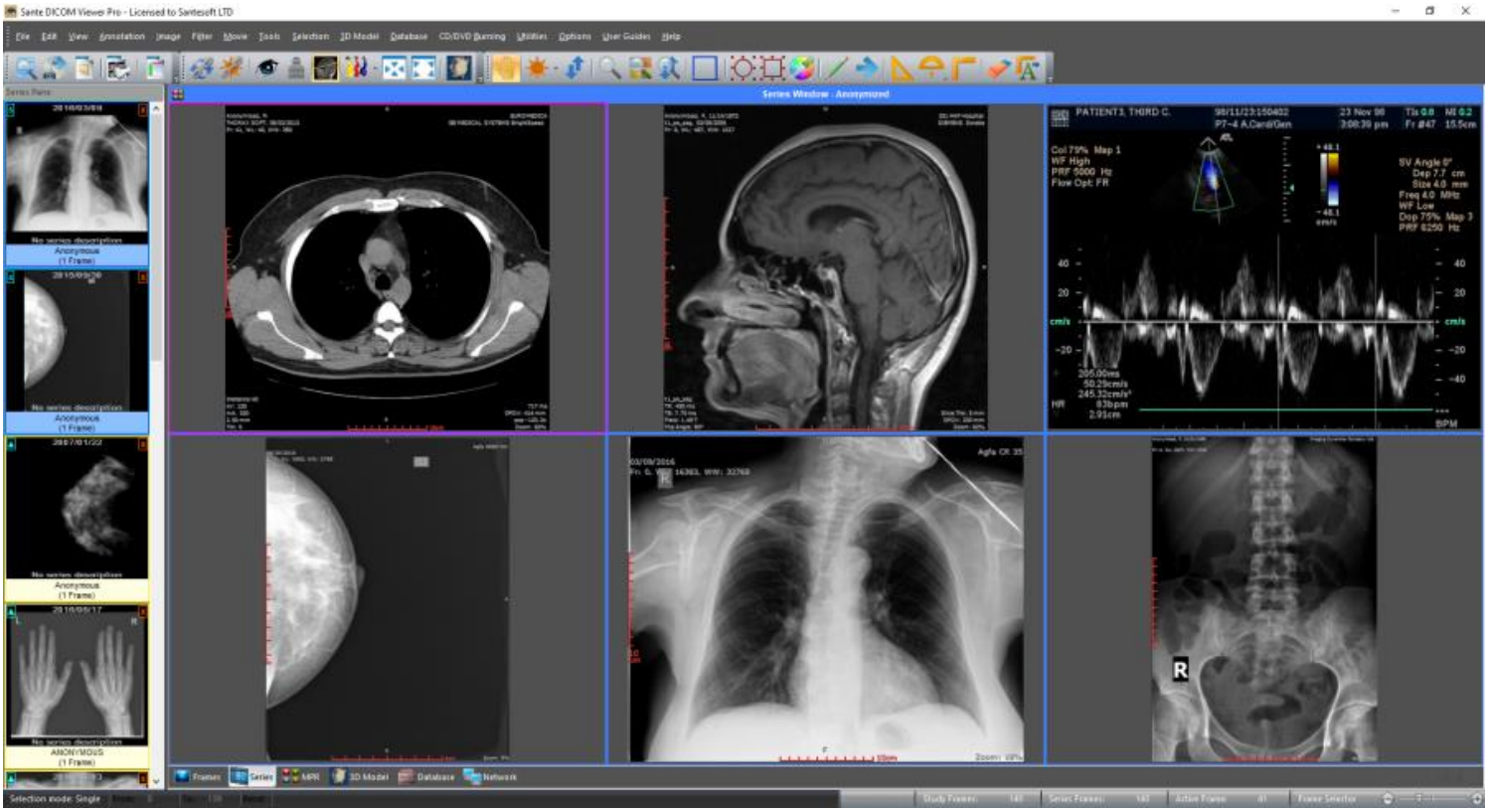
The main window in the frame mode (six tiles)

Displays six frames of the active series. The number of the tiles is selectable by the user.
The active frame has a **red rectangle** around its **tile**.

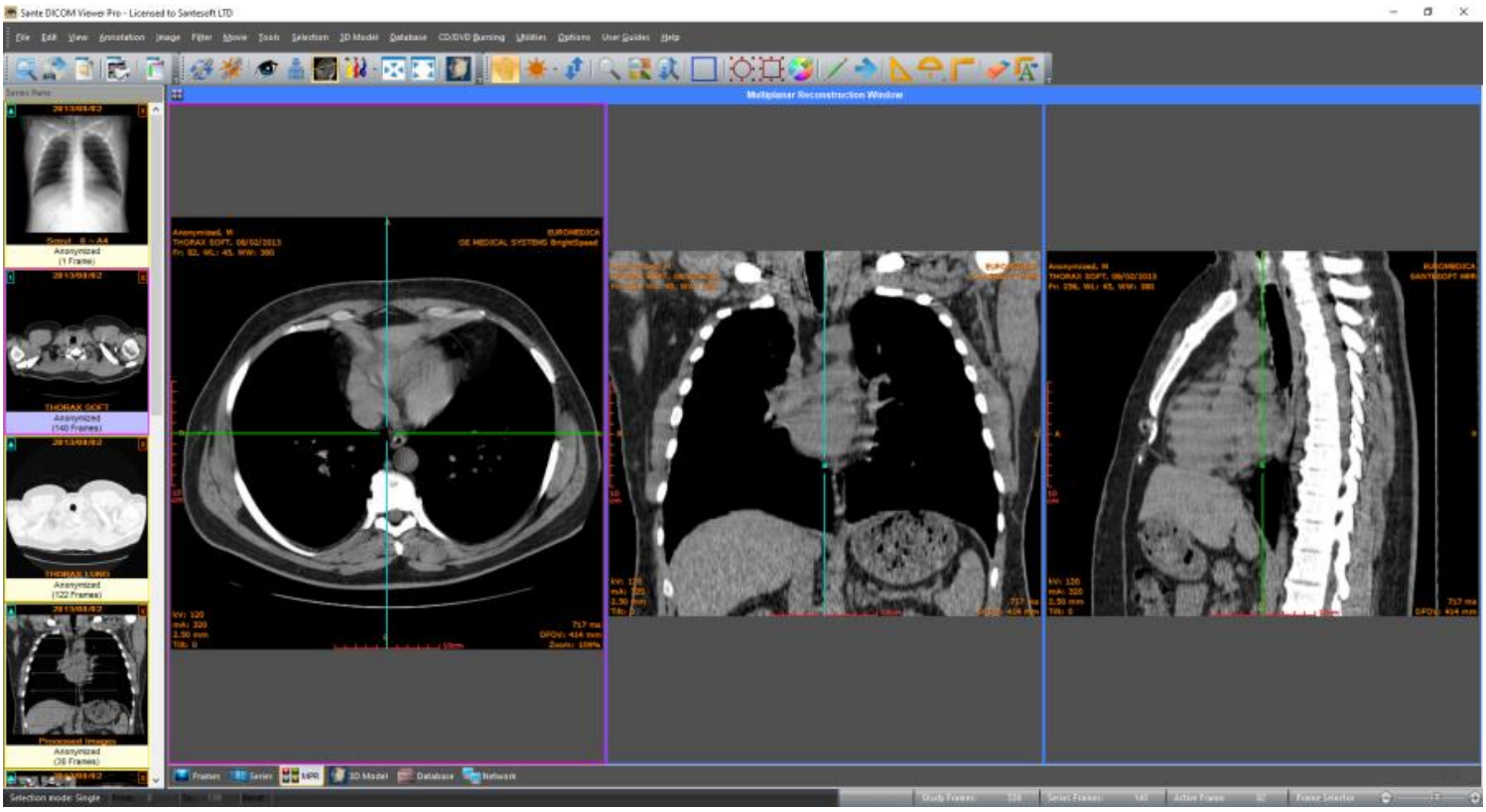


The main window in the series mode (six tiles)

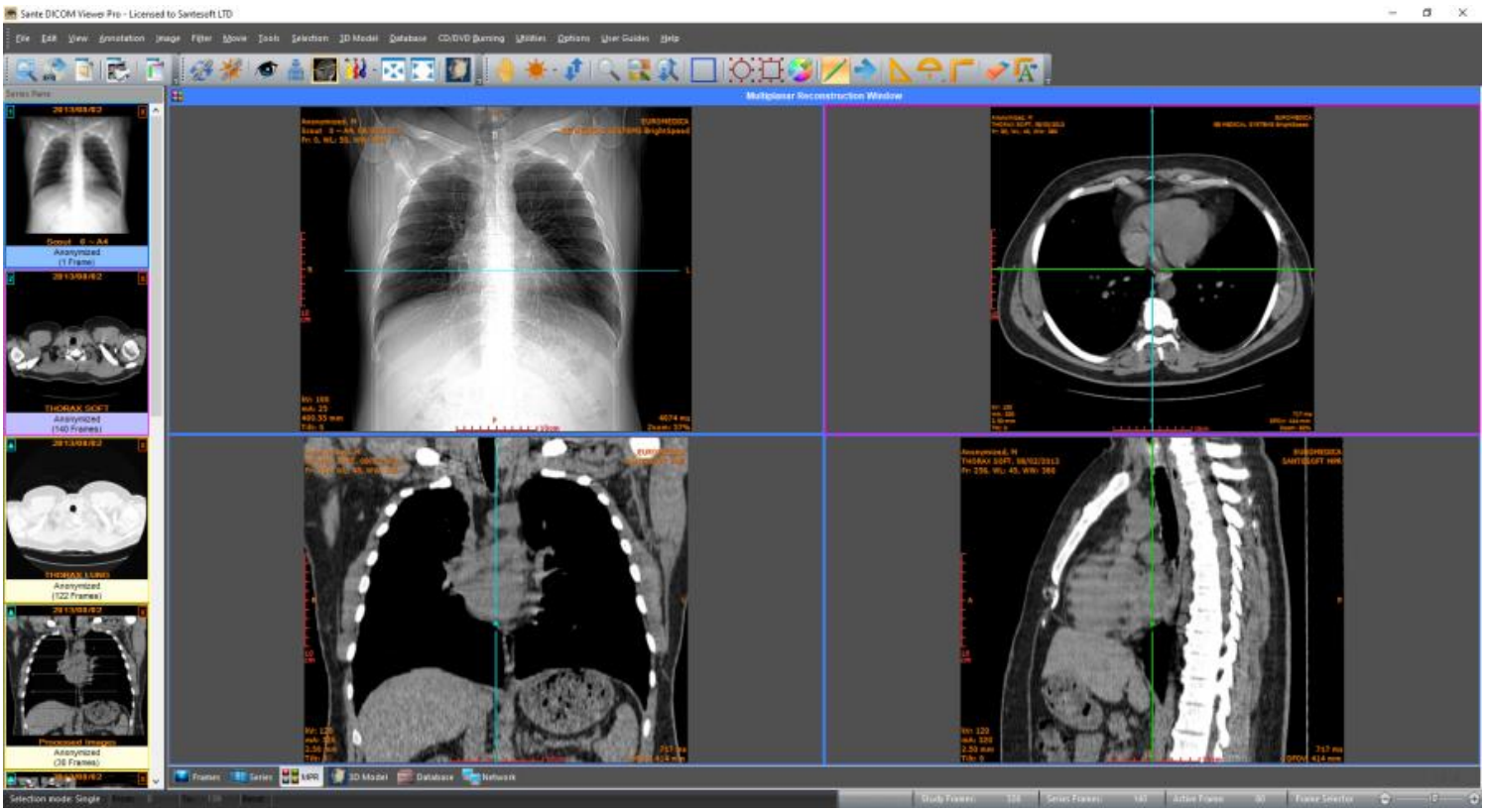
Displays up to six different series. The number of the tiles is selectable by the user. The active series has a **red rectangle** around its **tile**.



The main window in the MPR mode (3 tiles view)

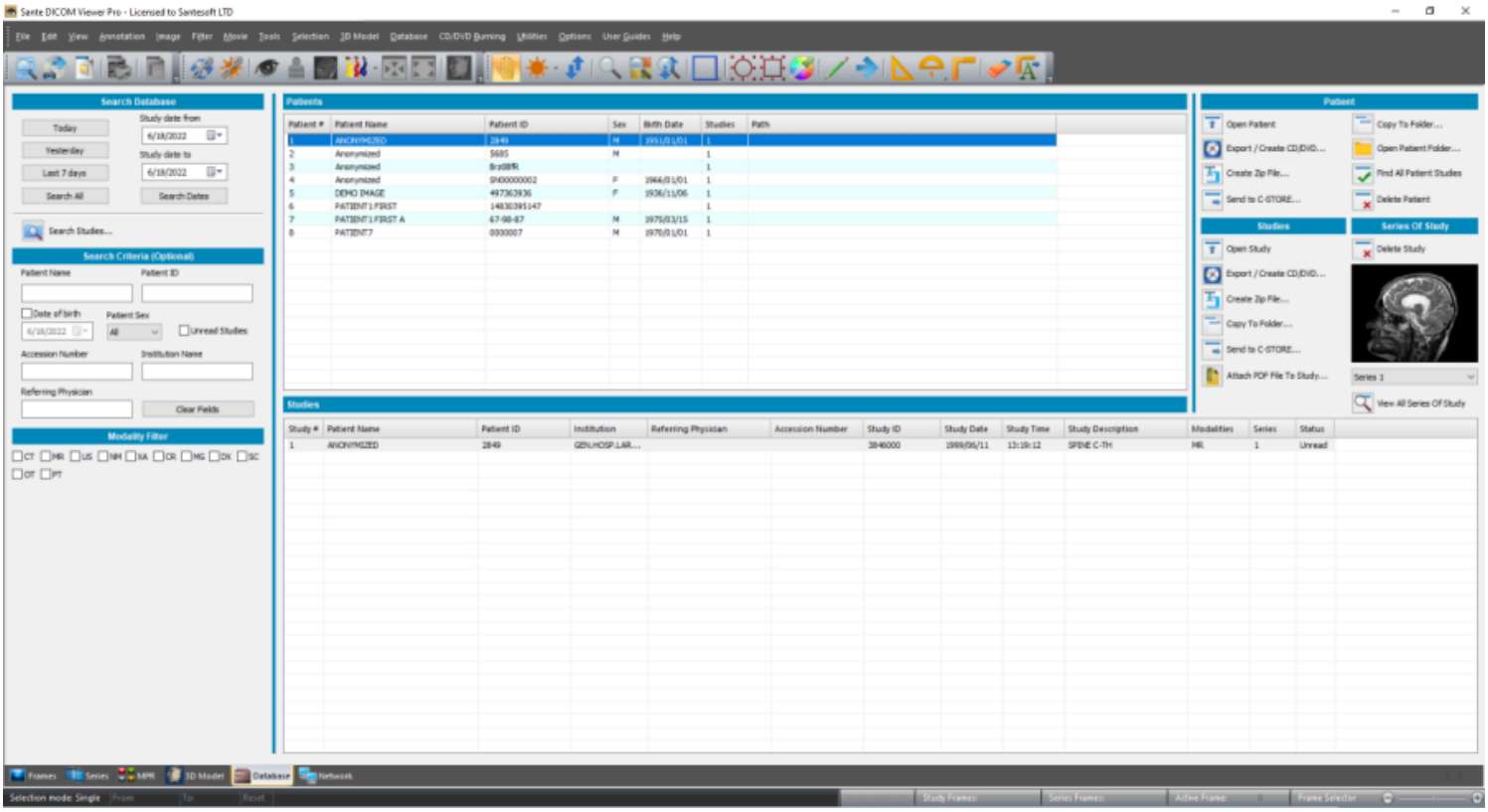


The main window in the MPR mode (4 tiles view)

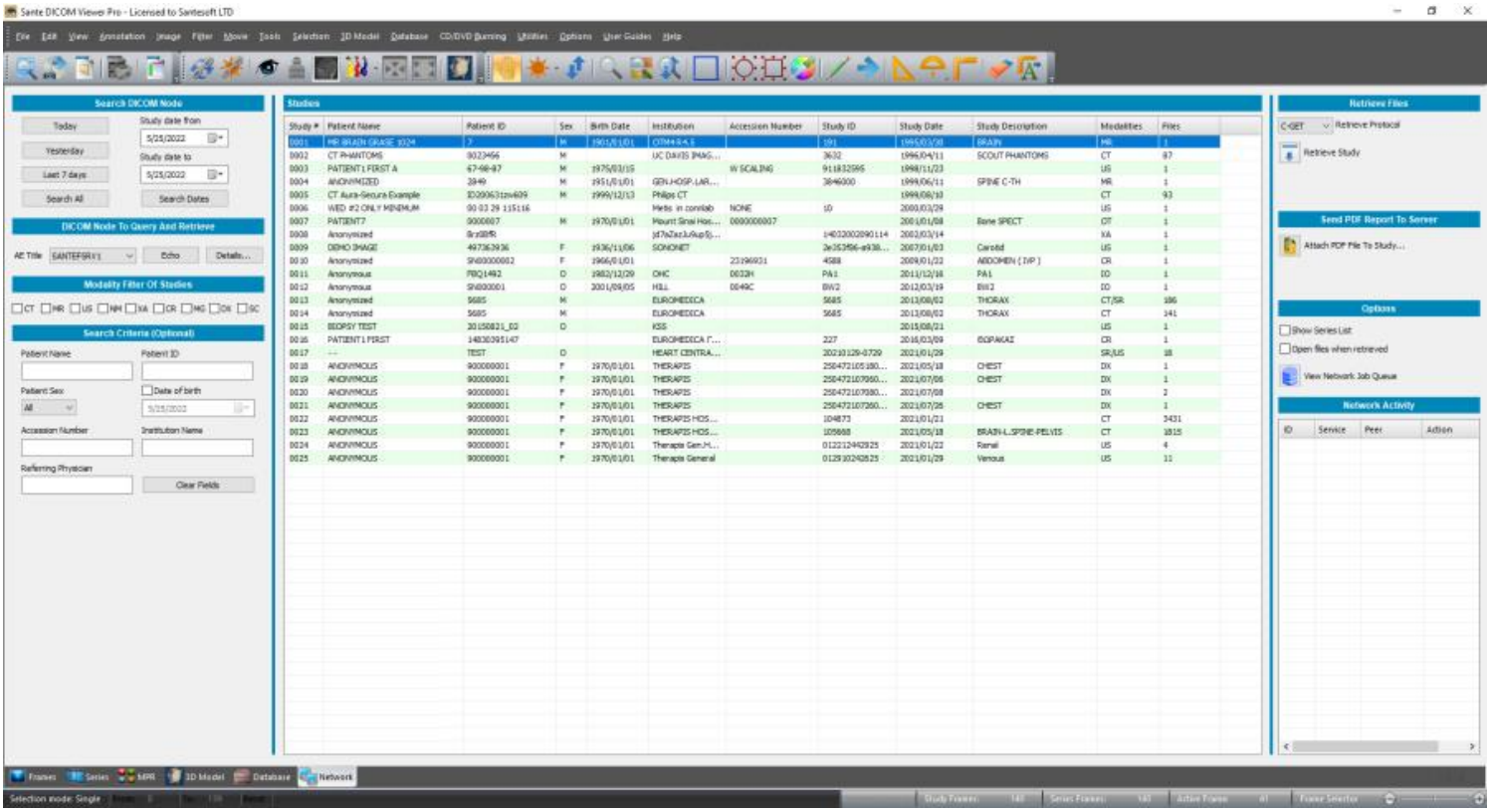


The main window in the Database mode

Displays the contents of the integrated database.

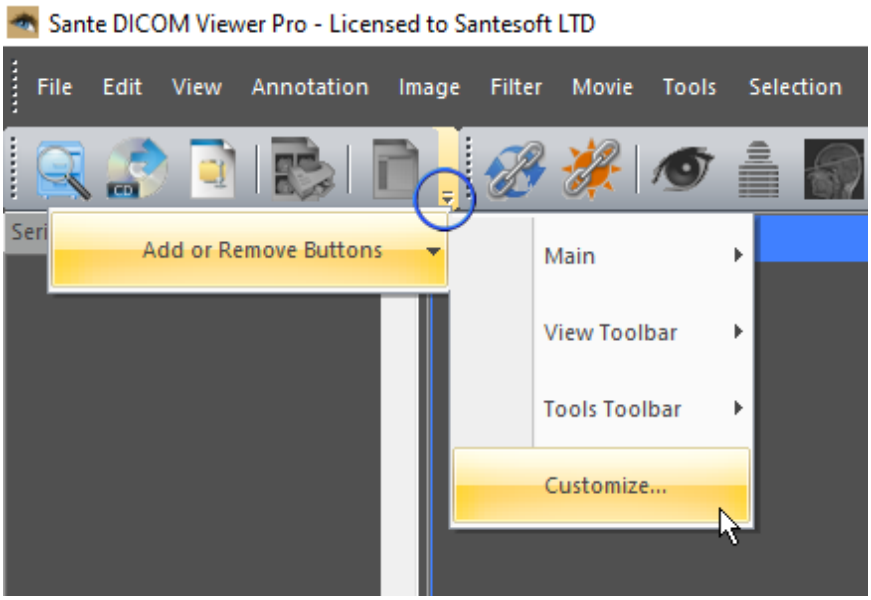


The main window in the Network mode

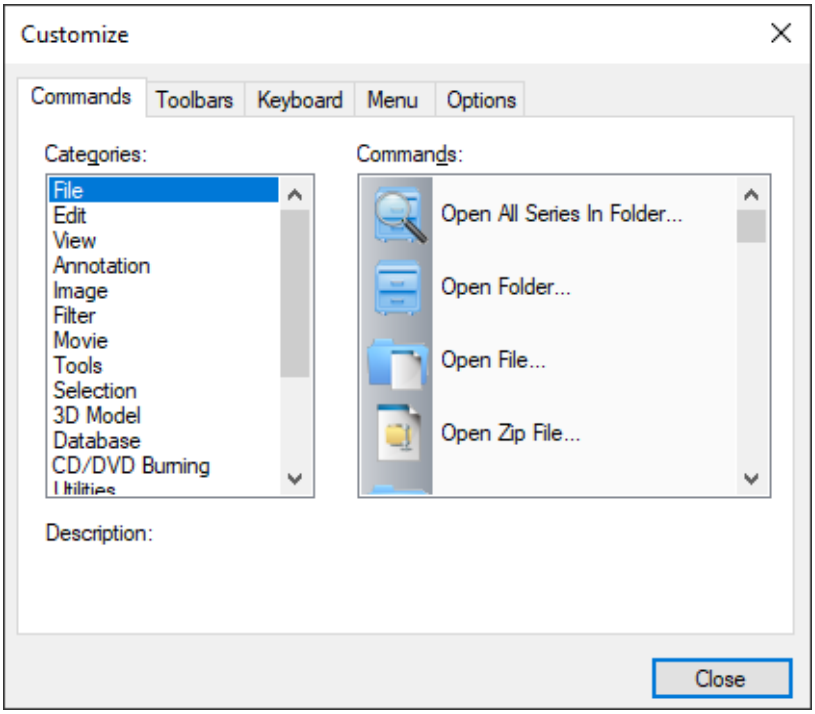


Customize the toolbars

The program allows the users to add and remove toolbar buttons, so it fits their tastes and preferences. Any toolbar can be quickly customized with the "Add or Remove Buttons" submenu available from the chevron button when it is docked or with a special button in the toolbar caption when it is in the floating state.

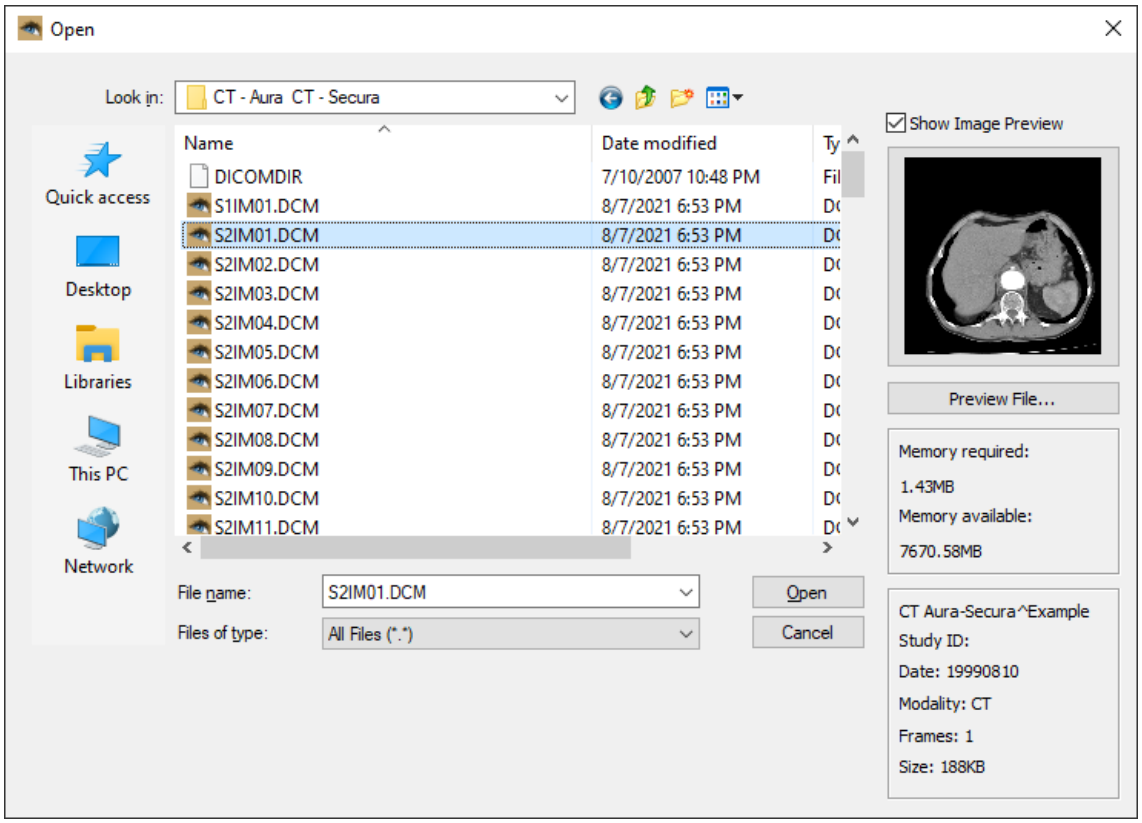


By selecting the menu item **"Customize"** a dialog box appears and allows the user to drag-and-drop buttons from the dialog box to any toolbar. It allows also the user to drag buttons out of a toolbar, in order to remove them.

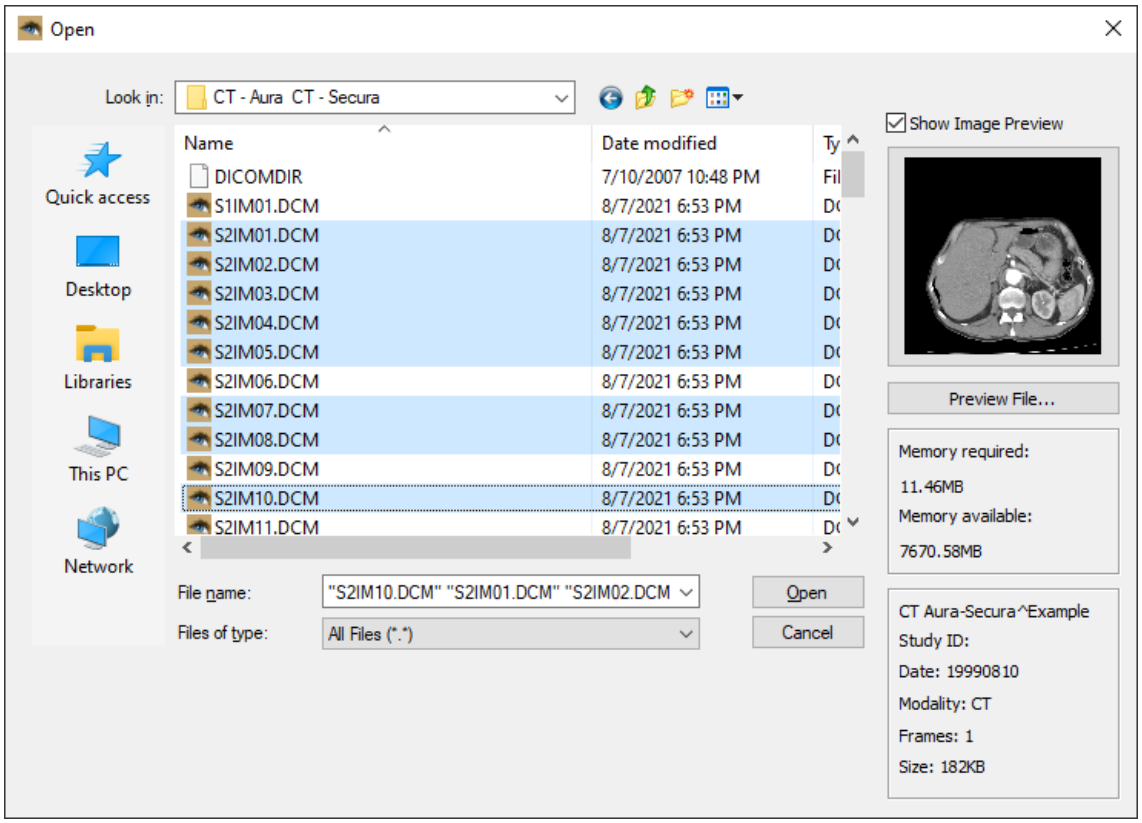


Open a file

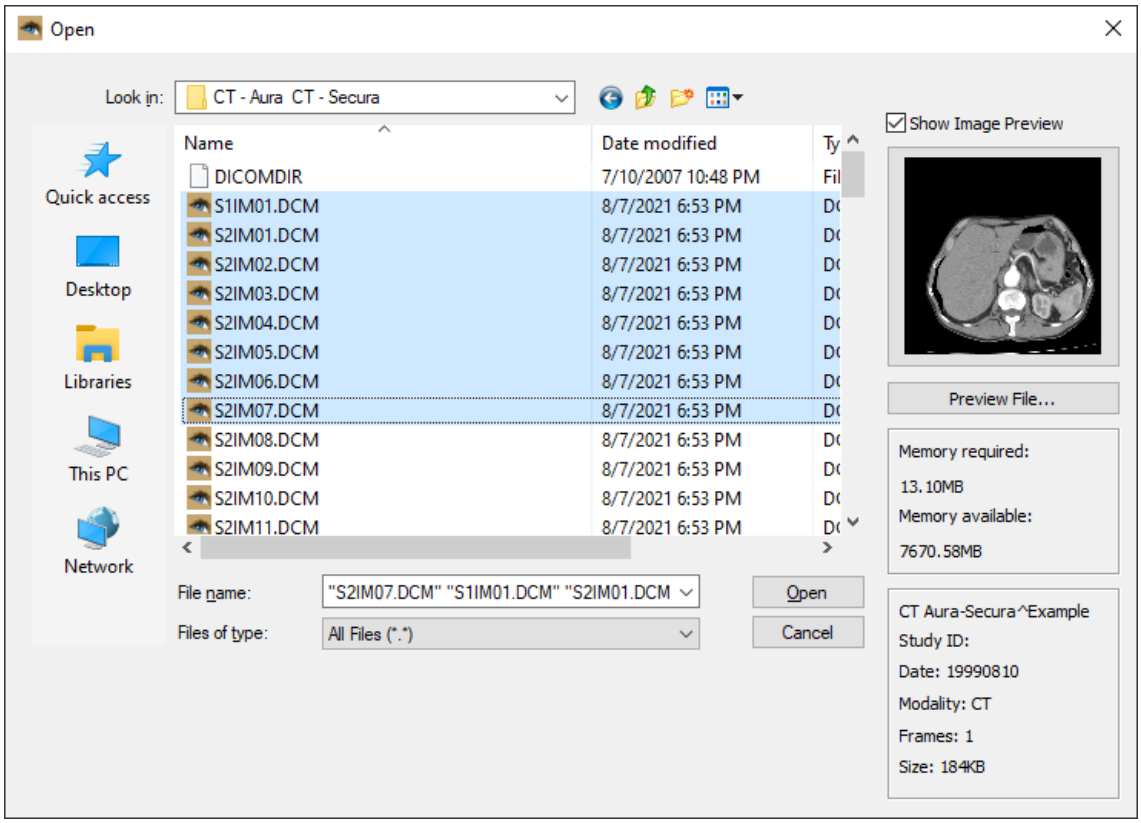
To open a file, use the menu command **"File ➡ Open ➡ Open File"**.
A dialog box appears and allows you to select the desired file:



To select many files, press and hold down the **<Ctrl>** key of the keyboard and select the files.

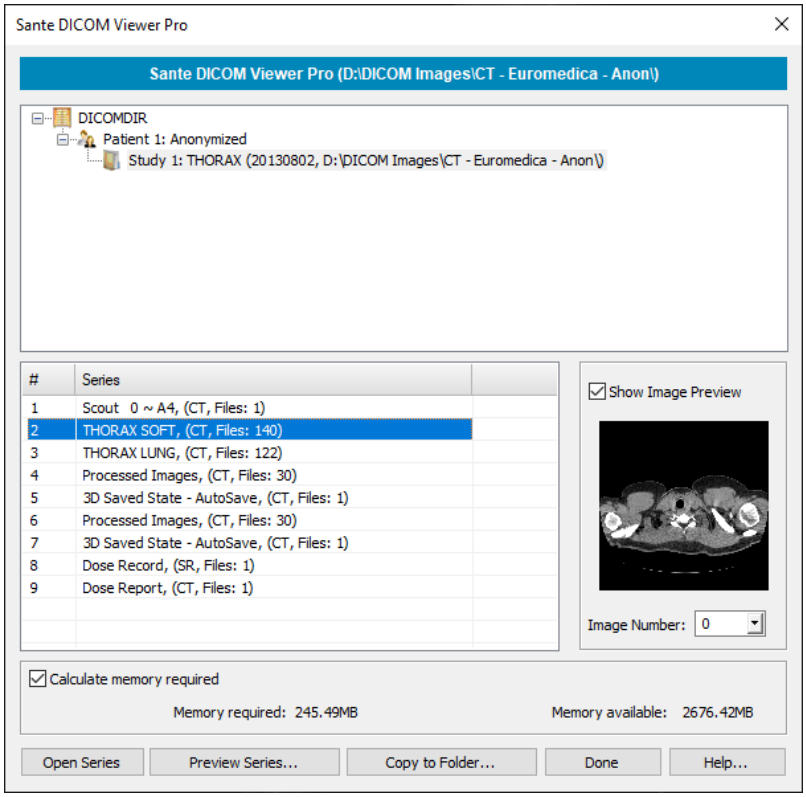


To select many sequential files, press and hold down the **<Shift>** key of the keyboard and select the first and the last file of the sequence.

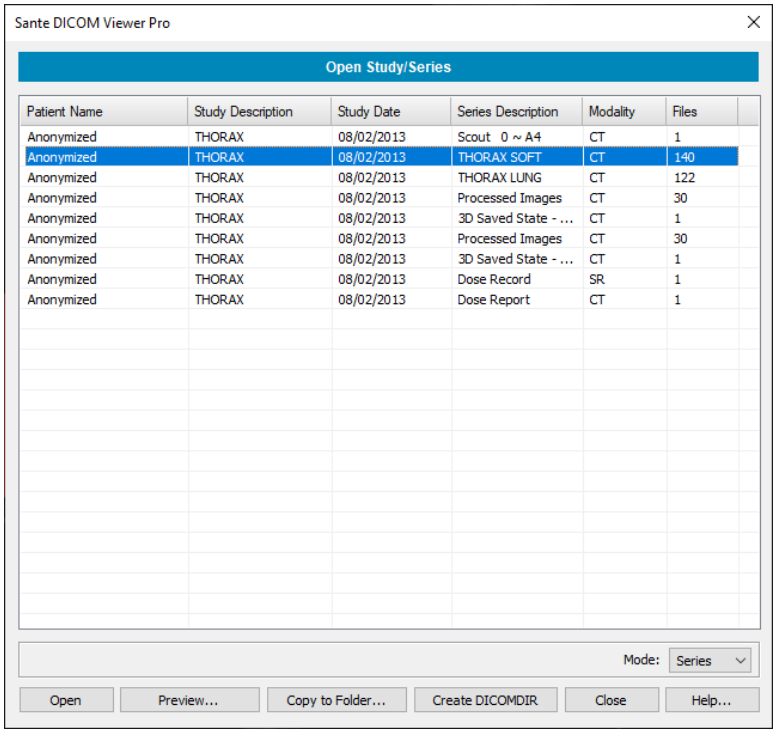


Open a series

To open a series, you need a DICOMDIR file. If you don't have a DICOMDIR file, you can use the menu command **"File➡ New DICOMDIR"** to create one. Use the menu command **"File➡ Open➡ Open Series"** and select the DICOMDIR file. A dialog box appears and allows you to select the desired series. To select many series, press and hold down the **<Ctrl>** key of the keyboard and select the series.



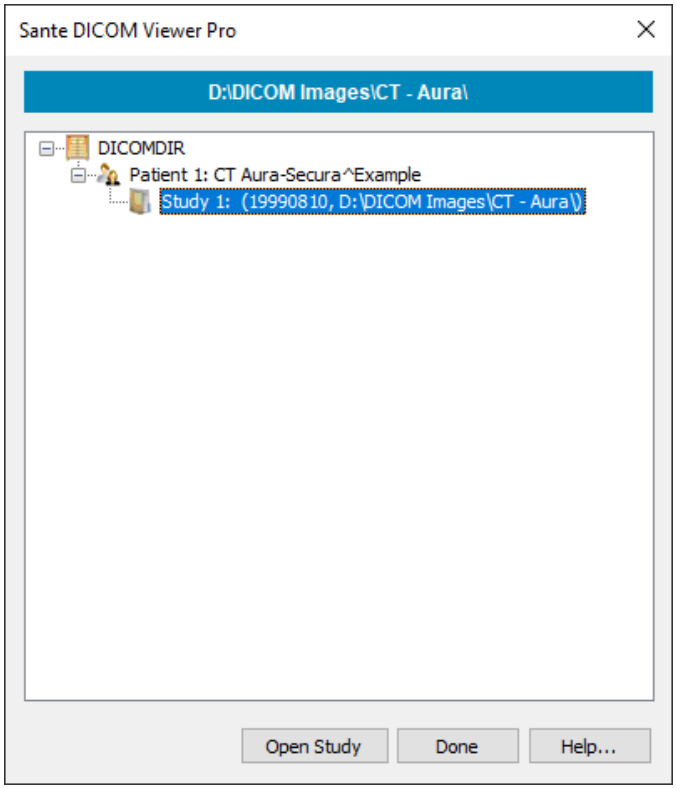
If you don't have a DICOMDIR file, you can also use the menu command **"File➡ Open➡ Open Folder"**. The program scans the selected folder, finds the DICOM files and organizes them to studies and series, and allows you to select a series to open.



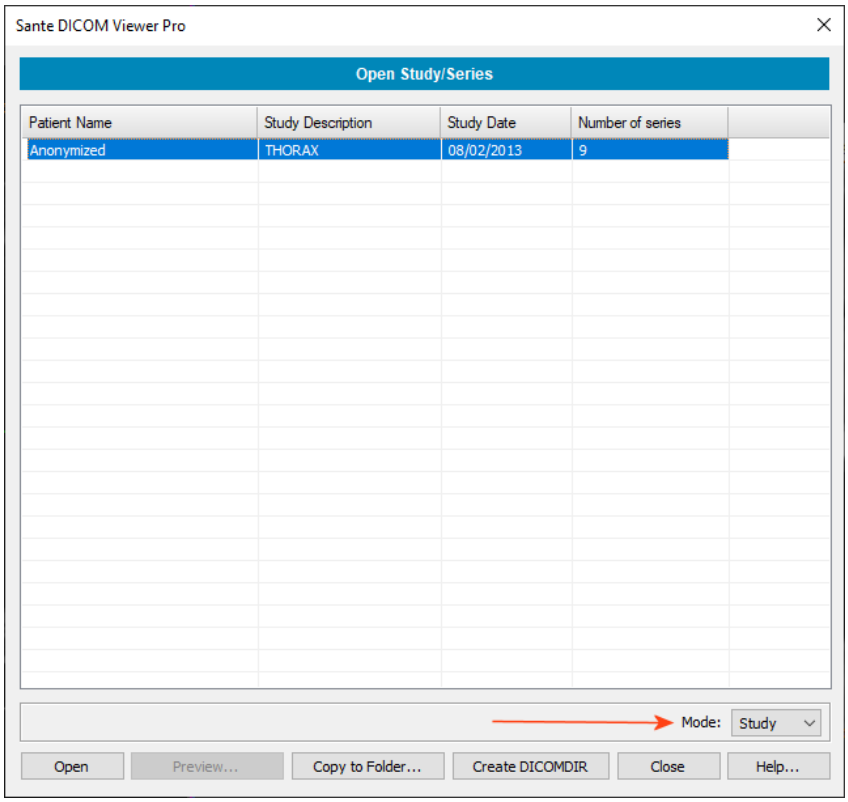
Please note that the mode in this dialog box must be set to "Series".

Open a study

To open a study, you need a DICOMDIR file. If you don't have a DICOMDIR file, you can use the menu command **"File New DICOMDIR"** to create one. Use the menu command **"File Open Open Study"** and select the DICOMDIR file. A dialog box appears and allows you to select the desired study. The program opens all the series of this study.



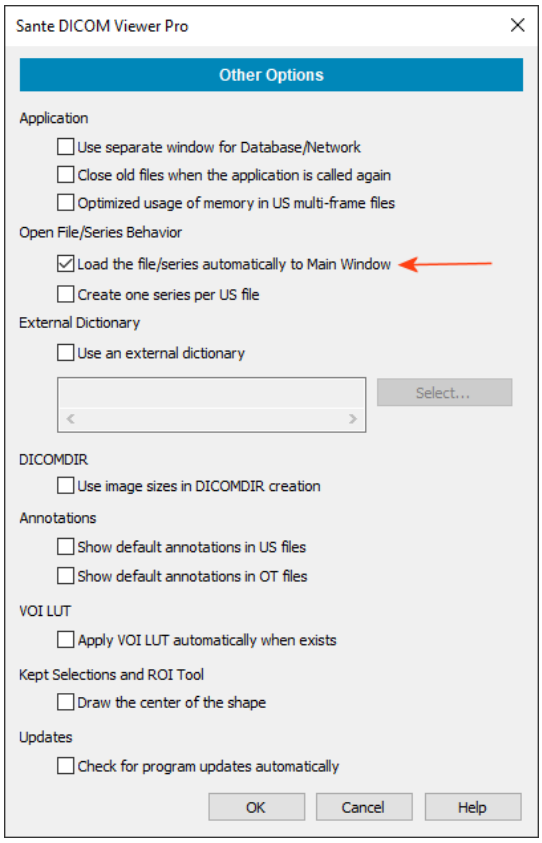
If you don't have a DICOMDIR file, you can use the menu command **"File Open Open Folder"**. The program scans the selected folder, finds the DICOM files and organizes them to studies and series, and allows you to select a study to open.



Please note that the mode in this dialog box must be set to "Study".

Load a series to the main window

The program automatically loads the open series to main window. If you wish to change this behavior, select the menu command **"Options ➡ Other Options"** and uncheck the checkbox **"Load the file/series automatically to Main Window"**.

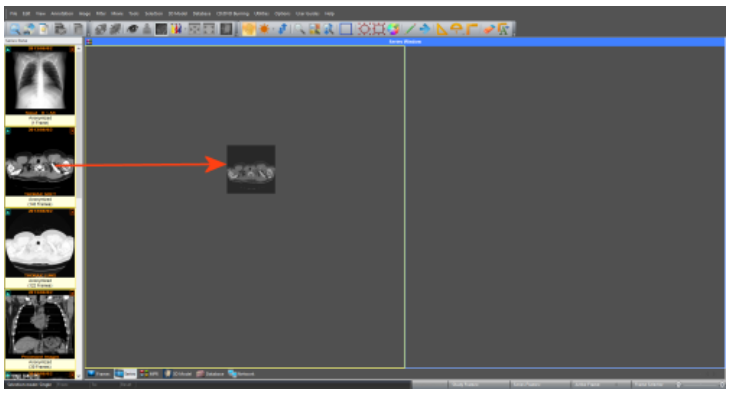


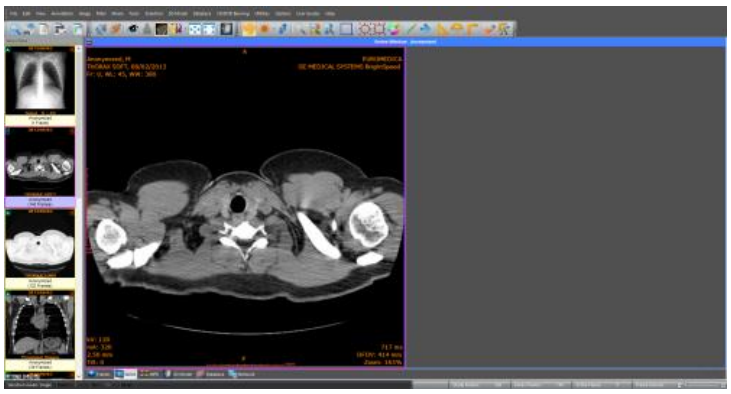
To load a series to the main window, use one of the following methods:

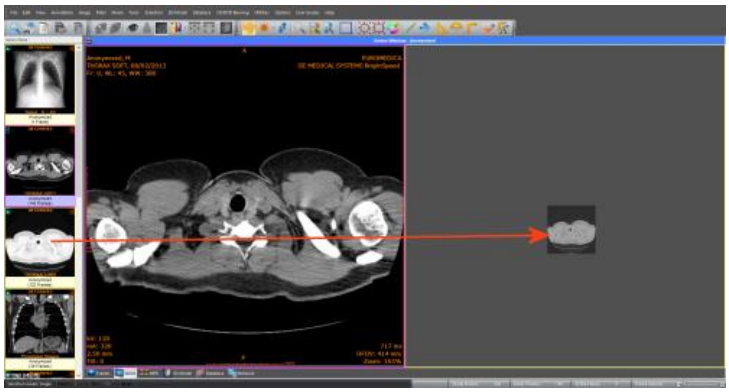
1. Double-click the series thumbnail in the Series Pane **(3)**.

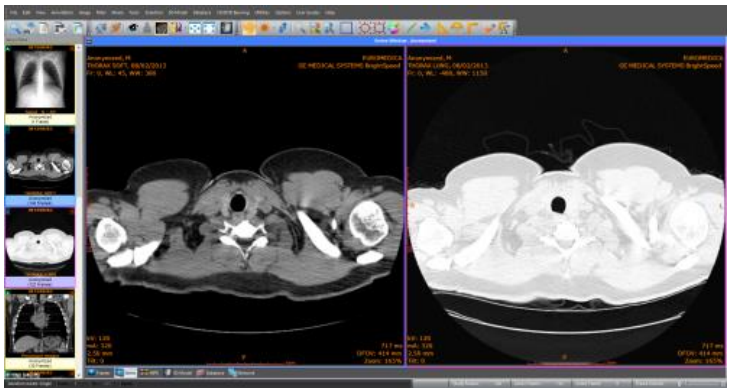
2. Click the green rectangle in the upper left corner of the series thumbnail in the Series Pane **(3)**.

3. Use the **"drag-and-drop"** operation in the Frame Mode, Series Mode or MPR Mode.



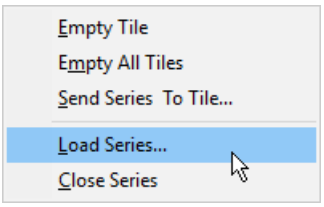






With the "drag-and-drop" in the Series Mode, you can select the tile for every series, thus you can have your series in the desired order. If the destination tile contains already a series, the program replaces the old series with the new one.

4. In the Series Mode, press the **right** mouse button over the desired tile.
A pop-up menu appears and allows the user to load a series in the tile.

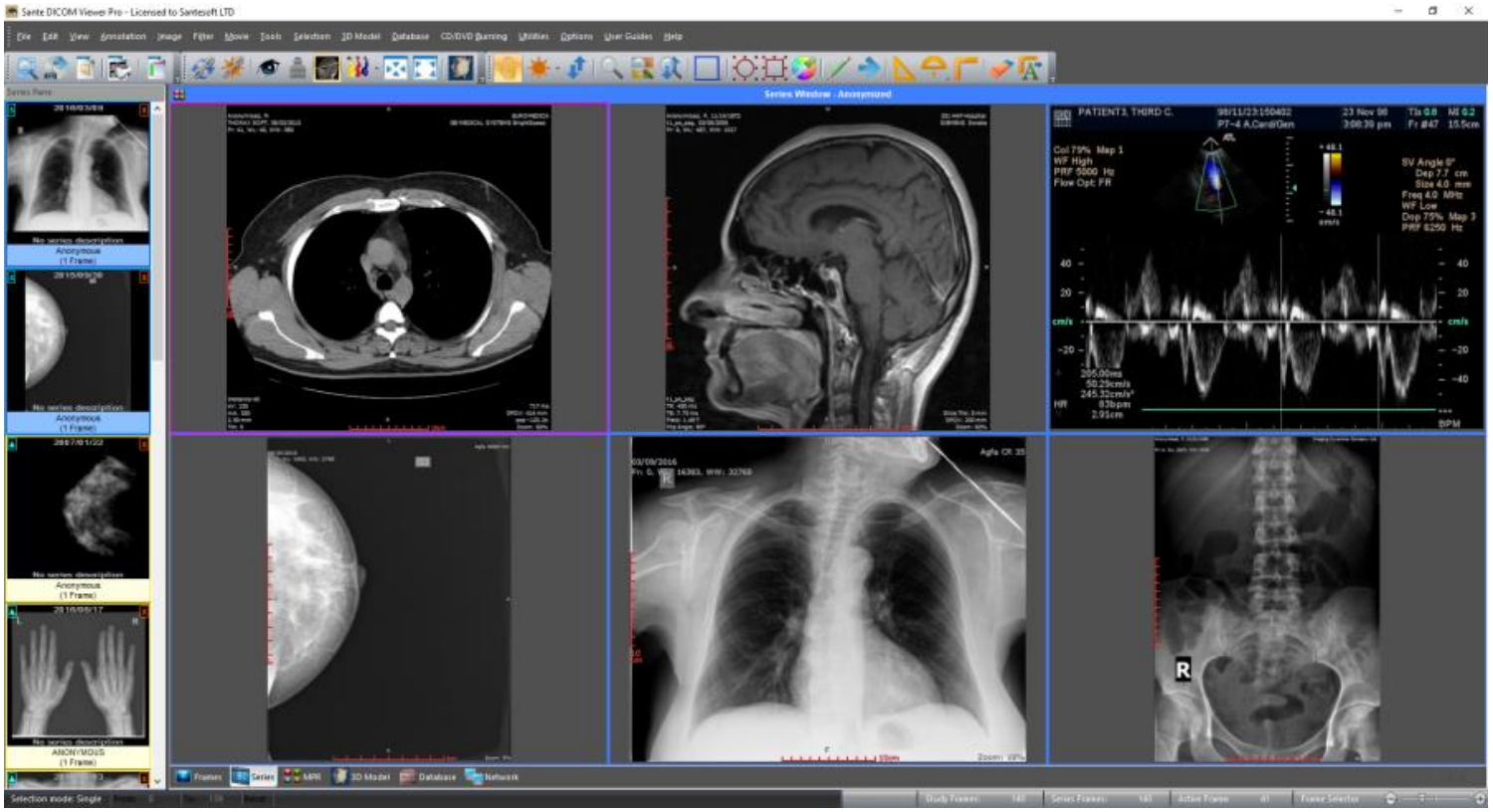


This menu is not available in the other modes.

Set the active series

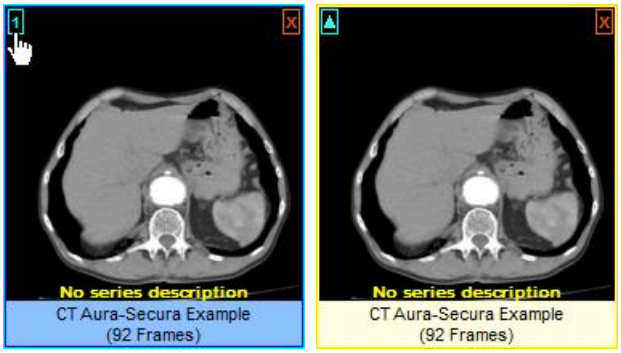
1. Click the series thumbnail of an open series in the Series Pane **(3)**.

2. In the Series Mode, press the **left** mouse button over the desired series.
The series becomes active and it has a **red rectangle** around its **tile**.

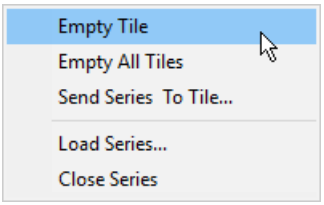


Unload a series from the main window

1. In the upper left corner of the loaded series thumbnail in the Series Pane **(3)** is displayed a number.
This number indicates the tile of the Main Window in the **Series Mode** in which this series is loaded.
Click this number to unload the series from the Main Window. The series remains in the memory and its thumbnail becomes yellow.



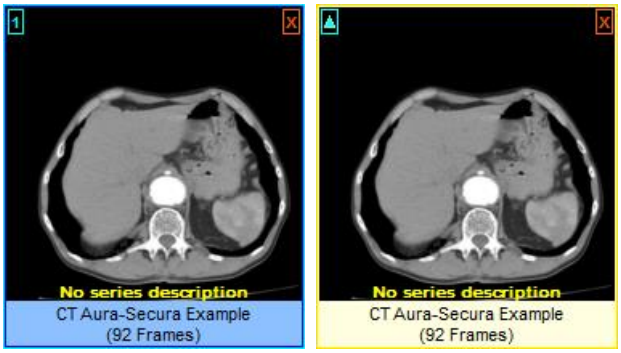
2. In the Series Mode, press the **right** mouse button over the tile of the desired series.
A pop-up menu appears and allows the user to unload the series and empty the tile.



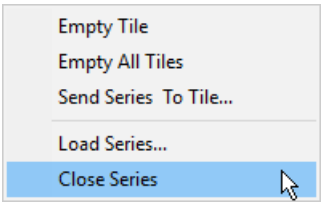
This menu is not available in the other modes.

Close a series

1. To close the active series select the menu command **"File ➧ Close"**
2. To close all the series, select the menu command **"File ➧ Close All"**
3. To close a selected series, press the red **x** button in the upper right corner of its thumbnail in the series pane **(3)**.



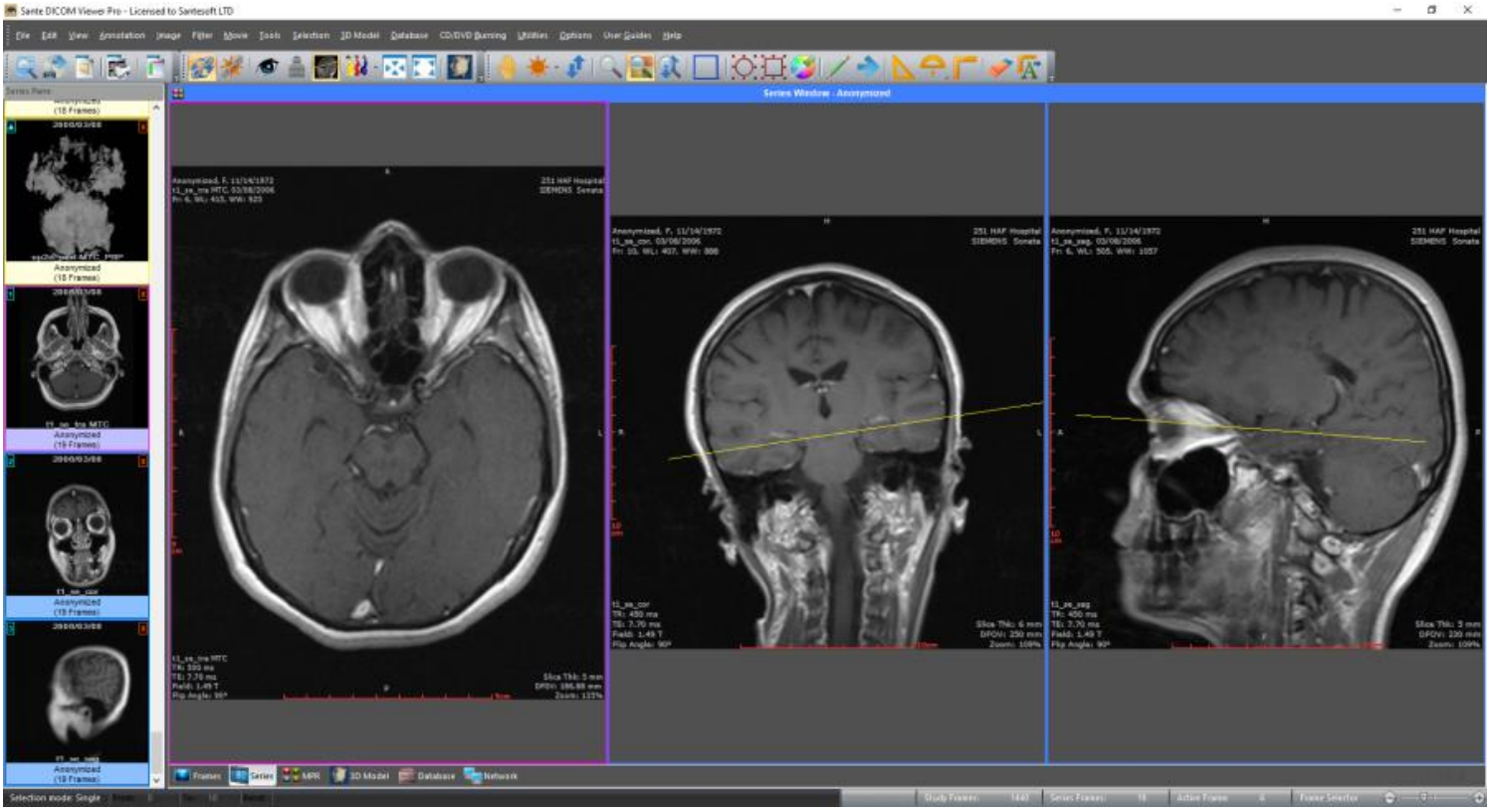
4. In the Series Mode, press the **right** mouse button over the tile of the desired series.
A pop-up menu appears and allows the user to close the series, free the memory and empty the tile.



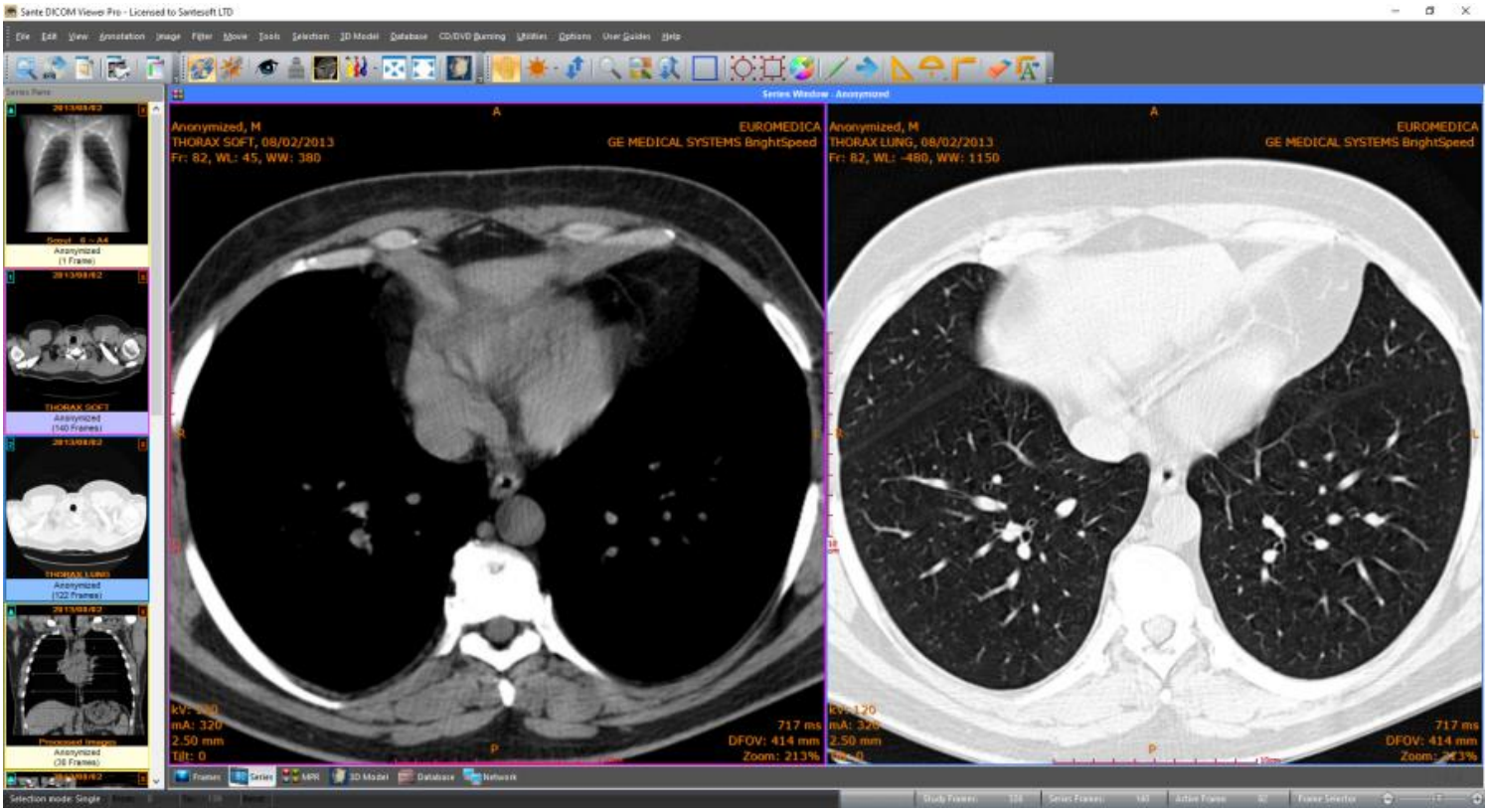
This menu is not available in the other modes.

The Series Mode

The **"Series Mode"** can display one or more series. It displays the cross reference lines between the series, if the series belong to the same study and the same patient.

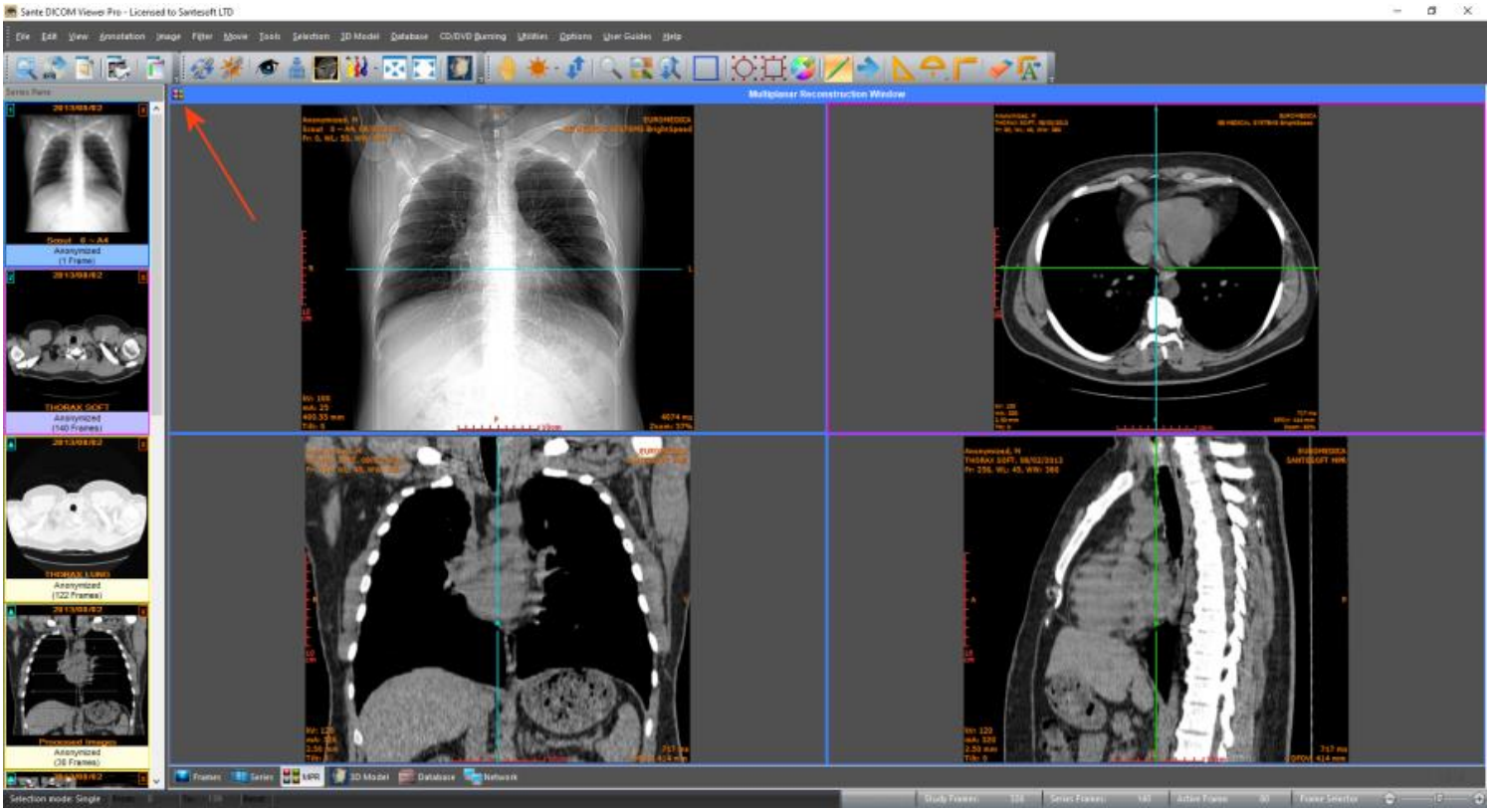


The user can use this mode to compare series, the program provides all the necessary tools for this purpose:
1. Use the menu command **"View➧Synchronized Series Frames"** to force the program to display the same frame of all the series (the series must have the same orientation).
2. Use the menu command **"View➧Synchronized Series Level-Window"** to force the program to display the images of all the series with the same level-window values.
3. Use the menu command **"View➧Synchronized Field of View"** to force the program to display the images with the same field of view.

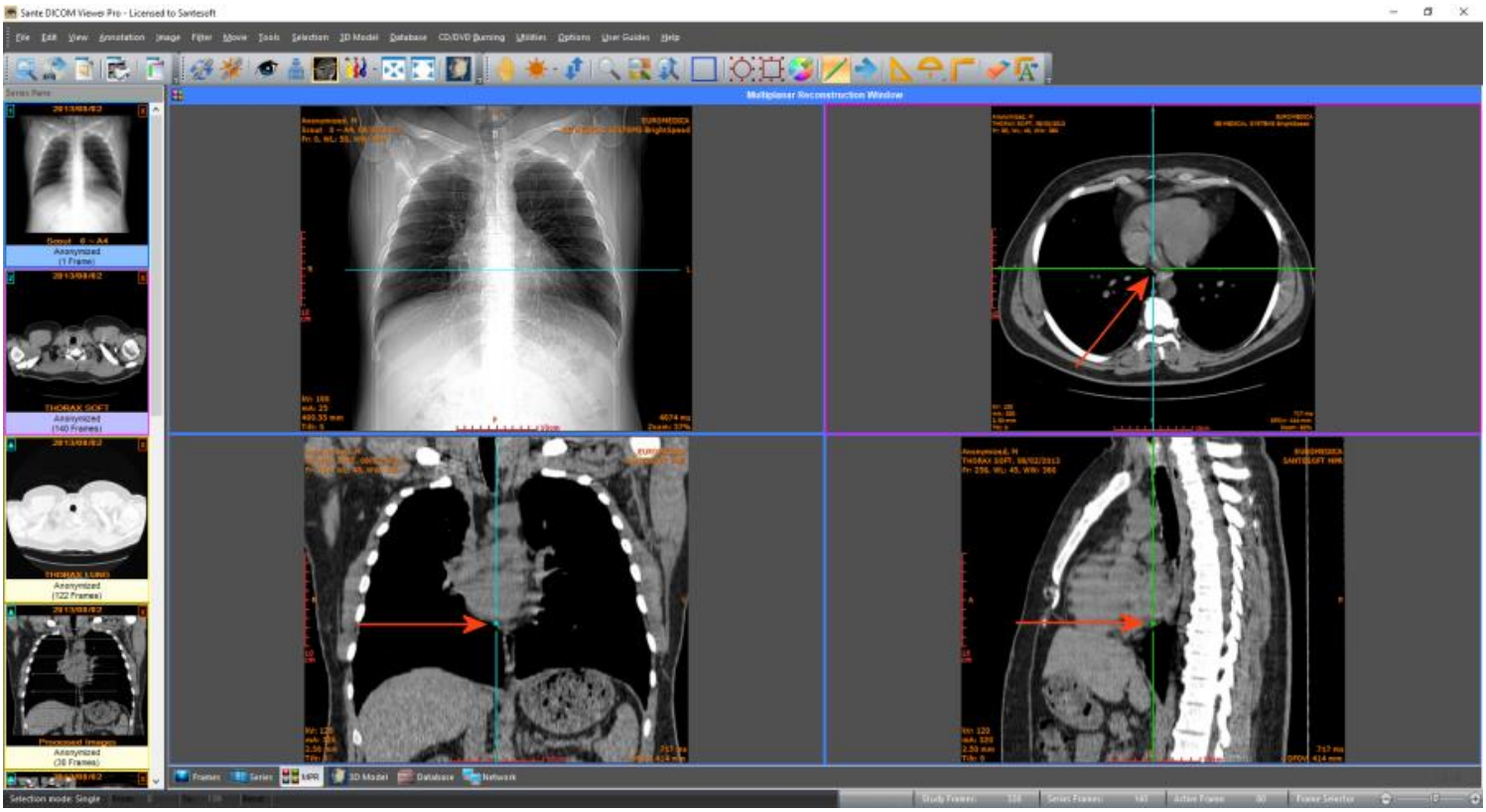


The MPR Mode

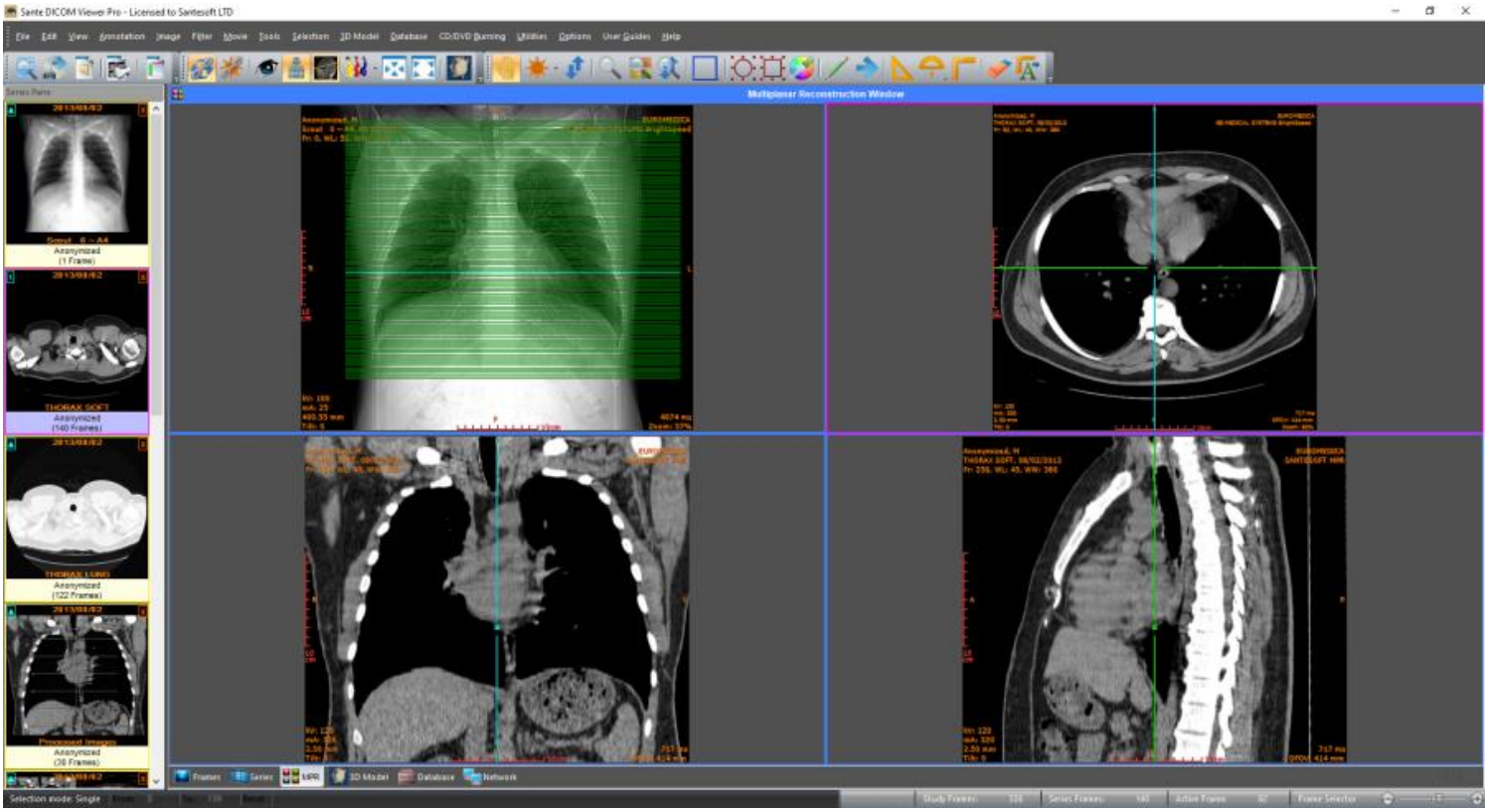
The MRR window can display three or four tiles. The user can switch between the three and four tiles with the button in the upper left corner of the window.



In the three tiles, the **"MPR Mode"** displays the axial series and the coronal and sagittal reconstructions of the series. In the four tiles, the **"MPR Mode"** displays the scout image/localizer, the axial series and the coronal and sagittal reconstructions of the series. The user can move the cross reference lines in the axial, coronal and sagittal frames from the points that are indicated in the image below:

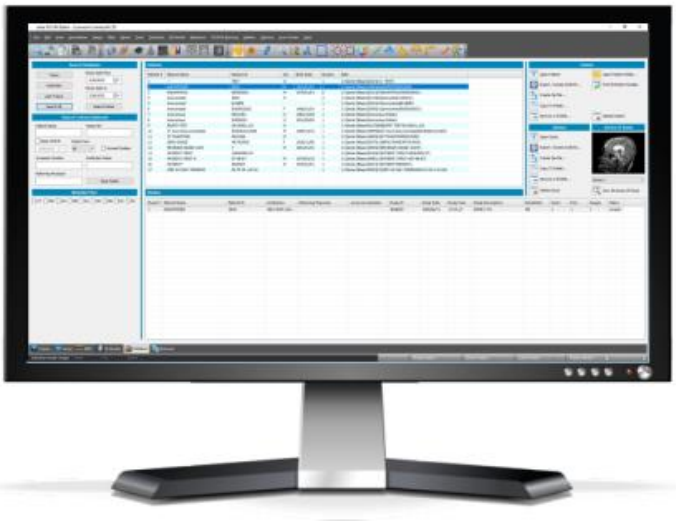


The program displays in the scout image/localizer the cross-reference lines of all the axial frames, if the menu command **"View All Localizer Lines"** is selected.

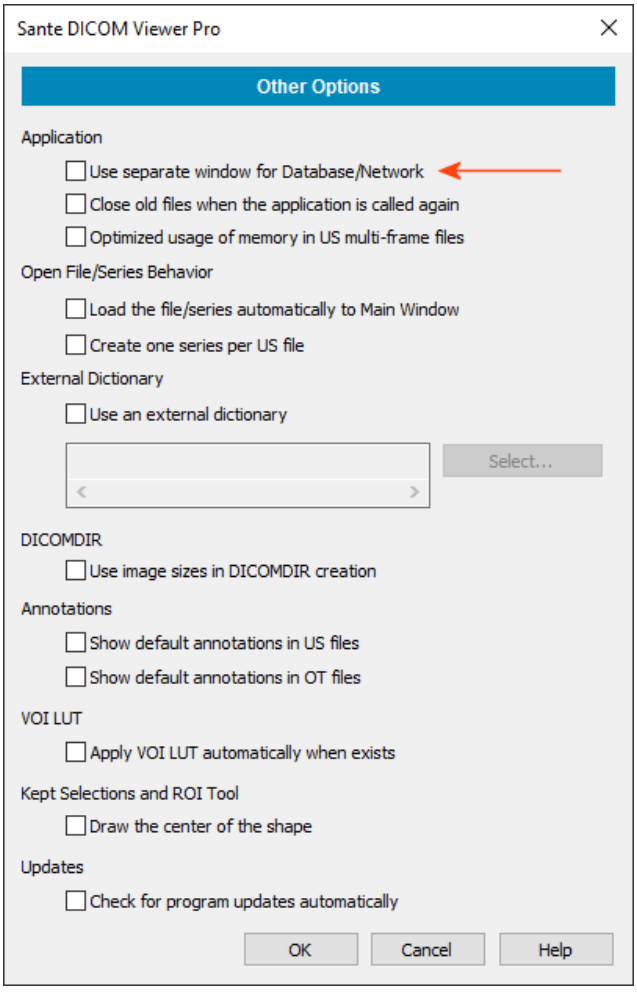

Sante DICOM Viewer Pro - Licensed to Santesoft LTD
File Edit View Annotation Image Filter Movie Tools Selection 3D Model Database CD/DVD Burning Utilities Options User Guides Help
Multiplanar Reconstruction Window
Anonymized
(1 Frame)
THORAX SOFT
Anonymized
(140 Frames)
THORAX LUNG
Anonymized
(122 Frames)
Processed Images
Anonymized
(38 Frames)
Frames
Series
MPR
3D Model
Database
Network
Selection mode: Single

Dual monitor configuration

The program can display all the views (Frame/Series/MPR/Database/Network) in a single window or display the image views (Frame/Series/MPR) in one window and the Database/Network views in another.



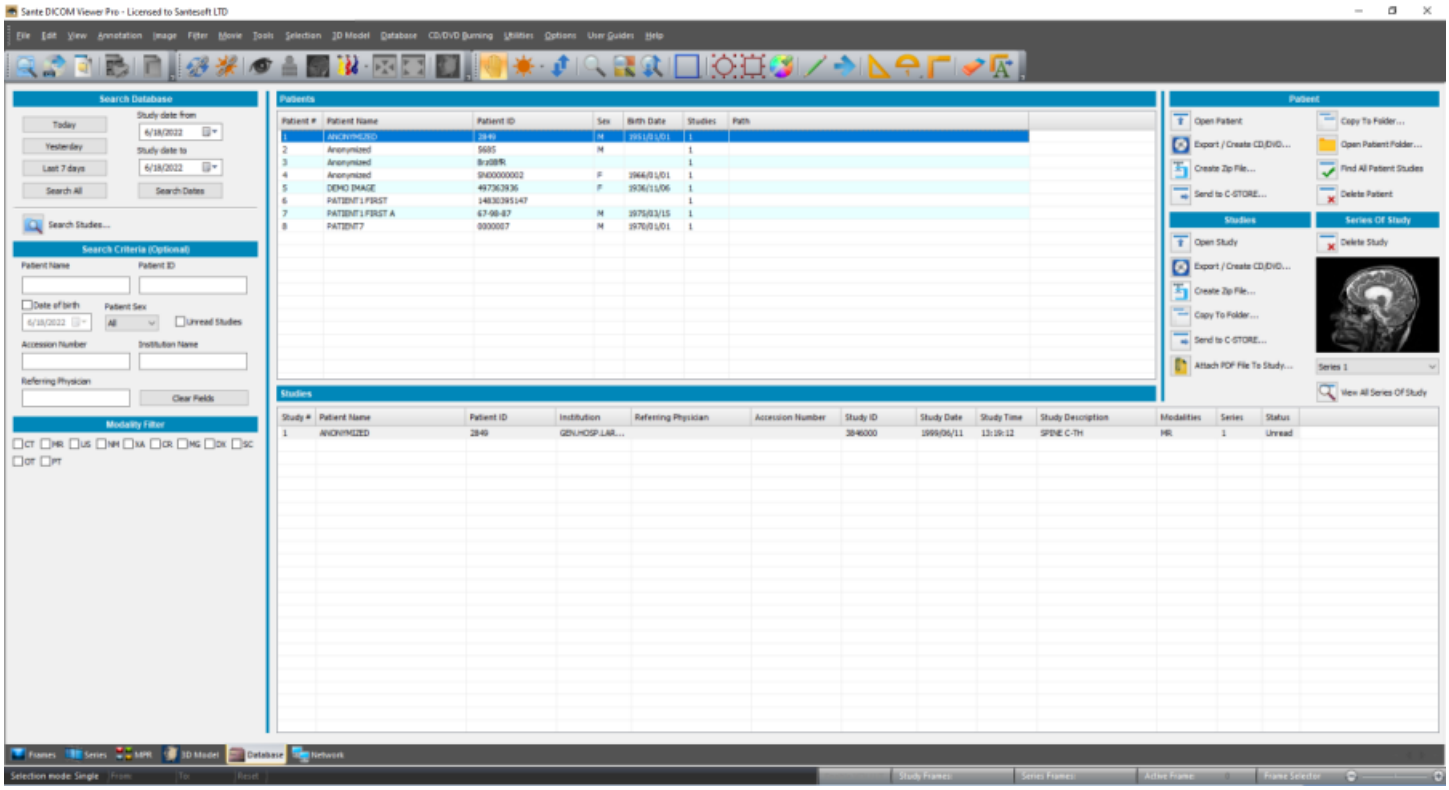
- To enable the dual monitor feature:
- Select the menu command **"Options->Other Options"**
- In the dialog box below check the option **"Use separate window for Database/Network"**



- Restart the application for the changes to take effect.

The Database Window

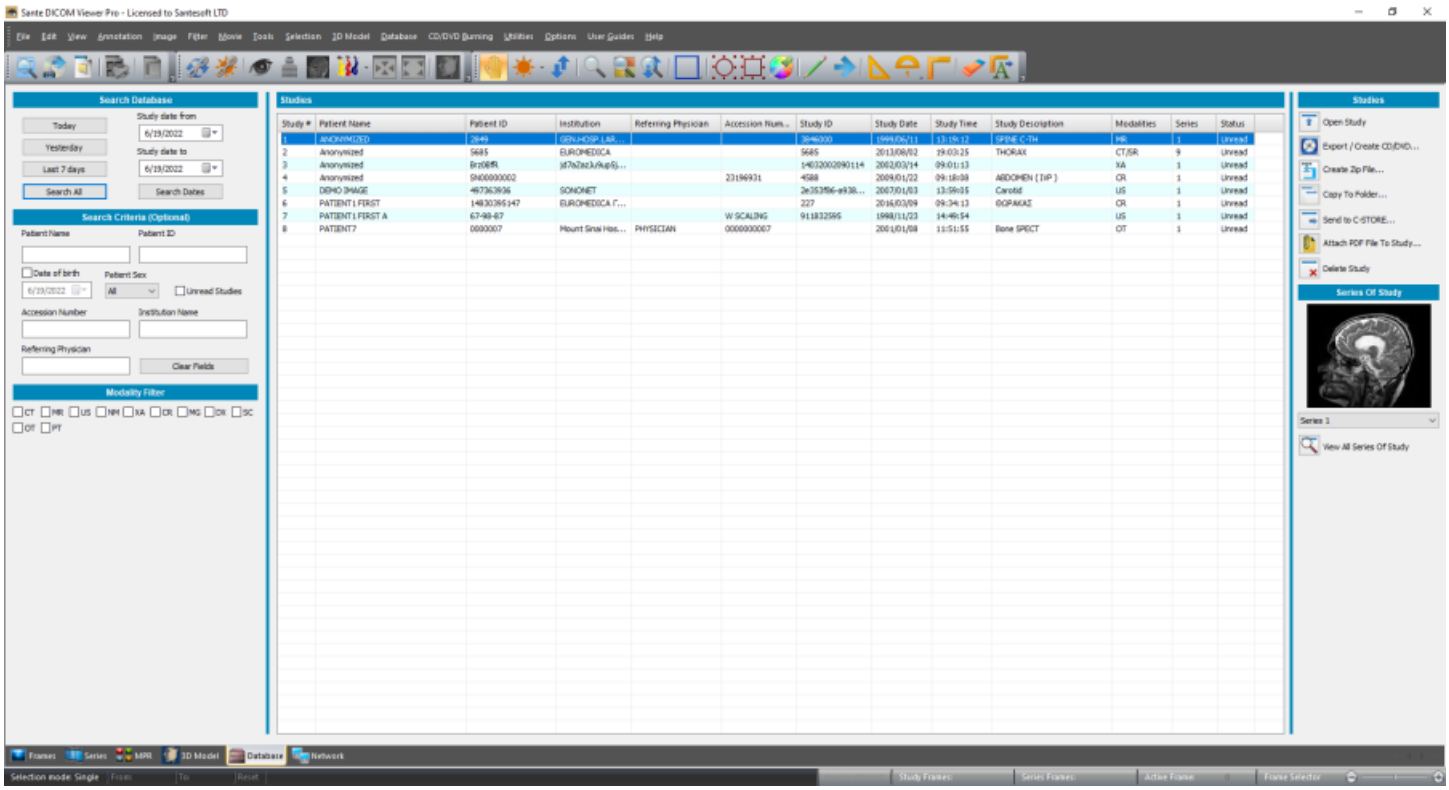
Select the **"Database"** tab from the mode selection control, in the lower left corner of the main window.



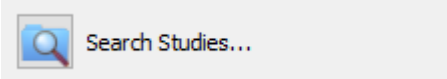
Select the desired interface of the database window

The default interface of the database window is the **“Search For Patients”** interface. But many users prefer to search for specific studies instead of searching for specific patients. In this case the user can use the **“Search For Studies”** interface that displays the study results of every query. Use the menu command **"Database ➡ Use Search For Studies Interface"** to enable and use the **“Search For Studies”** interface. Use it again to return to **“Search For Patients”** interface.

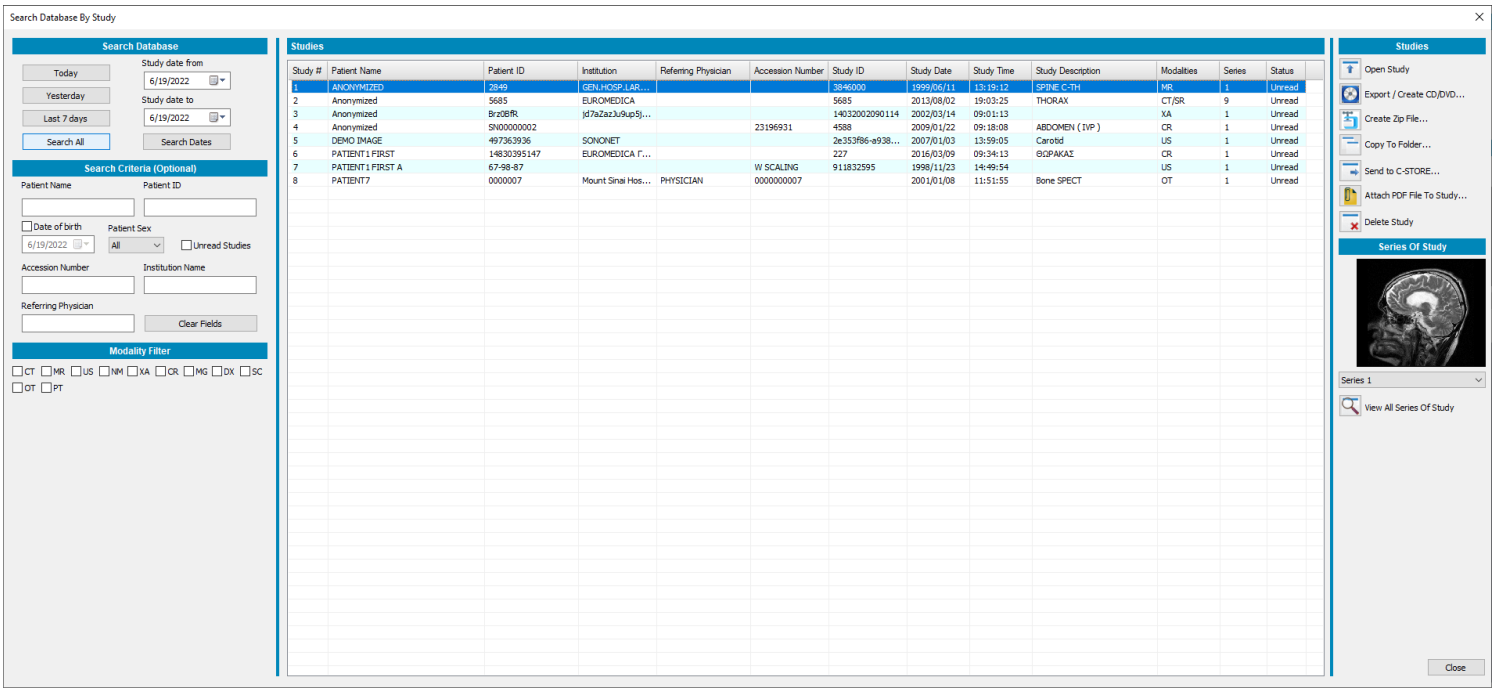
The “Search For Studies” interface



Search for studies instead of patients

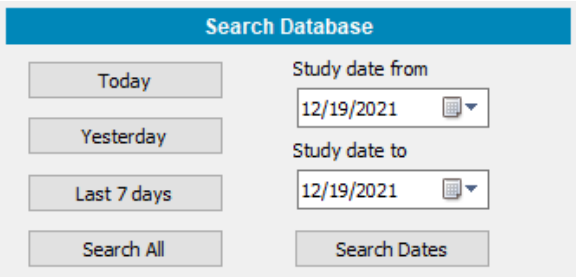


Sometimes the user although uses the **“Search For Patient”** interface, he wish to search for specific studies instead of searching for patients. In this case the user can use the **“Search Studies”** button that displays an interface similar to the **“Search For Studies”** interface, without changing the default database interface.



Query the database

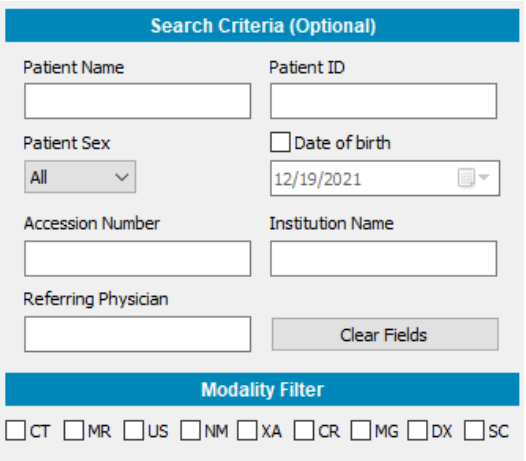
The program has five buttons that allows the user to query the database.



The **"Today"** button asks the server for the series/studies of the current date.
The **"Yesterday"** button asks the server for the series/studies of the previous of the current date.
The **"Last 7 Days"** button asks the server for the series/studies of the last seven days.
The **"Search All"** button asks the server for all the series/studies.
The **"Search Dates"** button asks the server for all the series/studies of a specific range of date.

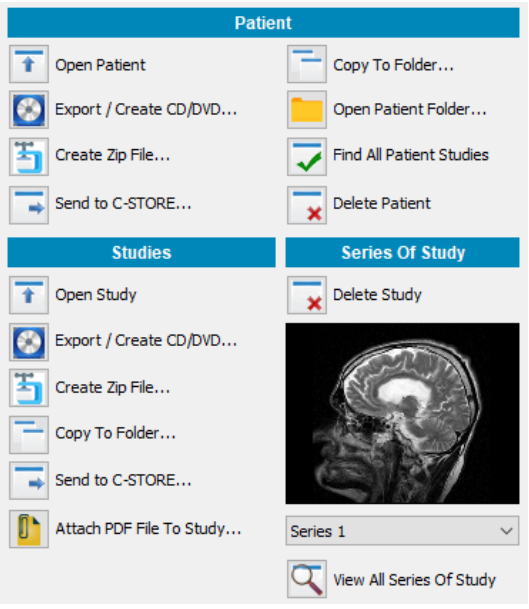
Database search criteria

The user can fine tune the query by adding more information about the desired results, like the patient name, the patient ID etc.

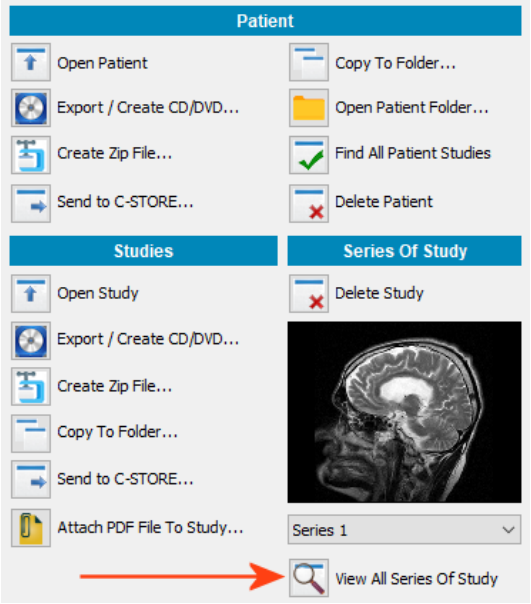


Search results handling

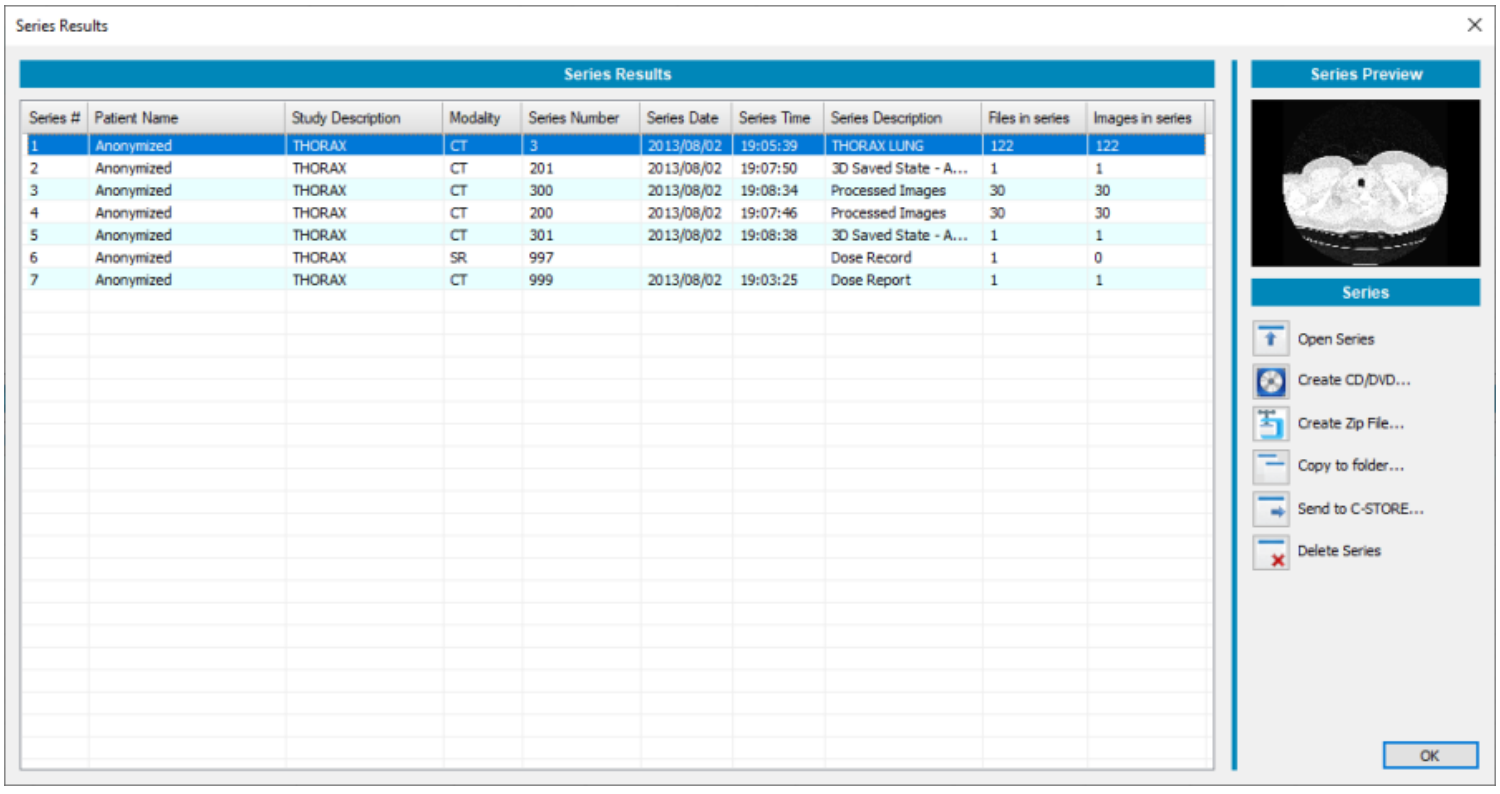
The results of the queries are displayed in the **Patient** and **Study** lists.
The user can open, copy to folder, send to C-STORE SCP, delete the selected patient/study, create a DICOM CD/DVD disk or a Zip file



If the user wish to review the series of a study, he must he must select the button **"View All Series Of a study"**.



The results are displayed in a new panel.
The user can open, copy to folder, send to C-STORE SCP, delete the selected series, create a DICOM CD/DVD disk or a Zip file.



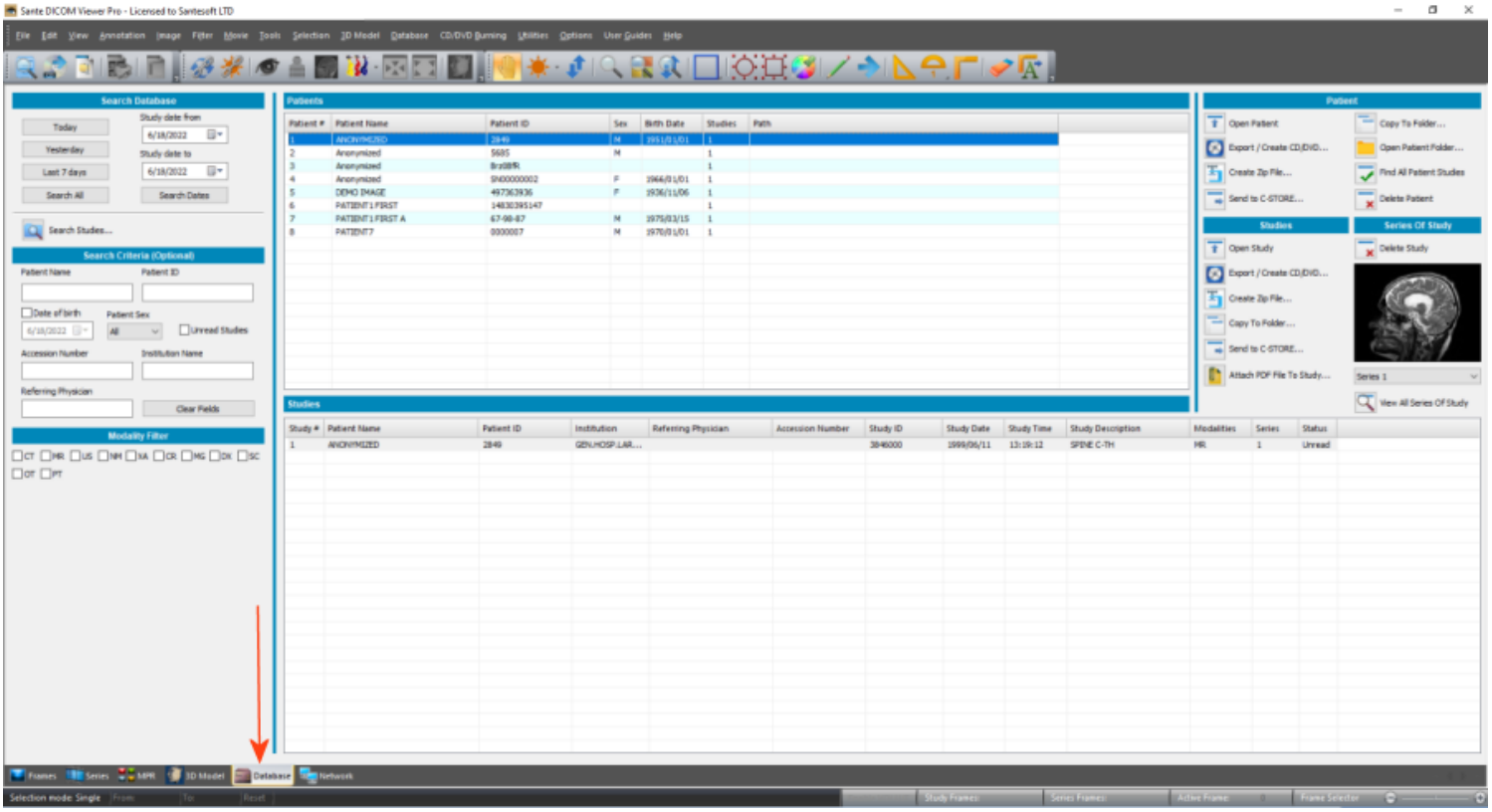
if the command **“Keep Viewer Always Open”** of the **“Options”** menu is checked, the program does not open a second instance of the Viewer, and loads all the studies/series in the same Viewer Window. Otherwise every study/series is loaded in a separate Viewer window.

Attach a PDF report file to local study

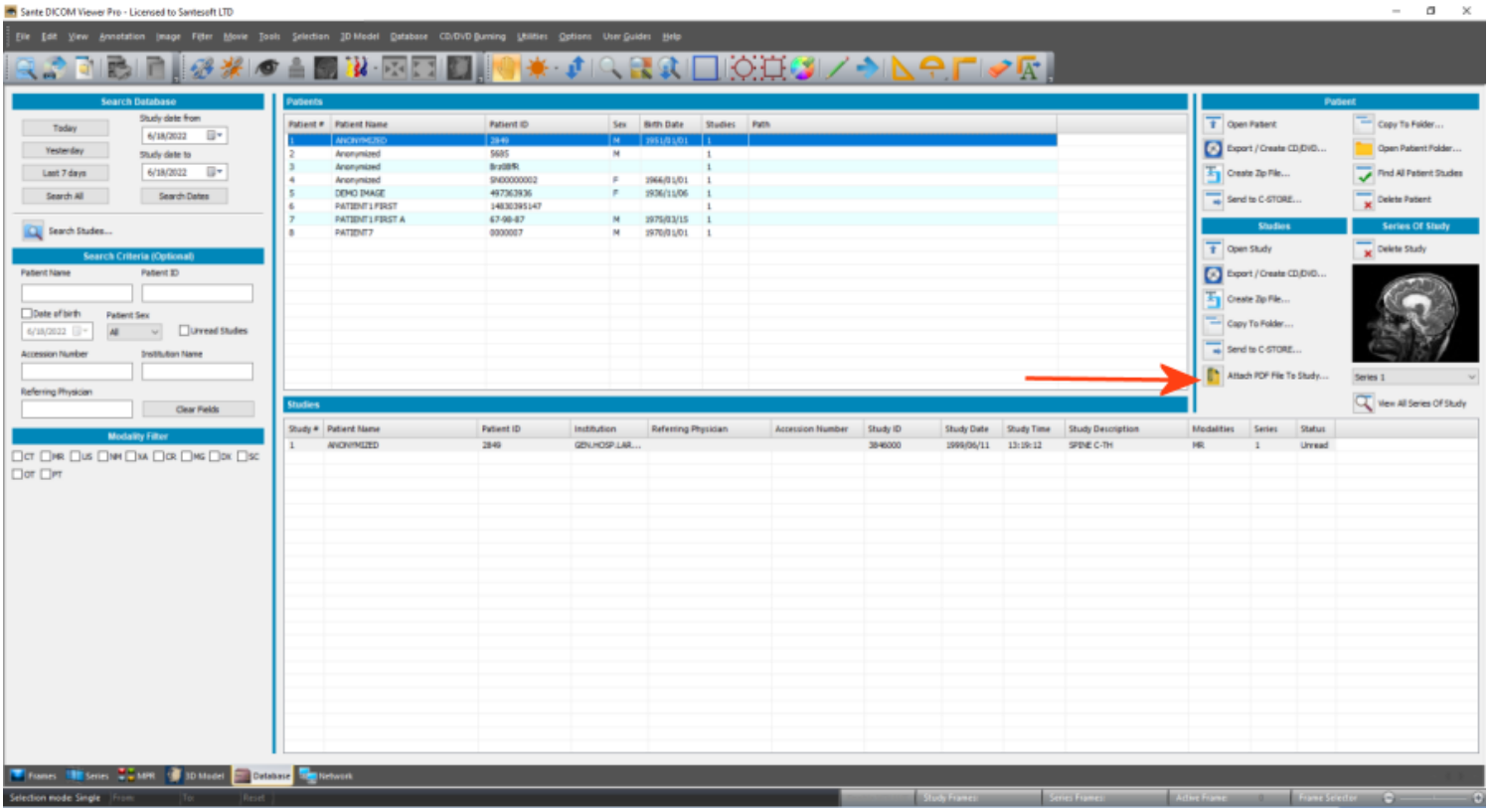
The program has the ability to attach PDF report files to local and remote studies. It creates a DICOM file that encapsuletes the PDF report file, it creates a new series with description "PDF Report" that contains this new file and it attaches the series to the desired study.

Attach a PDF report file to local study

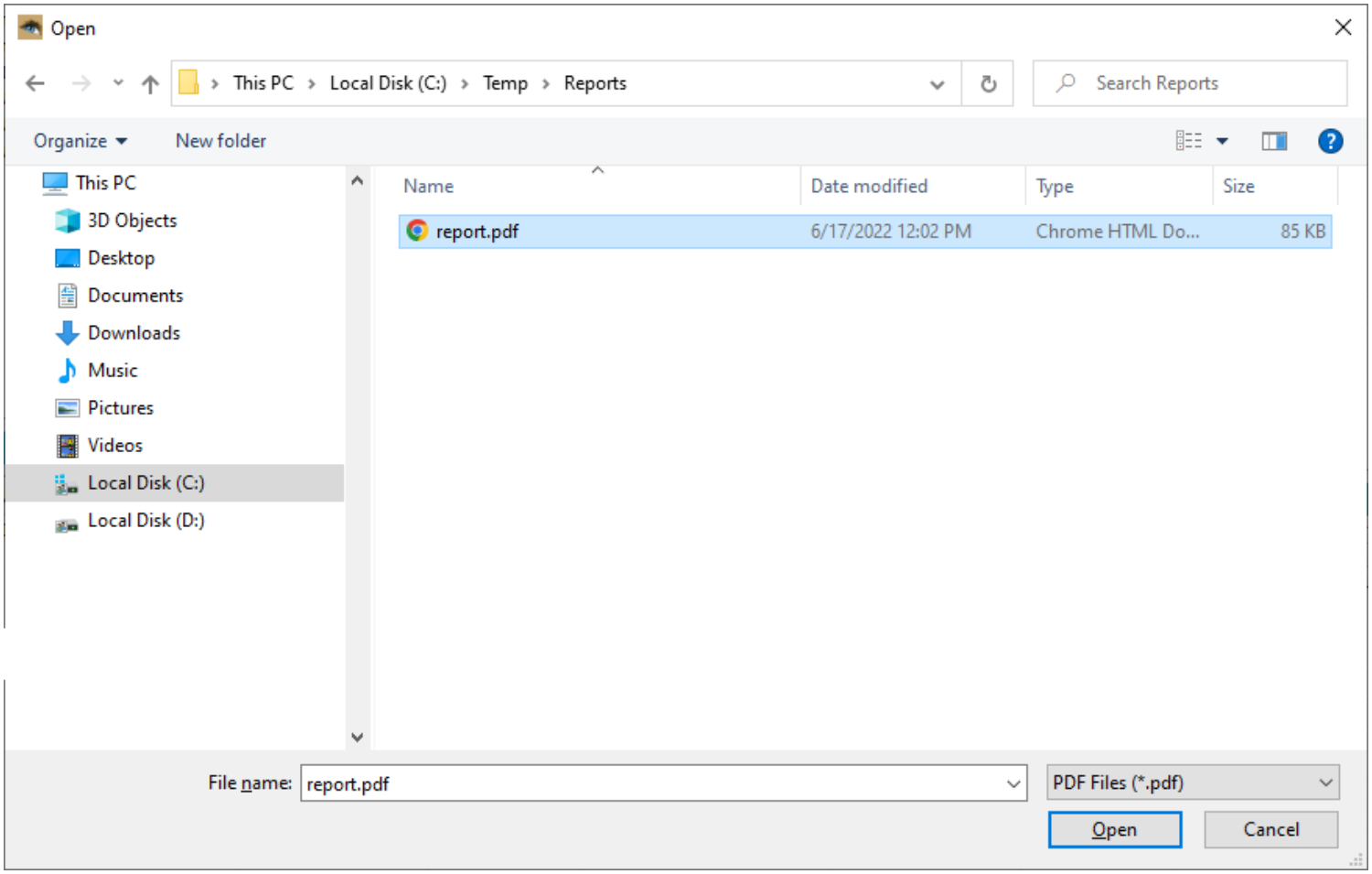
Select the **"Database"** tab from the mode selection control, in the lower left corner of the main window.



Query the database to find the study in witch you wish to attach the pdf file. Then, select the desired study and press the **"Attach PDF File To Study"** button.



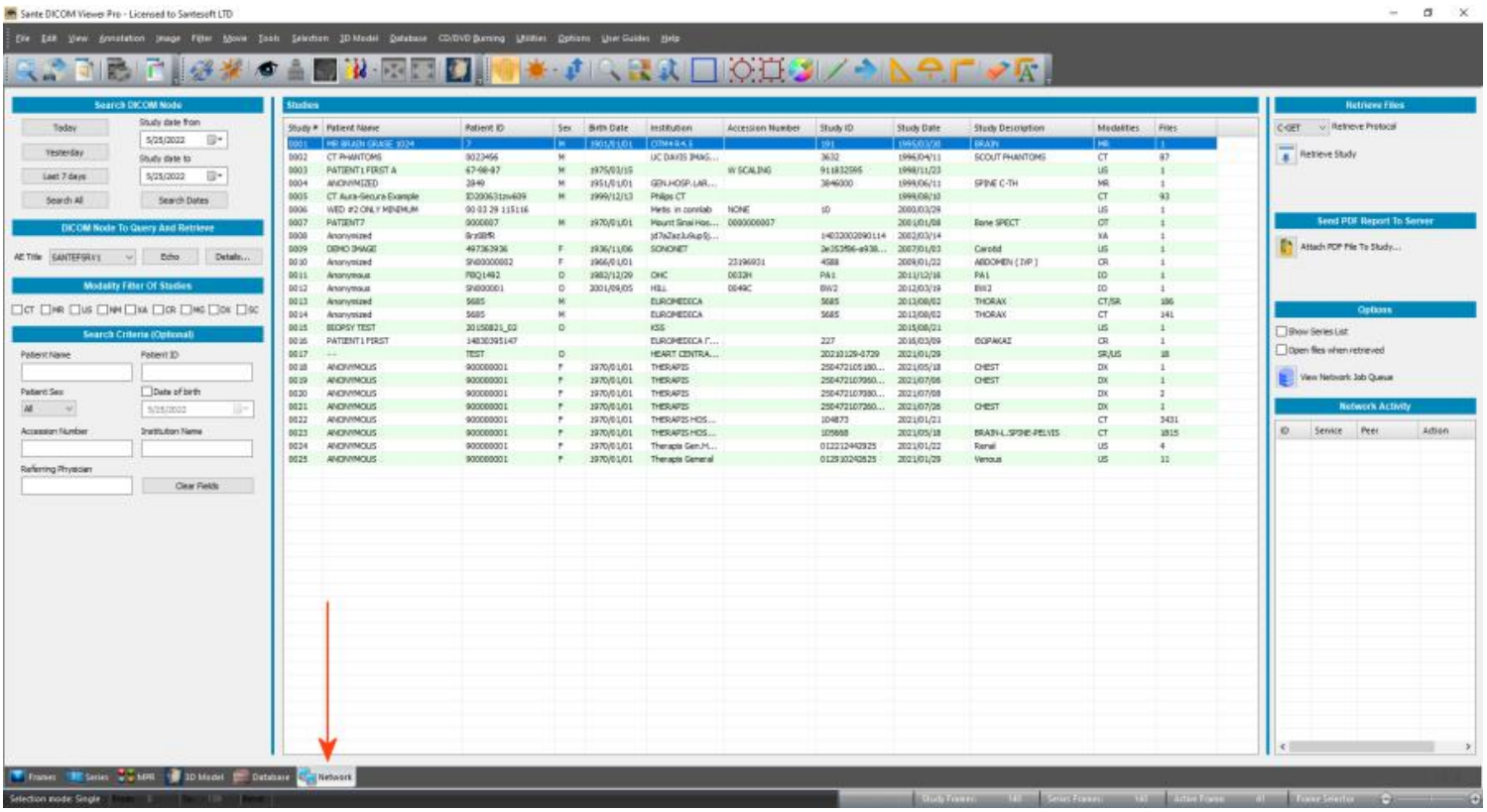
Select the PDF report file and press the **"Open"** button.



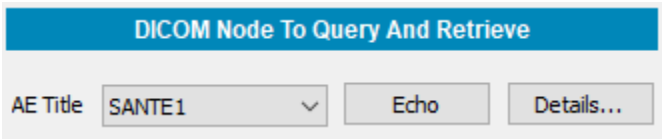
After that, the program attaches the selected PDF report file to the study.

The Network Window

Select the **"Network"** tab from the mode selection control, in the lower left corner of the main window.

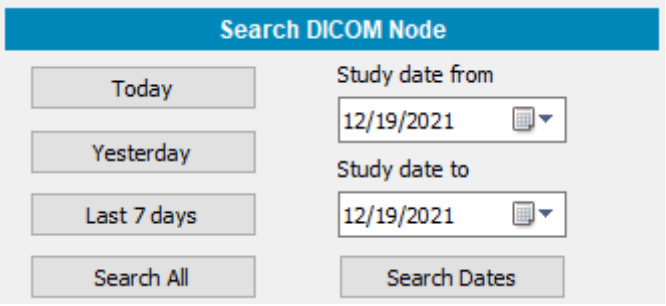


The **"C-STORE SCP"** tools in the upper left corner of the Network panel allows the user to select the server from which the series/studies will be retrieved. The user must have already configured the known DICOM servers as described in the user guide Network Configuration Guide.pdf.



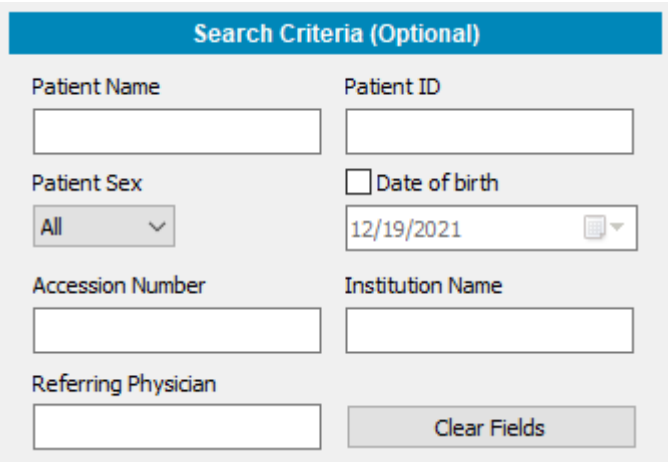
The combo box **"AE Title"** contains all the known DICOM servers, and the user can select from this combo box the desired source of files.
The button **"Echo"** allows the user to determine if a server is alive add it can answer to find/retrieve queries.
The button **"Details"** allows the user to view and configure the DICOM network nodes.

The program has five buttons that allows the user to query the selected server.

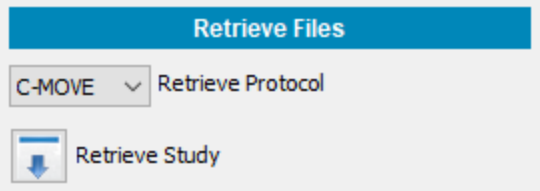


The **"Today"** button asks the server for the series/studies of the current date.
The **"Yesterday"** button asks the server for the series/studies of the previous of the current date.
The **"Last 7 Days"** button asks the server for the series/studies of the last seven days.
The **"Search All"** button asks the server for all the series/studies.
The **"Search Dates"** button asks the server for all the series/studies of a specific range of date.

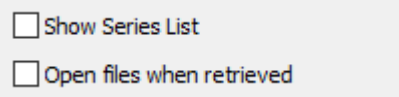
The user can fine tune the query by adding more information about the desired results, like the patient name, the patient ID etc.



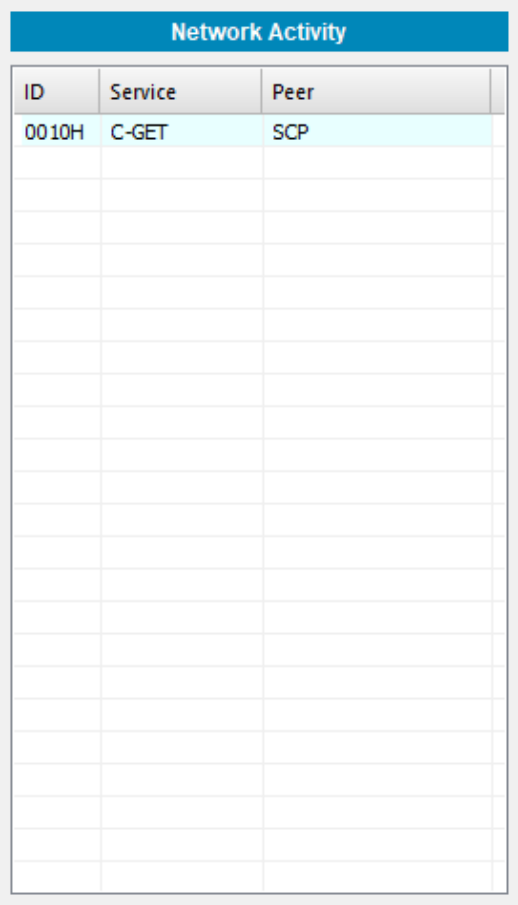
The results of the queries are displayed in the Study and Series lists.
The user can retrieve the desired series/studies by selecting them in the list and pressing the corresponding **"Retrieve"** button.



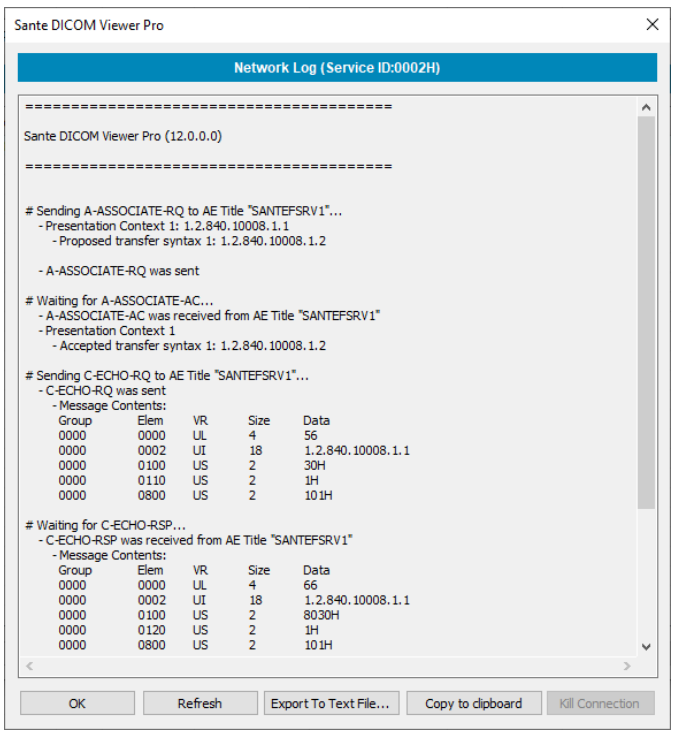
If the user wish the program to load automatically the just arrived series/studies in the window of the Viewer, he must have the option **"Open study/series when retrieved"** enabled.



The "Network Activity" list contains the log details of the active network services.



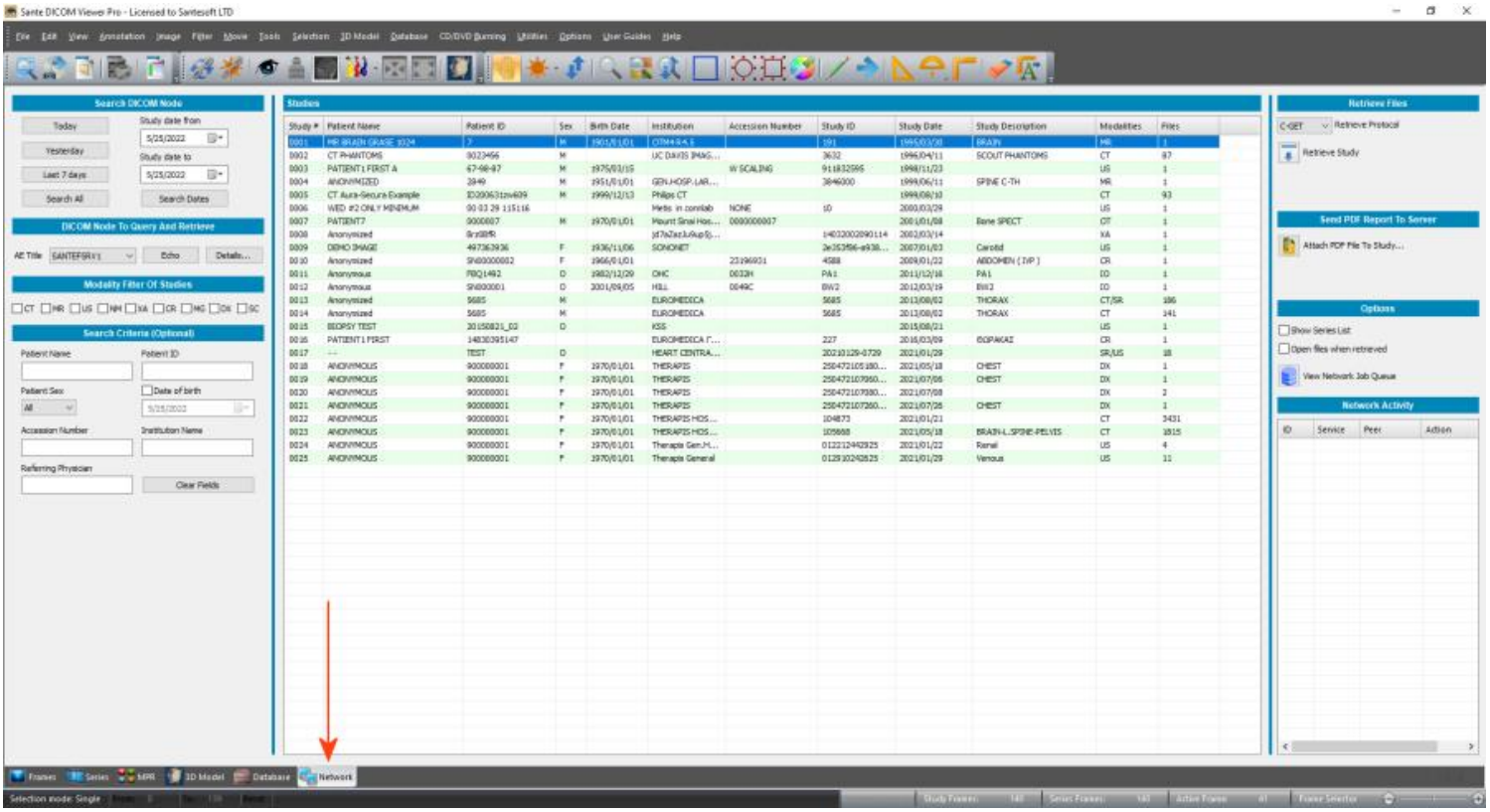
The user can review all the details of an activity by selecting its row in this list.
A dialog box appears and displays the details of the activity.



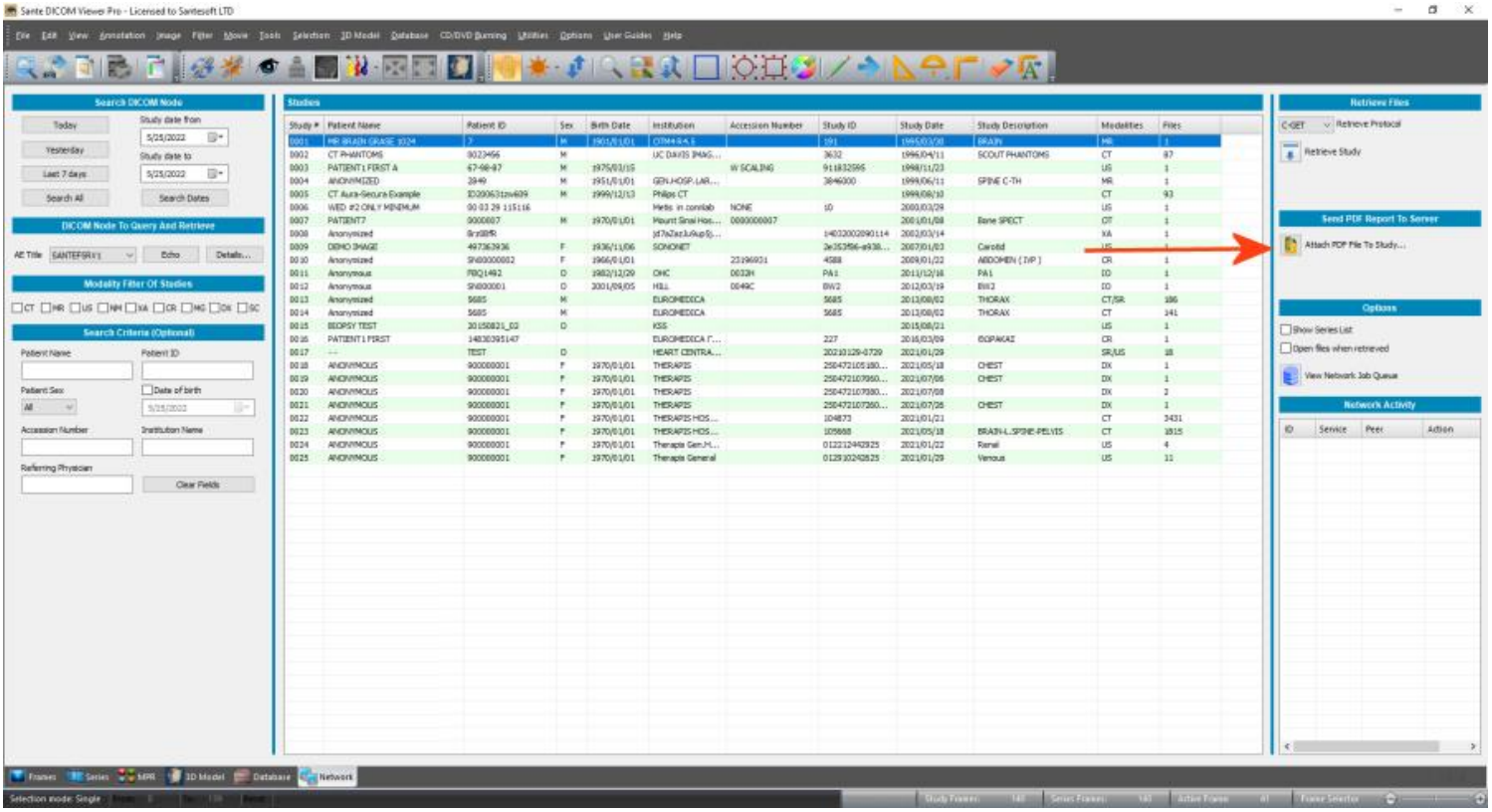
When a service has been finished it is removed from this list.
Use the commands **“View Network (SCP) Report”** and Select the **"Network"** tab from the mode selection control, in the lower left corner of the main window.

Attach a PDF report file to remote study

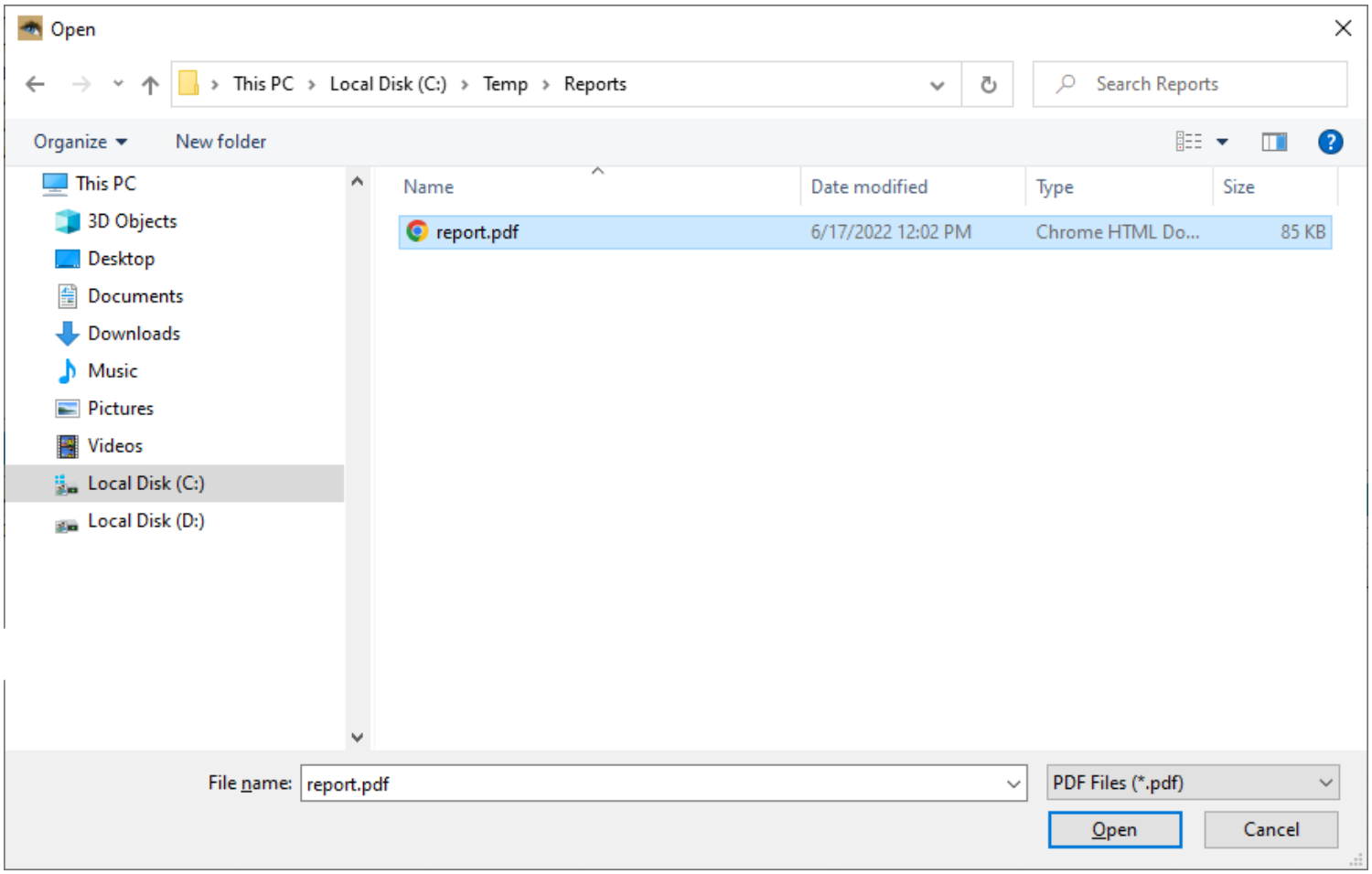
Select the **"Network"** tab from the mode selection control, in the lower left corner of the main window.



Query the database to find the study in witch you wish to attach the pdf file. Then, select the desired study and press **the "Attach PDF File To Study"** button. There is no need to download localy the study.



Select the PDF report file and press the **"Open"** button.



After that, the program attaches the selected PDF report file to the study.