

DICOMBurner, version 3

User Manual

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1 Abbreviations

Abbreviation	Description
AE	Application Entity
BMP	Bitmap
DICOM	Digital Imaging and COmmunications in Medicine
DIMSE	DICOM Message Service Element
DLL	Dynamic Link Library
DPI	Dots Per Inch
GUI	Graphical User Interface
ICM	Integrated Color Management
ID	Identifier
JPEG	Joint Picture Experts Group
LAN	Local Area Network
PC	Personal Computer
PDU	Protocol Data Unit
PNG	Portable Network Graphics
RAM	Random Access Memory
SCP	Service Class Provider
SCU	Service Class User
SOP	Service-Object Pair
TCP	Transfer Control Protocol
TIFF	Tagged Image File Format
UID	Unique Identifier
USB	Universal Serial Bus
VR	Value Representation

2 Indications for use

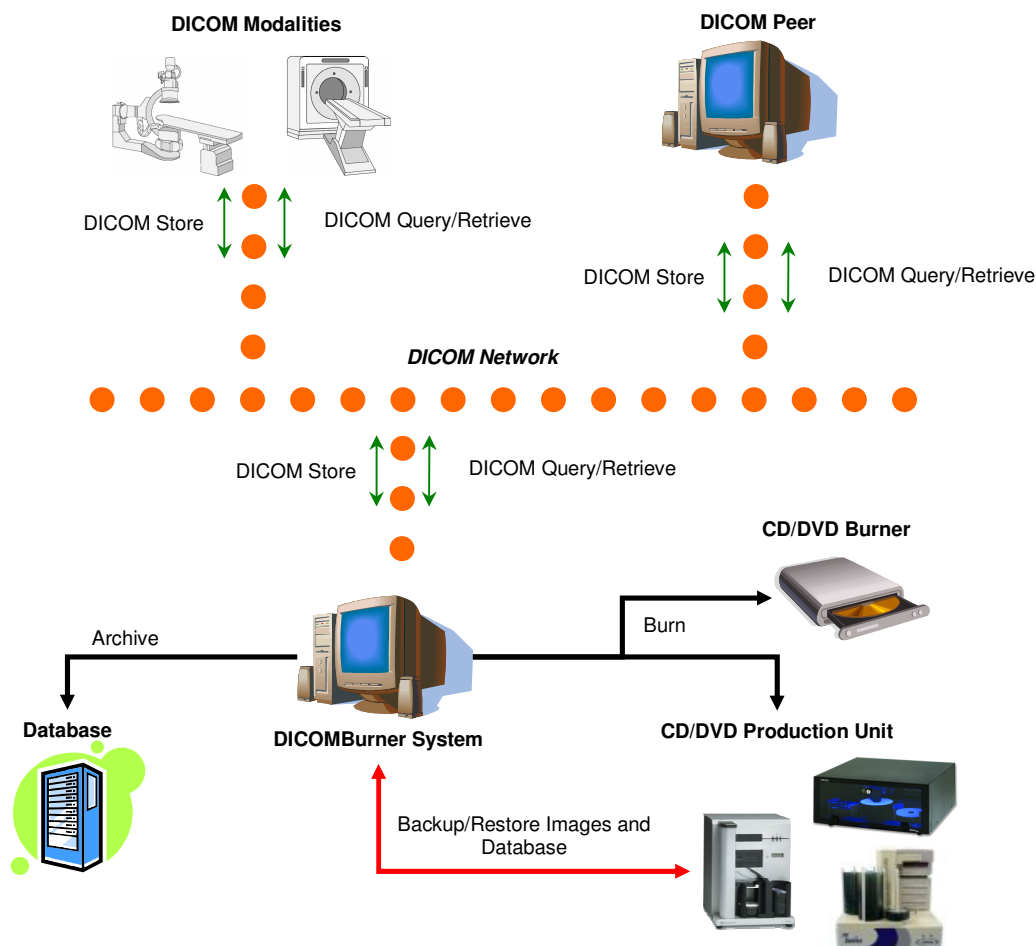
The DICOMBurner software allows receiving and storing DICOM files on a database residing on a networked PC. In addition DICOMBurner allows burning DICOM files on one or more CDs or DVDs, with an embedded autorunning viewer. It is intended as a mean to produce digital media containing medical images, to be provided to patients in substitution of the traditional film hard copies of the exams. Also the produced media can be used to exchange DICOM files between non-connected PACS or DICOM workstations. The images stored on the CDs/DVDs can be directly viewed on a normal PC through the embedded autorunning DICOM Viewer; this software is meant for review of the medical images, and not for diagnosis. Nevertheless, the DICOM images stored by DICOMBurner provide no quality loss with respect to the original images (no lossy compression is used by DICOMBurner), hence they can be used as an element for diagnosis once they are transferred or imported on a PACS diagnostic workstation.

3 Introduction

NeoLogica DICOMBurner is a mini-PACS system that allows a complete interaction with a DICOM Network. It's able to import/export DICOM files coming from digital modalities or local disks. It has advanced CD/DVD production capabilities.

DICOMBurner is an interface between the DICOM world of the digital modalities and a PC local database to store them. DICOMBurner software runs on a PC based hardware platform equipped with a CD or DVD burner. In addition it can be equipped with a CD/DVD Production Unit (such as Rimage, MFDigital or Primera) to automate the CD/DVD burning and to print the CD/DVD surface in order to label it.

DICOMBurner is a Windows-based server application running in background: no user interaction is necessary to have it working as a DICOM SCP for storage or query/retrieve. Nevertheless, a GUI is provided in order to adjust configuration parameters and to burn the received DICOM files.



This document will explain the meaning of the available configuration parameters and all the functionalities available from the DICOMBurner GUI.

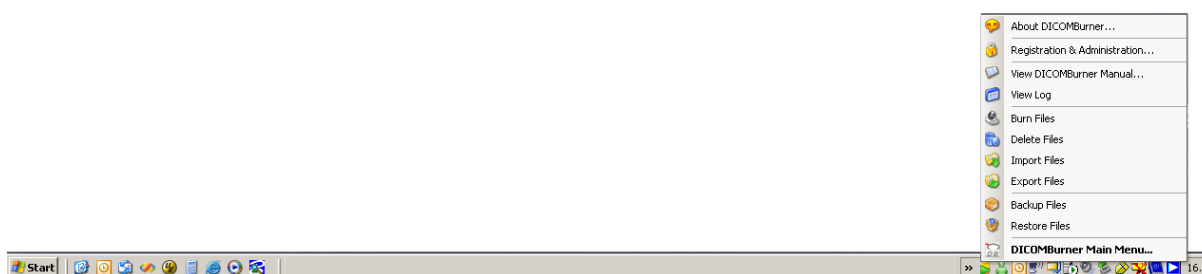
4 Interface architecture and main dialog

The DICOMBurner application runs in background, with an icon in the system tray area of Windows. When you start the application, a balloon tooltip for the system tray icon is displayed for some seconds.



DICOMBurner's icon in the system tray of Windows

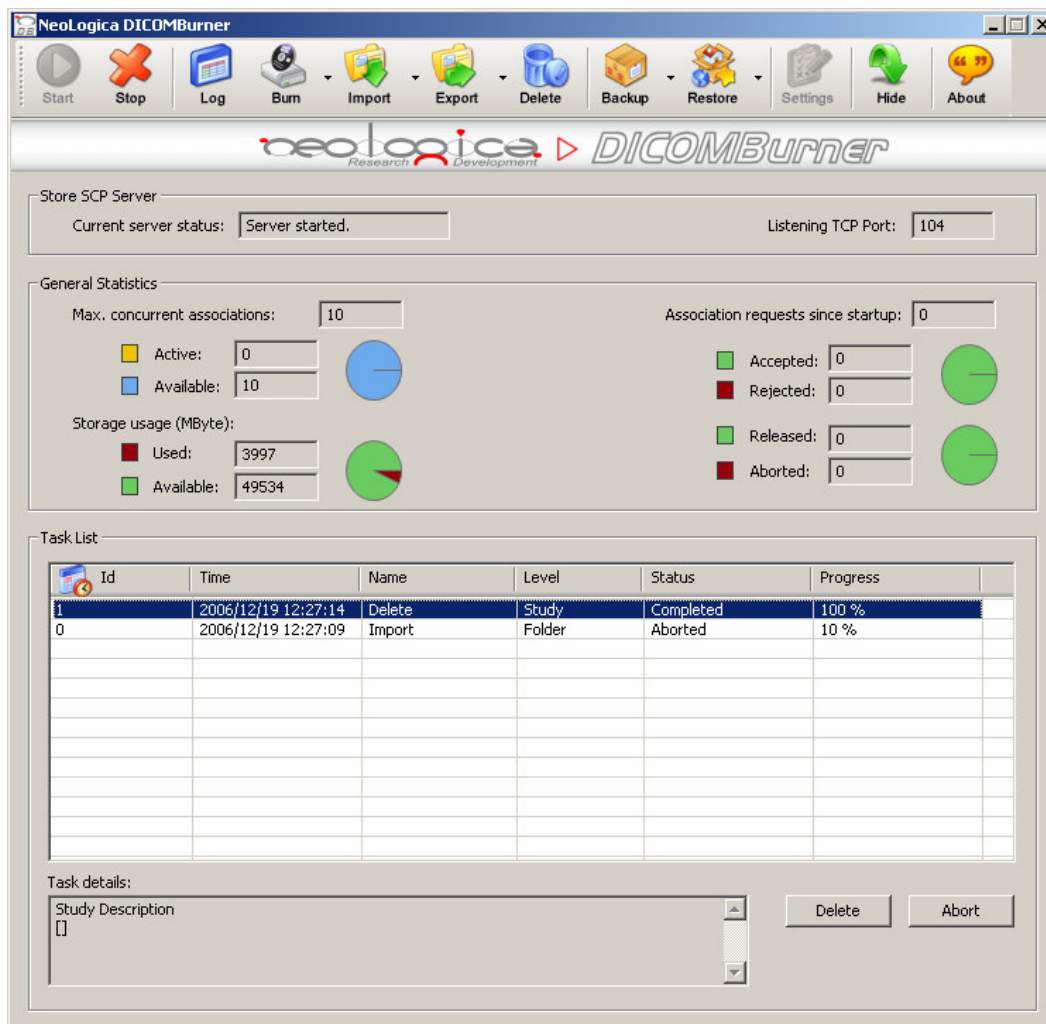
By right-clicking on the icon, the DICOMBurner tray menu appears:



DICOMBurner's main tray menu

By double-clicking on the DICOMBurner tray icon, the main DICOMBurner dialog appears. This dialog box provides some status information and global statistics about the DICOM associations.

The following picture shows a snapshot of DICOMBurner's main dialog box.



DICOMBurner's main dialog box

In DICOMBurner's main dialog box, the following information is provided:

- **Store SCP Server:**
 - **Current server status:** tells if the connection server is started or stopped. The connection server must be started if client connections and associations from Storage SCU have to be accepted. When the connection server is started, it is impossible to modify the DICOMBurner configuration parameters. In order to access to the configuration features, the server must be stopped first.
 - **Listening TCP Port:** the TCP Port where DICOMBurner is listening to for incoming connections.

- **General Statistics:**

- **Max concurrent associations:** the maximum number of concurrent DICOM associations accepted by DICOMBurner. This value may be changed in the “Settings... → DICOM Configuration” section.
 - **Active:** the number of DICOM associations currently active. This value gives an indication of the current workload.
 - **Available:** the number of concurrent DICOM associations that are still available.
- **Association requests since startup:** the number of DICOM association requests received since the application startup.
 - **Accepted:** the number of accepted DICOM association requests since the application startup.
 - **Rejected:** the number of rejected DICOM association requests since the application startup. An association request may be rejected, for instance, because the maximum number of concurrent associations has been reached.
 - **Released:** the number of DICOM associations that have been regularly released by DICOMBurner.
 - **Aborted:** the number of aborted DICOM associations since the application startup. An association may be aborted by both the SCP and the SCU when an abnormal condition occurs (unexpected PDU, DICOM Upper Layer protocol error, etc.).
- **Storage usage:** represents the usage of the DICOM files archive.
 - **Used:** the size of the used storage expressed in MByte.
 - **Available:** the size of the available space for the storage expressed in MByte.

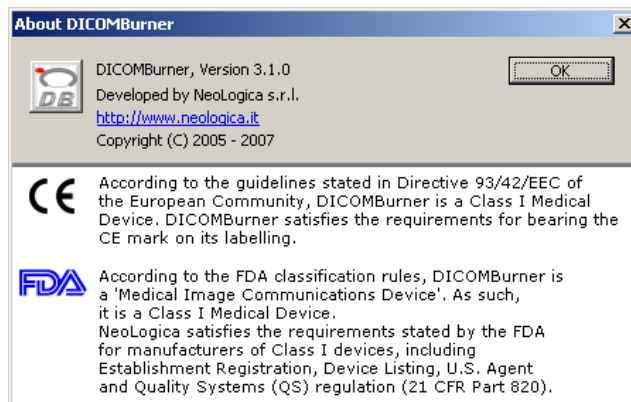
- **Task List:**

- **List:** all the tasks that user launched during the server running. It shows the task ID, its starting time, its name, origination level, status and its progress percentage.
- **Task details:** the details related to the selected task. Depending on the selected task you can see some useful information to understand what the task done.
- **Delete/Abort buttons:** respectively to Delete a completed task and to Abort a running one.

DICOMBurner’s main dialog also provides a toolbar positioned on the top of the client area, which allows performing all main operations with the program. An overview of each toolbar button is now provided. Each individual feature will be described in detail in the following sections.

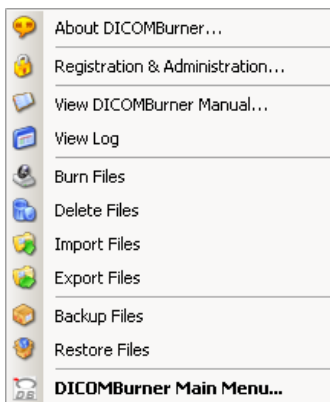


- **Start:** starts DICOMBurner's connection server. This allows accepting connections and DICOM association requests from DICOM Storage SCU's. Once the server is started, the "Settings" button is disabled.
- **Stop:** stops DICOMBurner's connection server. Once the server is stopped, it is no longer possible to accept connections and association requests from DICOM Storage SCUs. On the other side, the "Settings" button is re-enabled.
- **Log:** opens the "View Log" dialog (described later in this document).
- **Burn:** allows burning received DICOM files onto CDs or DVDs.
- **Import:** allows importing DICOM files from a local folder or from a DICOM device (DICOM query/retrieve SCU) to the local database of the DICOMBurner.
- **Export:** allows exporting DICOM images into a local folder choosing a format among DICOM, BMP, TIFF, PNG and JPEG. In addition it's possible to export to a DICOM device (DICOM Store SCU).
- **Delete:** opens a GUI wizard allowing the selection of files to be deleted from the database.
- **Backup:** allows the backup of DICOM files or database content.
- **Restore:** allows the restore of DICOM files or database content (Disaster Recovery).
- **Settings:** allows entering the DICOMBurner configuration section. This functionality is only enabled when the connection server is stopped.
- **Hide:** causes DICOMBurner to be minimized as a system tray icon.
- **About:** displays information about the current DICOMBurner version. The following picture shows the "About DICOMBurner" dialog box for version 3.1 of DICOMBurner.



The About DICOMBurner dialog box

Some of the functionalities available through the buttons located on DICOMBurner's main toolbar are also available through the tray menu, by right-clicking on the DICOMBurner tray icon.



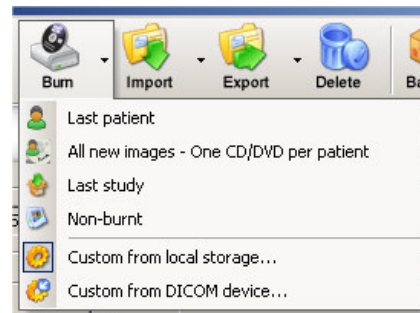
The DICOMBurner tray menu

5 Creating a CD/DVD of DICOM files

DICOMBurner allows creating DICOM-compliant CDs or DVDs containing DICOM files. The DICOM files to be stored on CD or DVD can be selected by the user through intuitive wizard-based procedures. The produced media also contains an autorunning DICOM Viewer which allows viewing the medical images on a PC. A viewer named LocalEye and developed by NeoLogica is bundled with DICOMBurner, but the user can select any other he likes.

DICOMBurner provides a quick and easy process to burn the received DICOM files. If you want you can burn them by just one mouse click. The **“Burning”** dialog box appears when you press the **“Burn”** button on the main toolbar or on the correspondent menu item from the DICOMBurner tray pop-up menu. There exist six kinds of burning procedures:

1. Burn last patient
2. Burn all new images – One CD/DVD per patient
3. Burn last study
4. Burn non-burnt
5. Burn custom from local storage
6. Burn custom from DICOM device



These six options are accessible by clicking the small down arrow located next to the **“Burn”** button on the main toolbar. Once you select one of the available burning options from the pop-up menu, it will become the default option associated with the **“Burn”** toolbar button.

Note: if the set of DICOM files to burn exceeds the free size of the media you’ve loaded, then DICOMBurner spans the DICOM files over two or more CDs/DVDs.

5.1 Burn last patient

By selecting the “*Burn last patient*” option, you are able to burn all the DICOM files related to the patient the last received and stored image belongs to (i.e. the “last patient”). DICOMBurner displays a dialog showing the data related to the last patient. Then you have to select the patient you want to burn and in addition you can change the CD/DVD options with respect to the default one set by the “*CD/DVD Burner Configuration*” tab. Pressing the “**Burn Patients**” button will start the actual CD or DVD writing procedure. Otherwise by pressing the “**Delete Patients**” button you can delete the selected patient and its instances from the storage and database.

[illegible]

5.2 Burn all new images – One CD/DVD per patient

By selecting the “*Burn all new images – One CD/DVD per patient*” option, you are able to burn all the new DICOM files received by DICOMBurner (since last burn), creating one CD/DVD per patient. DICOMBurner displays a dialog showing the data related to the patients. This dialog may eventually list more than one patient when several DICOM files belonging to different patients have been received and stored by

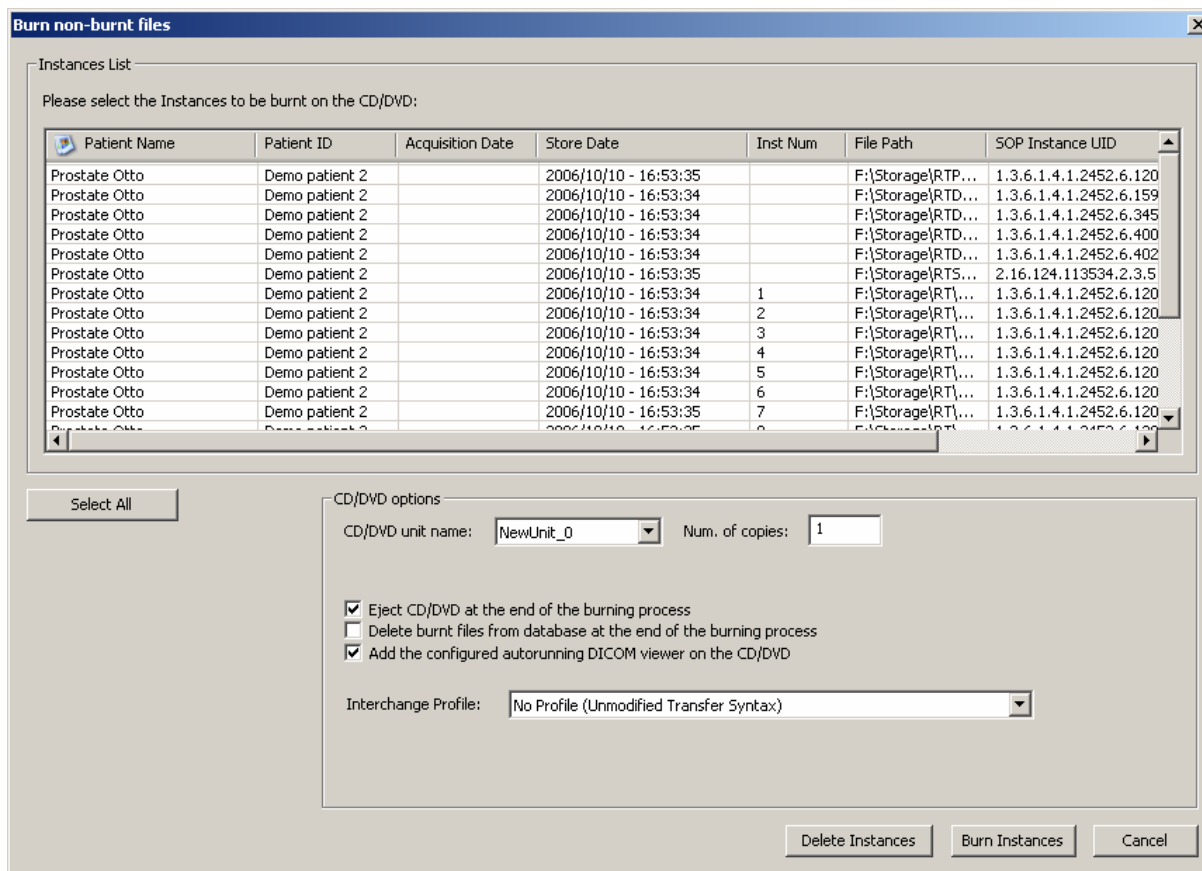
DICOMBurner since last burn operation. Then you can choose the patients you want to burn and in addition you can change the CD/DVD options with respect to the default one set by the “*CD/DVD Burner Configuration*” tab. Pressing the “**Burn Patients**” button will start the actual CD or DVD writing procedure. Otherwise by pressing the “**Delete Patients**” button you can delete the selected patient and its instances from the storage and database.

If you select a CD/DVD Production Robot by the “CD/DVD unit name” list, you can automatically produce a CD or DVD per patient by selecting all the listed patients. Otherwise by a local burner, only one single patient can be burnt.

[illegible]

5.3 Burn last study

By selecting the “*Burn last study*” option, you are able to burn all the DICOM files related to the study the last received and stored image belongs to (i.e. the “last study”). DICOMBurner displays a dialog showing the data related to the last study. Then you have to select the study you want to burn and in addition you can change the CD/DVD options with respect to the default one set by the “*CD/DVD Burner Configuration*” tab. Pressing the “**Burn Studies**” button will start the actual CD or DVD writing procedure. Otherwise by pressing the “**Delete Studies**” button you can delete the selected study and its instances from the storage and database.



5.5 Burn custom from local storage

If you select the “Burn custom from local storage” option, DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to burn onto CD or DVD. The DICOM files will be selected by query the local storage.

5.5.1 Study-level search

The study-level step of the wizard procedure allows you to select the studies containing the DICOM files you want to burn onto CD or DVD. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the acceptable range of study dates. By pressing the “Filter” button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The “Deselect All/Select All” button can simplify this task. The number of studies, studies size, number of series and number of instances are provided for the selected studies. Finally, you can proceed to the next step by pressing the “Next>” button. As a shortcut you can start the burning or

deleting procedure of the selected studies without reaching the last wizard step by pressing the **“Burn Studies”** button or **“Delete Studies”** button respectively. DICOMBurner will execute the burning operation using the default burning options.

Study-level Search

Studies List
Please select the Studies to be burnt on the CD/DVD:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Abdomen FatSatDyn	MF-0000012	M	1950/07/04	2005/06/10	Abdomen with contrast
Brain Simulated	MF-0000021	M	1950/07/04	2005/06/10	Brain
Prostate Otto	Demo patient 2	M		1999/07/15	
Registration CT-PET	Demo patient 3	M		2004/06/17	
Test Patient	ANON-2005100...	M		2005/10/06	Test Study for Borderless

Selected Studies Information

Number of Studies: 3 Number of Series: 7
Studies Size: 12.40 MB Number of Instances: 21

Select All Delete Studies Burn Studies

Filtering Options
Please select the parameters used to filter the above Studies List:

Patient Identification

☒ Show only patients whose Patient Name: contains at
☐ Show only patients whose Patient ID: starts with

Sex
Show only patients with sex equal to:
☐ Male ☐ Female ☐ Other

Birth Date
☐ Show patients born after: 2006/12/19
☐ Show patients born before: 2006/12/19

Study Date
☐ Show studies started after: 2006/12/19
☐ Show studies started before: 2006/12/19

Filter

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5.5.2 Series-level search

The series-level step of the wizard procedure allows you to select the series containing the DICOM files you want to burn onto CD or DVD. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **“Filter”** button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of series, series size and number of instances are provided for the selected series. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the burning or deleting procedure of the selected series without

reaching the last wizard step by pressing the “**Burn Series**” button or “**Delete Series**” button respectively. DICOMBurner will execute the burning operation using the default burning options.

Series-level Search

Series List

Please select the Series to be burnt on the CD/DVD:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description	Series Size
Abdomen FatSatDyn	MF-0000012	MR	2005/06/10	1	Coronal two-phase IV contrast fat suppressed; temp pos...	1.1 MB
Abdomen FatSatDyn	MF-0000012	MR	2005/06/10	2	Coronal fat suppressed; no contrast module; temp posn, ...	1.1 MB
Brain Simulated	MF-0000021	MR	2005/06/10	1	Axial T2W real and imaginary components	1.1 MB
Prostate Otto	Demo patient 2	RTIMAGE		1		1.1 MB
Prostate Otto	Demo patient 2	RTDOSE		1		1.1 MB
Prostate Otto	Demo patient 2	RTPLAN		1		1.1 MB
Prostate Otto	Demo patient 2	RTSTRUCT		1		2.1 MB
Prostate Otto	Demo patient 2	CT		1		2.1 MB
Registration CT-PET	Demo patient 3	PT		1		1.1 MB
Test Patient	ANON-2005100...	SC	2005/10/06	1	Test Series for Borderless	1.1 MB

Selected Series Information

Number of Series: 7 Number of Instances: 21

Series Size: 12.40 MB

Select All Delete Series Burn Series

Filtering Options

Please select the parameters used to filter the above Series List:

Series Date

☐ Show series started after: 2006/12/19 ☐ Show series started before: 2006/12/19

Filter

Series Modality

Show series produced by Modality:

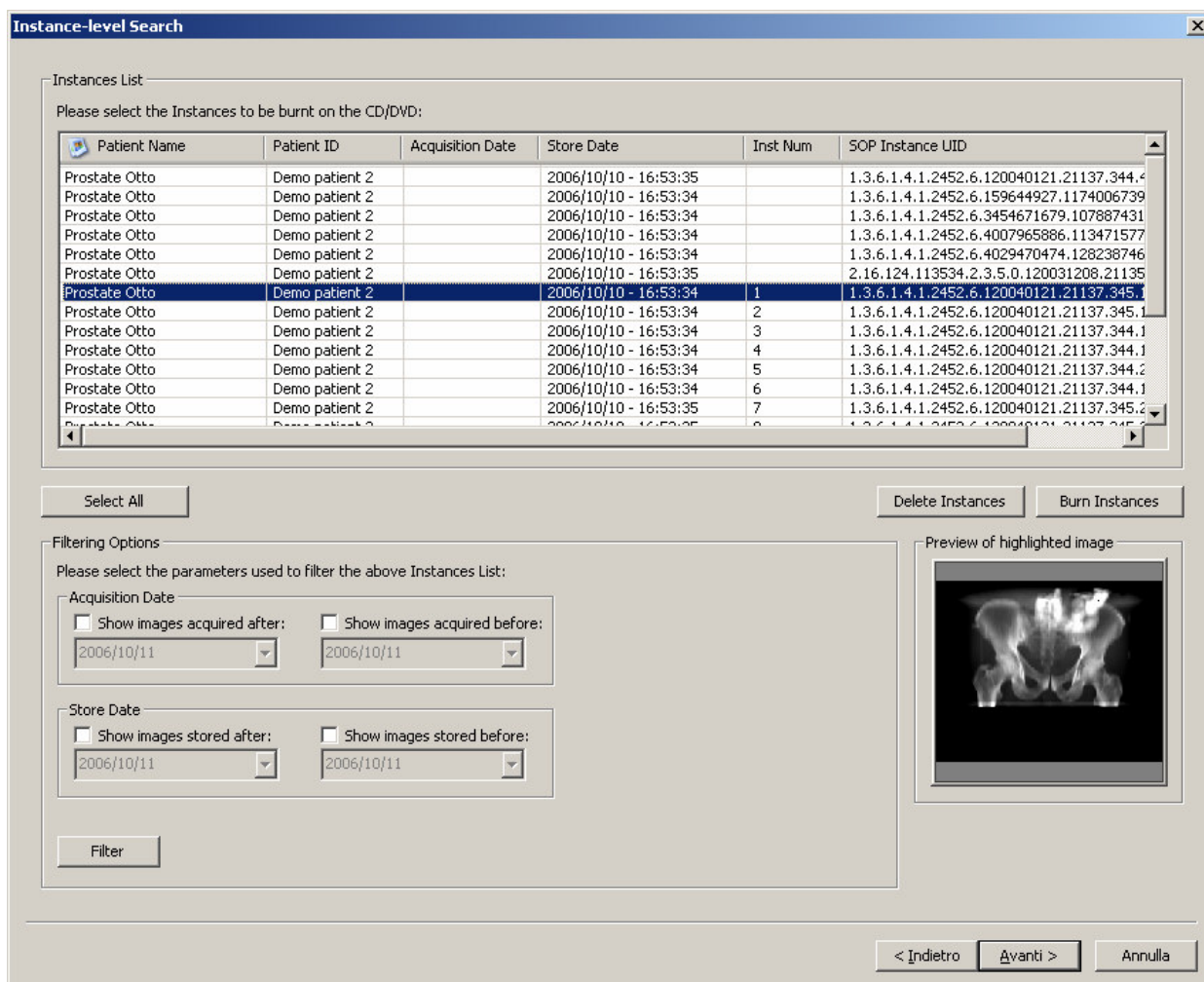
- ☐ AU Audio
- ☐ BI Biomagnetic imaging
- ☐ CD Color flow Doppler
- ☐ CR Computed Radiography
- ☐ CT Computed Tomography

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5.5.3 Instance-level search

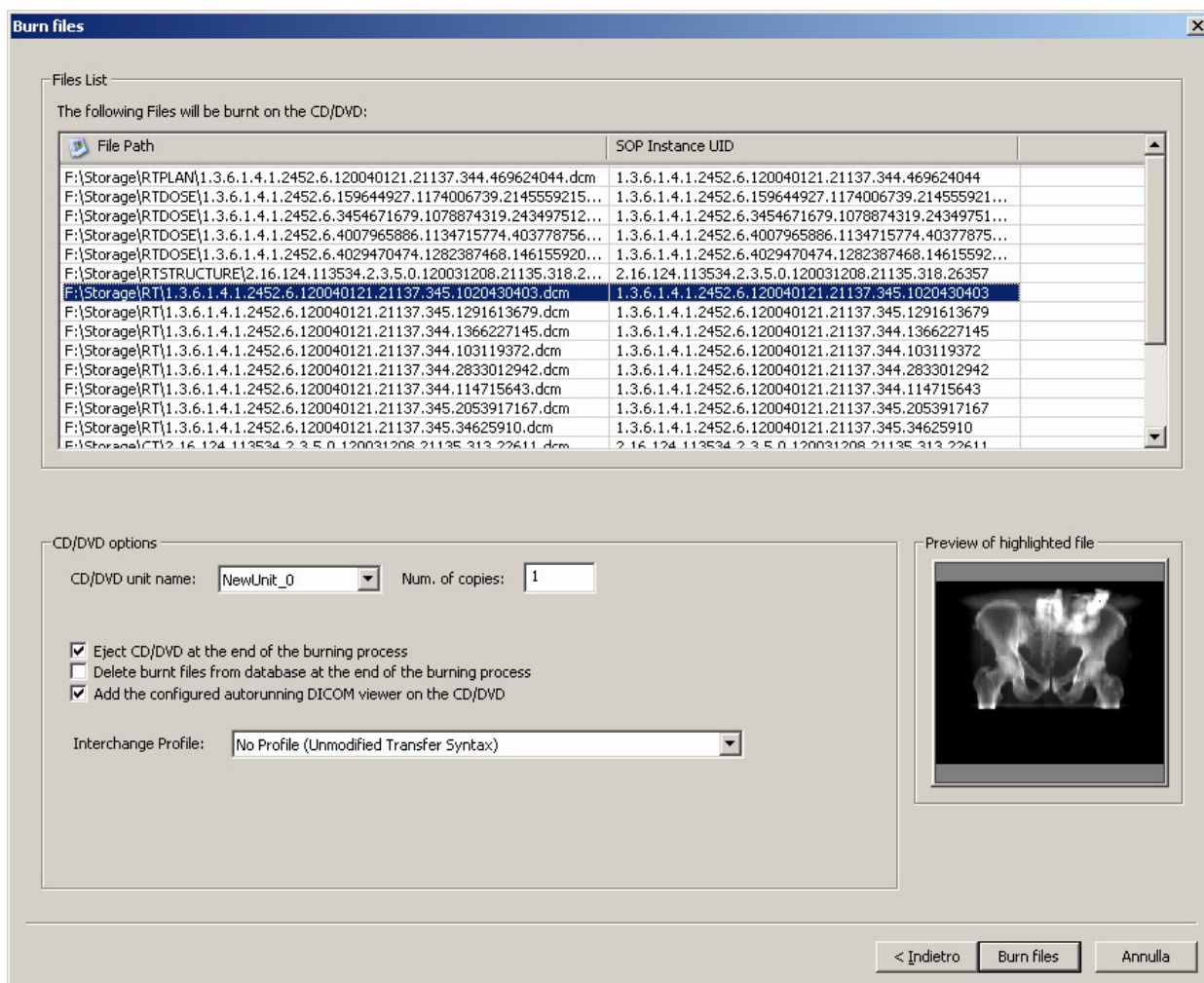
The instance-level step of the wizard procedure allows you to select the DICOM files/instances you want to burn onto CD or DVD. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates and the acceptable range of store dates. By pressing the “**Filter**” button you obtain the list of instances satisfying the set conditions. At this level if you select an instance by clicking with the mouse over the corresponding row of the *Instance List*, you obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. Finally, you can proceed to the next step by pressing the “**Next>**” button. As a shortcut you can start the burning or deleting procedure of the selected instances without reaching the last wizard step by pressing

the **“Burn Instances”** button or **“Delete Instances”** button respectively. DICOMBurner will execute the burning operation using the default burning options.



5.5.4 Burn files step

The burn file step is the last one in the wizard procedure: a list of the files that will be burnt on the CD/DVD is displayed. If you select a file by clicking with the mouse over the corresponding row of the *Files List*, you obtain a preview image of the DICOM file. Finally, you can start the burning process by pressing the **“Burn files”** button. Also in this case in you can change the CD/DVD options with respect to the default one set by the *“CD/DVD Burner Configuration”* tab.

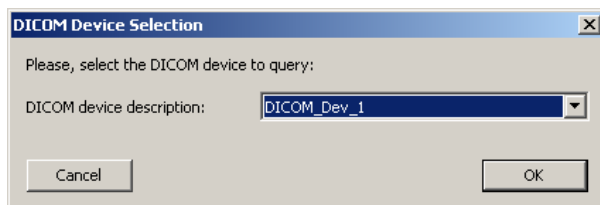


5.6 Burn custom from DICOM device

If you select the “Burn custom from DICOM device” option, DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to burn onto CD or DVD. The DICOM files will be selected by sending DICOM query commands to a pre-selected DICOM device.

5.6.1 DICOM Device Selection

The following dialog allows you to select the DICOM device to be queried. The DICOM devices have to be configured by entering the “DICOM Devices Configuration” tab.



5.6.2 Study-level search

The study-level step of the wizard procedure allows you to query, select and retrieve the studies containing the DICOM files you want to burn onto CD or DVD. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the acceptable range of study dates. By pressing the **"Filter"** button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The **"Deselect All/Select All"** button can simplify this task. The number of selected studies is provided. Finally, you can proceed to the next step by pressing the **"Next>"** button. As a shortcut you can start the retrieving and burning procedure of the selected studies without reaching the last wizard step by pressing the **"Burn Studies"** button. DICOMBurner will execute the burning operation using the default burning options.

Study-level Search

Studies List

Please select the Studies to be retrieved and burnt from the remote host:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Brain^Vol	MF-0000003	M	19500704	20050610	Brain volume
Brain^Flair MS	MF-0000007	M	19500704	20050610	Axial MS brain with flair,t2 and pre/post co
Brain^3DFSE	MF-0000008	M	19500704	20050610	3D FSE Brain
Brain^Sagittal3D	MF-0000010	M	19500704	20050610	With and without sat slabs
Brain^Stacks	MF-0000013	M	19500704	20050610	Brain tumor
Brain^Functional	MF-0000017	M	19500704	20050610	fMRI
Brain^Simulated	MF-0000021	M	19500704	20050610	Brain
Brain^DWI	MF-0000023	M	19500704	20050610	fMRI
Brain^PWI	MF-0000024	M	19500704	20050610	fMRI
Brain^RFrontalTumorWSpectro	MF-0000020	M	19500704	20050610	Brain
Breast^Dynamic	MF-0000002	F	19500704	20050610	Dynamic breast,1 stack,3 dimensions,temp
Brain^LParietalTumorWSpectro	MF-0000025	M	19500704	20050610	Brain

Selected Studies Information

Number of Studies: 6

Select All

Burn Studies

Filtering Options

Please select the parameters used to filter the above Studies List:

Patient Identification

☒ Show only patients whose Patient Name: starts with b

☐ Show only patients whose Patient ID: starts with

Sex

Show only patients with sex equal to:

☐ Male ☐ Female ☐ Other

Birth Date

☐ Show patients born after: 2006/12/19

☐ Show patients born before: 2006/12/19

Study Date

☐ Show studies started after: 2006/12/19

☐ Show studies started before: 2006/12/19

Filter

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5.6.3 Series-level search

The series-level step of the wizard procedure allows you to query, select and retrieve the series containing the DICOM files you want to burn onto CD or DVD. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **Filter** button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The **Deselect All/Select All** button can simplify this task. The number of selected series is provided. Finally, you can proceed to the next step by pressing the **Next>** button. As a shortcut you can start the retrieving and burning procedure of the selected series without reaching the last wizard step by pressing the **Burn Series** button. DICOMBurner will execute the burning operation using the default burning options.

Series-level Search

Series List

Please select the Series to be retrieved and burnt from the remote host:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description
Brain^3DFSE	MF-0000008	MR	20050610	1	3D FSE
Brain^Sagittal3D	MF-0000010	MR	20050610	1	Sagittal T1 without sat slab
Brain^Sagittal3D	MF-0000010	MR	20050610	2	Sagittal T1 with sat slab
Brain^Stacks	MF-0000013	MR	20050610	1	Various contrasts and projections
Brain^DWI	MF-0000023	MR	20050610	1	Diffusion weighted
Brain^PWI	MF-0000024	MR	20050610	1	Perfusion
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	1	* SAG LOC
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	2	* AXIAL DWI
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	3	* FLAIR AXIAL
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	4	* T2 FSE AXIAL
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	5	* T1 AXIAL PRE GAD
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	8	* T1 AXIAL POST GAD
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	9	* T1 SAG POST GAD
Brain^RFrontalTumorWSpe...	MF-0000020	MR	20050610	10	* T1 SAG POST GAD

Selected Series Information

Number of Series: 5

Select All

Burn Series

Filtering Options

Please select the parameters used to filter the above Series List:

Series Date

☐ Show series started after: 2006/12/19
 ☐ Show series started before: 2006/12/19

Filter

Series Modality

Show series produced by Modality:

☐ AU Audio
 ☐ BI Biomagnetic imaging
 ☐ CD Color flow Doppler
 ☐ CR Computed Radiography
 ☐ CT Computed Tomography

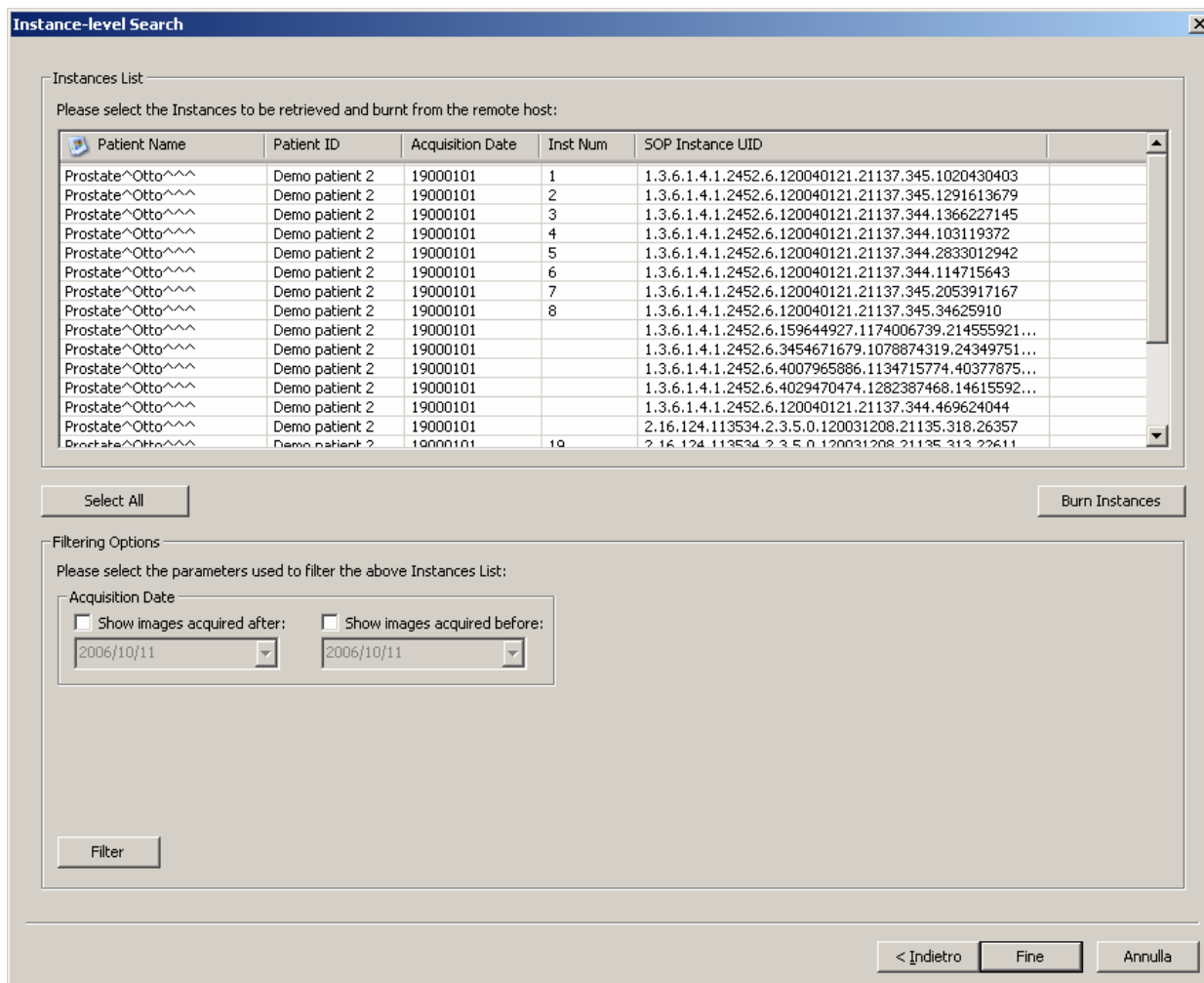
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5.6.4 Instance-level search

The instance-level step of the wizard procedure allows you to query, select and retrieve the DICOM files/instances you want to burn onto CD or DVD. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates and the acceptable range of store dates. By pressing the **“Filter”** button you obtain the list of instances satisfying the set conditions. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. Finally, you can proceed to the next step by pressing the **“Next>”** button. You can start the retrieving and burning procedure of the selected instances by pressing the **“Burn Instances”** button. DICOMBurner will execute the burning operation using the default burning options.



6 Importing DICOM files

By pressing the **“Import”** button on the main toolbar or on the correspondent menu item from the DICOMBurner tray pop-up menu, you can enter the importing feature. There exist two kinds of importing procedures:

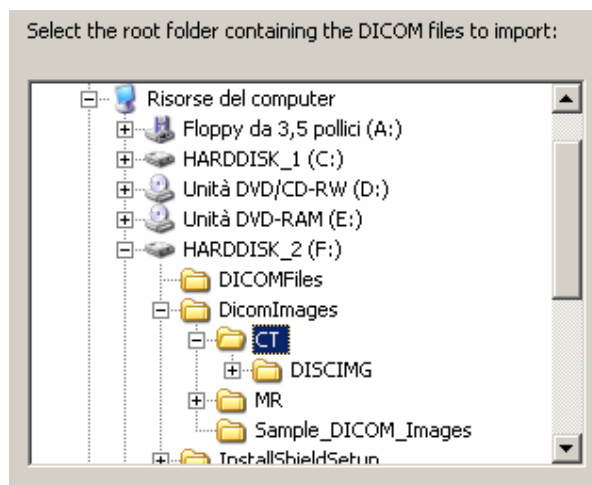
1. Import from disk
2. Import from DICOM device



These two options are accessible by clicking the small down arrow located next to the **“Import”** button on the main toolbar. Once you select one of the available importing options from the pop-up menu, it will become the default option associated with the **“Import”** toolbar button.

6.1 Import from disk

In addition to being able to receive DICOM files from DICOM peers through the DICOM protocol, DICOMBurner allows populating its internal database by importing DICOM files from local folders or disks. The **“Browse for folder”** dialog box appears when you press the **“Import”** button on the main toolbar or on the corresponding menu item from the DICOMBurner tray pop-up menu: through this dialog box, the user may specify a root folder where to search for valid DICOM instances.



The actual import procedure starts when you press the **“OK”** button.

6.2 Import from DICOM device

DICOMBurner acts as a DICOM Query/Retrieve SCU allowing populating its internal database by retrieving DICOM files from a remote DICOM device connected to the DICOM network. When you select the *“Import from DICOM device”* functionality DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to be retrieved.

6.2.1 DICOM Device Selection

The following dialog allows you to select the DICOM device to be queried. The DICOM devices have to be configured by entering the *“DICOM Devices Configuration”* tab.



6.2.2 Study-level search

The study-level step of the wizard procedure allows you to query, select and retrieve the studies containing the DICOM files you want to import. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the acceptable range of study dates. By pressing the **“Filter”** button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of selected studies is provided. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the retrieving procedure of the selected studies without reaching the last wizard step by pressing the **“Retrieve Studies”** button.

Study-level Search

Studies List

Please select the Studies to be retrieved from the remote host:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Brain^Vol	MF-0000003	M	19500704	20050610	Brain volume
Brain^Flair MS	MF-0000007	M	19500704	20050610	Axial MS brain with flair,t2 and pre/post co
Brain^3DFSE	MF-0000008	M	19500704	20050610	3D FSE Brain
Brain^Sagittal3D	MF-0000010	M	19500704	20050610	With and without sat slabs
Brain^Stacks	MF-0000013	M	19500704	20050610	Brain tumor
Brain^Functional	MF-0000017	M	19500704	20050610	fMRI
Brain^Simulated	MF-0000021	M	19500704	20050610	Brain
Brain^DWI	MF-0000023	M	19500704	20050610	fMRI
Brain^PWI	MF-0000024	M	19500704	20050610	fMRI
Brain^RFrontalTumorWSpectro	MF-0000020	M	19500704	20050610	Brain
Breast^Dynamic	MF-0000002	F	19500704	20050610	Dynamic breast,1 stack,3 dimensions,temp
Brain^LParietalTumorWSpectro	MF-0000025	M	19500704	20050610	Brain

Selected Studies Information

Number of Studies: 5

Select All

Retrieve Studies

Filtering Options

Please select the parameters used to filter the above Studies List:

Patient Identification

☒ Show only patients whose Patient Name: starts with b

☐ Show only patients whose Patient ID: starts with

Sex

Show only patients with sex equal to:

☐ Male
 ☐ Female
 ☐ Other

Birth Date

☐ Show patients born after: 2006/12/19
 ☐ Show patients born before: 2006/12/19

Study Date

☐ Show studies started after: 2006/12/19
 ☐ Show studies started before: 2006/12/19

Filter

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6.2.3 Series-level search

The series-level step of the wizard procedure allows you to query, select and retrieve the series containing the DICOM files you want to import. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **“Filter”** button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of selected series is provided. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the retrieving procedure of the selected series without reaching the last wizard step by pressing the **“Retrieve Series”** button.

Series-level Search

Please select the Series to be retrieved from the remote host:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description	Se
Brain^3DFSE	MF-0000008	MR	20050610	1	3D FSE	1.
Brain^Sagittal3D	MF-0000010	MR	20050610	1	Sagittal T1 without sat slab	1.
Brain^Sagittal3D	MF-0000010	MR	20050610	2	Sagittal T1 with sat slab	1.
Brain^Stacks	MF-0000013	MR	20050610	1	Various contrasts and projections	1.
Brain^Functional	MF-0000017	MR	20050610	1	Structural and statistical	1.
Brain^Simulated	MF-0000021	MR	20050610	1	Axial T2W real and imaginary components	1.

Selected Series Information
Number of Series: 2

Select All Retrieve Series

Filtering Options
Please select the parameters used to filter the above Series List:

Series Date
☐ Show series started after: 2006/12/19
☐ Show series started before: 2006/12/19

Series Modality
 Show series produced by Modality:
☐ AU Audio
☐ BI Biomagnetic imaging
☐ CD Color flow Doppler
☐ CR Computed Radiography
☐ CT Computed Tomography

Filter

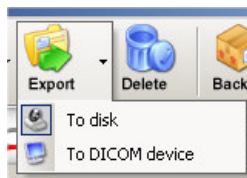
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The instance-level step of the wizard procedure allows you to query, select and retrieve the DICOM files/instances you want to import. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates and the acceptable range of store dates. By pressing the **Filter** button you obtain the list of instances satisfying the set conditions. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **Deselect All/Select All** button can simplify this task. Finally, you can proceed to the next step by pressing the **Next>** button. You can start the retrieving procedure of the selected instances by pressing the **Retrieve Instances** button.

7 Exporting DICOM files

By pressing the “**Export**” button on the main toolbar or on the correspondent menu item from the DICOMBurner tray pop-up menu, you can enter the exporting feature. There exist two kinds of exporting procedures:

1. Export to disk
2. Export to DICOM device



These two options are accessible by clicking the small down arrow located next to the “**Export**” button on the main toolbar. Once you select one of the available exporting options from the pop-up menu, it will become the default option associated with the “**Export**” toolbar button.

7.1 Export to disk

DICOMBurner allows exporting DICOM images in full-size format by using a quick and easy process to select the DICOM images to export. Note that the exporting procedure creates new images into a user selected folder but the original DICOM files remain on the local storage. When you select the “*Export to disk*” functionality DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the images to be exported.

7.1.1 Study-level search

The study-level step of the wizard procedure allows you to select the studies containing the images you want to export to a local folder. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the acceptable range of study dates. By pressing the “**Filter**” button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. The number of studies, studies size, number of series and number of instances are provided for the selected studies. Finally, you can proceed to the next step by pressing the “**Next>**” button. As a shortcut you can start the exporting procedure of the selected studies without reaching the last wizard step by pressing the “**Export Studies**” button.

Study-level Search

Studies List

Please select the Studies to be exported to a folder to be selected:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Abdomen FatSatDyn	MF-0000012	M	1950/07/04	2005/06/10	Abdomen with contrast
AbdominalAorta Stent	0030	M	1950/07/04	2005/06/10	
Anonymized	Anonymized	Anonymized			Anonymized
Anonymized	3			1996/06/11	
ANONYMOUS ANONYMOUS	12345	F	1986/01/01	2002/01/04	
Brain 3DFSE	MF-0000008	M	1950/07/04	2005/06/10	3D FSE Brain
Brain DWI	MF-0000023	M	1950/07/04	2005/06/10	fMRI
Brain Flair MS	MF-0000007	M	1950/07/04	2005/06/10	Axial MS brain with flair,t2 and pre/pos
Brain Functional	MF-0000017	M	1950/07/04	2005/06/10	fMRI
Brain LParietalTumorWSpectro	MF-0000025	M	1950/07/04	2005/06/10	Brain
Brain PWI	MF-0000024	M	1950/07/04	2005/06/10	fMRI
Brain RFrontalTumorWSpectro	MF-0000020	M	1950/07/04	2005/06/10	Brain
Brain Sagittal3D	MF-0000010	M	1950/07/04	2005/06/10	With and without sat slabs

Selected Studies Information

Number of Studies: 7 Number of Series: 9
Studies Size: 206.88 MB Number of Instances: 19

Select All Export Studies

Filtering Options

Please select the parameters used to filter the above Studies List:

Patient Identification

☐ Show only patients whose Patient Name: contains at
☐ Show only patients whose Patient ID: starts with

Sex

Show only patients with sex equal to:
☐ Male ☐ Female ☐ Other

Birth Date

☐ Show patients born after: 2006/12/19 ☐ Show patients born before: 2006/12/19

Study Date

☐ Show studies started after: 2006/12/19 ☐ Show studies started before: 2006/12/19

Filter

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7.1.2 Series-level search

The series-level step of the wizard procedure allows you to select the series containing the images you want to export to a local folder. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **“Filter”** button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of series, series size and number of instances are provided for the selected series. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the exporting procedure of the selected series without reaching the last wizard step by pressing the **“Export Series”** button.

Series-level Search

Series List

Please select the Series to be exported to a folder to be selected:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description
Abdomen FatSatDyn	MF-0000012	MR	2005/06/10	1	Coronal two-phase IV contrast fat suppressed; temp pos...
Abdomen FatSatDyn	MF-0000012	MR	2005/06/10	2	Coronal fat suppressed; no contrast module, temp posn, ...
AbdominalAorta Stent	0030	CT	2005/06/10	1	
AbdominalAorta Stent	0030	CT	2005/06/10	2	MIP Full
AbdominalAorta Stent	0030	CT	2005/06/10	3	MIP Thin
AbdominalAorta Stent	0030	CT	2005/06/10	4	MPR Curved
Anonymized	Anonymized	CR		1	
Anonymized	Anonymized	CR		1	Anonymized
Anonymized	_3	PR		10000000	Settings for series 4
Anonymized	_3	PR		10000000	Settings for series 4
ANONYMOUS ANONYMOUS	12345	MG	2003/12/16	739	BIL MAMMO
Brain 3DFSE	MF-0000008	MR	2005/06/10	1	3D FSE
Brain DWI	MF-0000023	MR	2005/06/10	1	Diffusion weighted

Selected Series Information

Number of Series: 2

Number of Instances: 2

Series Size: 11.40 MB

Select All

Export Series

Filtering Options

Please select the parameters used to filter the above Series List:

Series Date

Show series started after:

Show series started before:

2006/12/19

2006/12/19

Series Modality

Show series produced by Modality:

☐ AU Audio
 ☐ BI Biomagnetic imaging
 ☐ CD Color flow Doppler
 ☐ CR Computed Radiography
 ☒ CT Computed Tomography

Filter

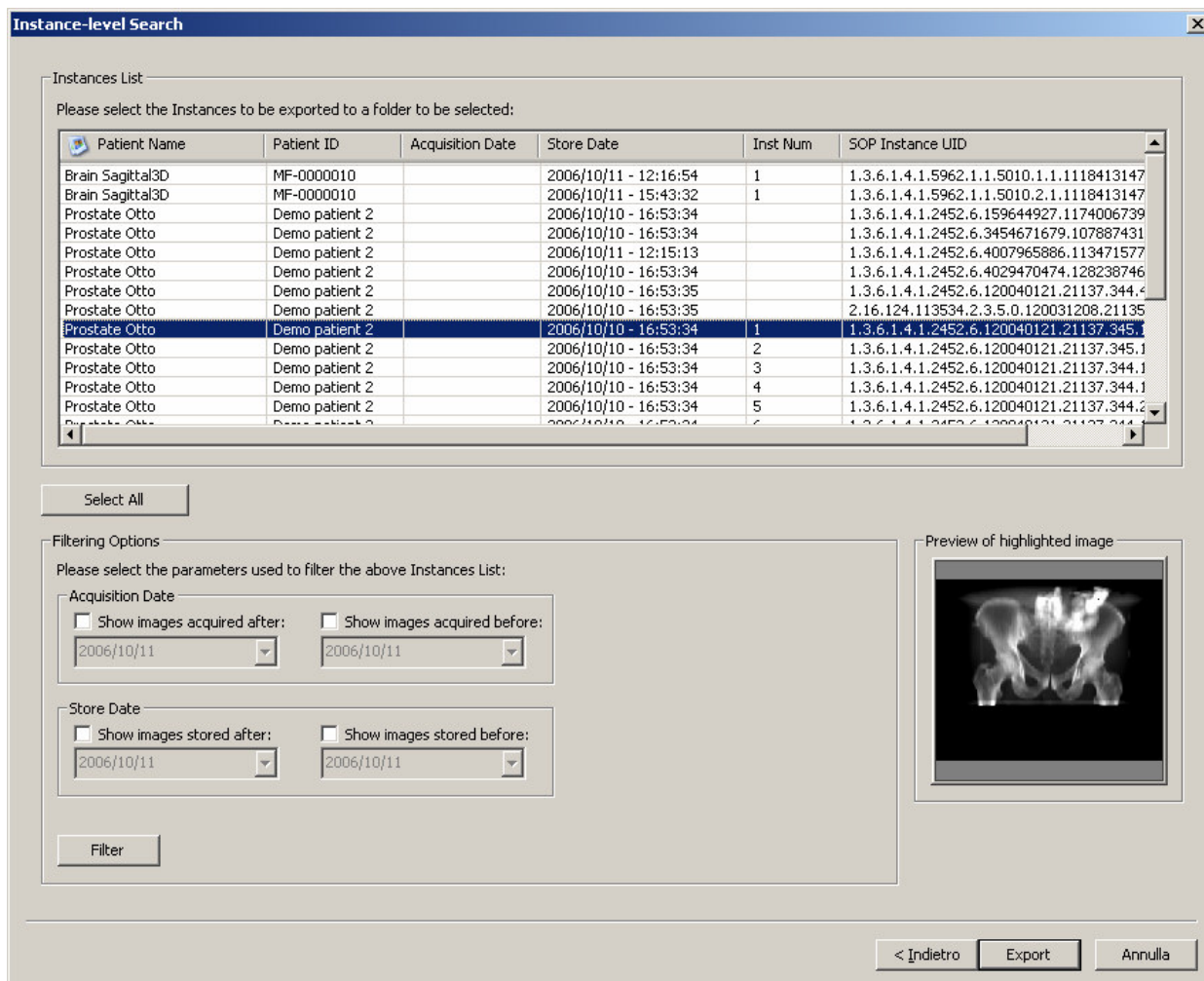
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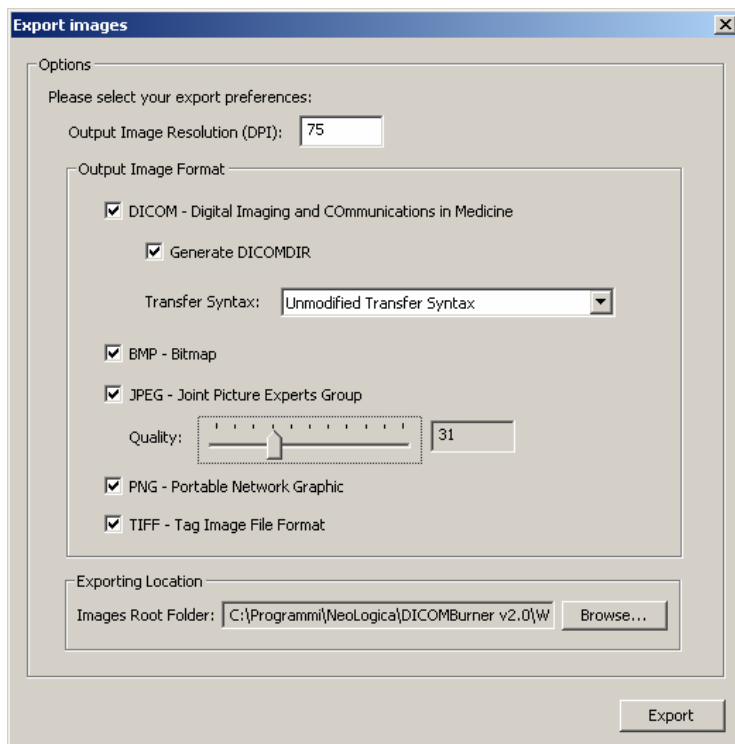
7.1.3 Instance-level search

The instance-level step of the wizard procedure allows you to select the images/instances you want to export to a local folder. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates and the acceptable range of store dates. By pressing the “**Filter**” button you obtain the list of instances satisfying the set conditions. At this level if you select an instance by clicking with the mouse over the corresponding row of the Instance List, you obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. Then you can reach the final step dialog of the exporting procedure by pressing the “**Export**” button.



7.1.4 Export images step

The export images step is the last one in the wizard procedure: a dialog shows all the output image formats that you can select. For the DICOM format you can check the DICOMDIR generation and select the Transfer Syntax of the output DICOM files. The JPEG format allows you the output quality selection. DICOMBurner will create an output image for any format set. For the DICOM format it will generate the DICOMDIR and will translate the Transfer Syntax you set. To start the exporting process you have to press the **“Export”** button.



7.2 Export to DICOM device

DICOMBurner acts as a DICOM Store SCU allowing you to send DICOM files to a pre-selected DICOM device. Note that the sending procedure preserves the original DICOM files remain on the local storage. When you select the “Export to DICOM device” functionality DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to be sent.

7.2.1 Study-level search

The study-level step of the wizard procedure allows you to select the studies containing the DICOM files you want to send to a DICOM device. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the acceptable range of study dates. By pressing the “**Filter**” button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. The number of studies, studies size, number of series and number of instances are provided for the selected studies. Finally, you can proceed to the next step by pressing the “**Next>**” button. As a shortcut you can start the sending procedure of the selected studies without reaching the last wizard step by pressing the “**Send Studies**” button.

Study-level Search

Studies List

Please select the Studies to be sent to a DICOM device:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Abdomen FatSatDyn	MF-0000012	M	1950/07/04	2005/06/10	Abdomen with contrast
AbdominalAorta Stent	0030	M	1950/07/04	2005/06/10	
Anonymized	Anonymized	Anonymized			Anonymized
Anonymized	_3			1996/06/11	
ANONYMOUS ANONYMOUS	12345	F	1986/01/01	2002/01/04	
Brain 3DFSE	MF-0000008	M	1950/07/04	2005/06/10	3D FSE Brain
Brain DWI	MF-0000023	M	1950/07/04	2005/06/10	fMRI
Brain Flair MS	MF-0000007	M	1950/07/04	2005/06/10	Axial M5 brain with flair,t2 and pre/post
Brain Functional	MF-0000017	M	1950/07/04	2005/06/10	fMRI
Brain LParietalTumorWSpectro	MF-0000025	M	1950/07/04	2005/06/10	Brain
Brain PWI	MF-0000024	M	1950/07/04	2005/06/10	fMRI
Brain RFrontalTumorWSpectro	MF-0000020	M	1950/07/04	2005/06/10	Brain
Brain Sagittal3D	MF-0000010	M	1950/07/04	2005/06/10	With and without sat slabs

Selected Studies Information

Number of Studies: 6
Number of Series: 7
Studies Size: 150.58 MB
Number of Instances: 17

Select All

Send Studies

Filtering Options

Please select the parameters used to filter the above Studies List:

Patient Identification

☐ Show only patients whose Patient Name: starts with

☐ Show only patients whose Patient ID: starts with

Sex

Show only patients with sex equal to:

☐ Male ☐ Female ☐ Other

Birth Date

☐ Show patients born after: 2006/12/19

☐ Show patients born before: 2006/12/19

Study Date

☐ Show studies started after: 2006/12/19

☐ Show studies started before: 2006/12/19

Filter

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7.2.2 Series-level search

The series-level step of the wizard procedure allows you to select the series containing the DICOM files you want to send to a DICOM device. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **“Filter”** button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of series, series size and number of instances are provided for the selected series. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the sending procedure of the selected series without reaching the last wizard step by pressing the **“Send Series”** button.

Series-level Search

Series List

Please select the Series to be sent to a DICOM device:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description	Se
Brain 3DFSE	MF-0000008	MR	2005/06/10	1	3D FSE	1.
Brain DWI	MF-0000023	MR	2005/06/10	1	Diffusion weighted	1.
Brain Flair MS	MF-0000007	MR	2005/06/10	1	Axial	1.
Brain Functional	MF-0000017	MR	2005/06/10	1	Structural and statistical	1.
Brain LParietalTumorWSpec...	MF-0000025	MR	2005/06/10	3	AX FLAIR	1.
Brain LParietalTumorWSpec...	MF-0000025	MR	2005/06/10	6	3D SPGR AX	1.
Brain PWI	MF-0000024	MR	2005/06/10	1	Perfusion	1.

Selected Series Information

Number of Series: 3

Number of Instances: 5

Series Size: 97.61 MB

Select All

Send Series

Filtering Options

Please select the parameters used to filter the above Series List:

Series Date

Show series started after:

Show series started before:

2006/12/19

2006/12/19

Series Modality

Show series produced by Modality:

☐ AU Audio
 ☐ BI Biomagnetic imaging
 ☐ CD Color flow Doppler
 ☐ CR Computed Radiography
 ☐ CT Computed Tomography

Filter

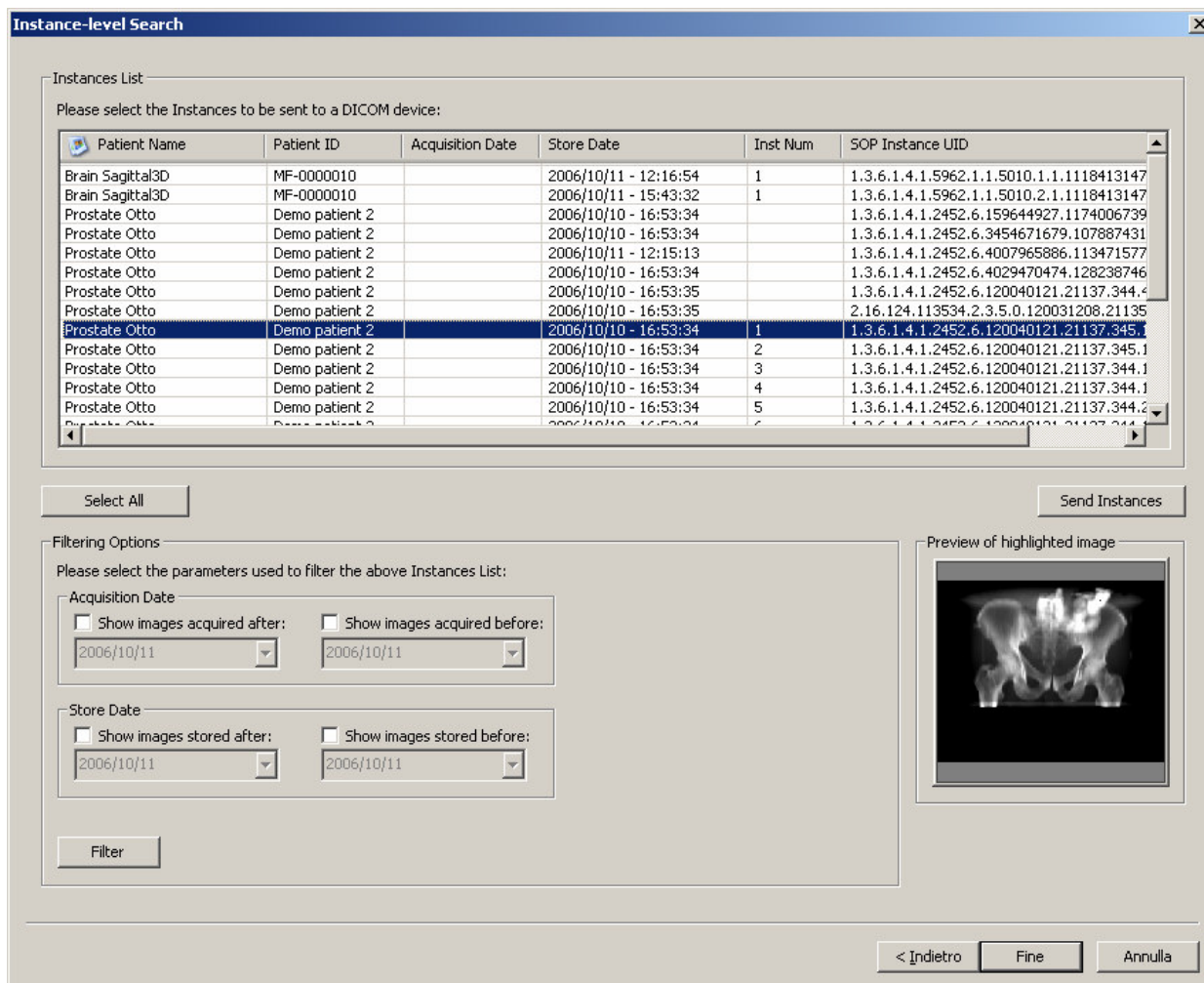
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7.2.3 Instance-level search

The instance-level step of the wizard procedure allows you to select the DICOM files/instances you want to send to a DICOM device. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates and the acceptable range of store dates. By pressing the **Filter** button you obtain the list of instances satisfying the set conditions. At this level if you select an instance by clicking with the mouse over the corresponding row of the Instance List, you obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **Deselect All/Select All** button can simplify this task. You can start the sending procedure of the selected instances by pressing the **Send Instances** button.



8 Deleting DICOM files

In addition to the automatic purging procedure, DICOMBurner allows deleting a portion of the database content by using a quick and easy process to select the DICOM files to remove. When you press the **"Delete"** button on the main toolbar or on the corresponding menu item from the DICOMBurner tray pop-up menu, DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to be deleted.

8.1 Study-level search

The study-level step of the wizard procedure allows you to select the studies containing the DICOM files you want to delete from the local database. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the

acceptable range of study dates. By pressing the **“Filter”** button you obtain the list of studies satisfying the set conditions. Then you can select all studies you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. The number of studies, studies size, number of series and number of instances are provided for the selected studies. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the deleting procedure of the selected studies without reaching the last wizard step by pressing the **“Delete Studies”** button.

Study-level Search

Studies List

Please select the Studies to be deleted from database:

Patient Name	Patient ID	Patient Sex	Patient Birth Date	Study Date	Study Description
Brain LParietalTumorWSpectro	MF-0000025	M	1950/07/04	2005/06/10	Brain
Brain PWI	MF-0000024	M	1950/07/04	2005/06/10	fMRI
Brain RFrontalTumorWSpectro	MF-0000020	M	1950/07/04	2005/06/10	Brain
Brain Sagittal3D	MF-0000010	M	1950/07/04	2005/06/10	With and without sat slabs
Brain Simulated	MF-0000021	M	1950/07/04	2005/06/10	Brain
Brain Stacks	MF-0000013	M	1950/07/04	2005/06/10	Brain tumor
Brain Vol	MF-0000003	M	1950/07/04	2005/06/10	Brain volume
Breast Dynamic	MF-0000002	F	1950/07/04	2005/06/10	Dynamic breast, 1 stack, 3 dimensions, b
PORTABLE CHEST	6019	M	1991/01/01	1997/09/09	CHEST
Prostate Otto	Demo patient 2			1999/07/15	
Prova Mano	P20040002F	O	1899/12/30	2004/05/27	Scintigrafia Tiroide
Prova Mano	P20040002F	O	1899/12/30	2004/05/27	Scintigrafia Tiroide
Prova Mano	P20040002F	O	1899/12/30	2004/05/27	Scintigrafia Tiroide

Selected Studies Information

Number of Studies: 8 Number of Series: 14
Studies Size: 140.46 MB Number of Instances: 27

Select All Delete Studies

Filtering Options

Please select the parameters used to filter the above Studies List:

Patient Identification

☐ Show only patients whose Patient Name: starts with

☐ Show only patients whose Patient ID: starts with

Sex

Show only patients with sex equal to:

☐ Male ☐ Female ☐ Other

Birth Date

☐ Show patients born after: 2006/12/19

☐ Show patients born before: 2006/12/19

Study Date

☐ Show studies started after: 2006/12/19

☐ Show studies started before: 2006/12/19

Filter

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8.2 Series-level search

The series-level step of the wizard procedure allows you to select the series containing the DICOM files you want to delete from the local database. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the **“Filter”** button you obtain the list of series satisfying the set conditions. Then you

can select all series you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. The number of series, series size and number of instances are provided for the selected series. Finally, you can proceed to the next step by pressing the “**Next>**” button. As a shortcut you can start the deleting procedure of the selected series without reaching the last wizard step by pressing the “**Delete Series**” button.

Series-level Search

Series List
Please select the Series to be deleted from database:

Patient Name	Patient ID	Modality	Series Date	Series Num	Series Description
Brain Stacks	MF-0000013	MR	2005/06/10	1	Various contrasts and projections
Brain Vol	MF-0000003	MR	2005/06/10	1	Axial, 1 stack, 1 dimension, no concat
Brain Vol	MF-0000003	MR	2005/06/10	2	Sagittal T1W MPR, references source
Breast Dynamic	MF-0000002	MR	2005/06/10	1	Coronal Dynamic Contrast
Breast Dynamic	MF-0000002	MR	2005/06/10	2	Coronal Dynamic Contrast - abbreviated
PORTABLE CHEST	6019	CR	1997/09/09	512	
Prostate Otto	Demo patient 2	RTIMAGE		1	
Prostate Otto	Demo patient 2	RTDOSE		1	
Prostate Otto	Demo patient 2	RTPLAN		1	
Prostate Otto	Demo patient 2	RTSTRUCT		1	
Prostate Otto	Demo patient 2	CT		1	
Prova Mano	P20040002F	NM	2004/05/27	1	Scintigrafia Tiroide
Prova Mano	P20040002F	NM	2004/05/27	1	Scintigrafia Tiroide

Selected Series Information
Number of Series: 2 Number of Instances: 12
Series Size: 1.18 MB

Select All Delete Series

Filtering Options
Please select the parameters used to filter the above Series List:

Series Date
☐ Show series started after: 2006/12/19
☐ Show series started before: 2006/12/19

Series Modality
Show series produced by Modality:
☐ AU Audio
☐ BI Biomagnetic imaging
☐ CD Color flow Doppler
☐ CR Computed Radiography
☐ CT Computed Tomography

Filter

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8.3 Instance-level search

The instance-level step of the wizard procedure allows you to select the DICOM files/instances you want to delete from the local database. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates, the acceptable range of store dates and the backup status (backed-up or not) of the instances. By pressing the “**Filter**” button you obtain the list of instances satisfying the set conditions. At this level if you select an instance by clicking with the mouse over the corresponding row of the Instance List, you obtain a preview

image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. Finally, you can proceed to the next step by pressing the **“Next>”** button. As a shortcut you can start the deleting procedure of the selected instances without reaching the last wizard step by pressing the **“Delete Instances”** button.

Instance-level Search

Instances List

Please select the Instances to be deleted from database:

Patient Name	Patient ID	Acquisition Date	Store Date	Inst Num	SOP Instance UID
Brain Sagittal3D	MF-0000010		2006/10/11 - 12:16:54	1	1.3.6.1.4.1.5962.1.1.5010.1.1.1118413147
Brain Sagittal3D	MF-0000010		2006/10/11 - 15:43:32	1	1.3.6.1.4.1.5962.1.1.5010.2.1.1118413147
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.159644927.1174006739
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.3454671679.107887431
Prostate Otto	Demo patient 2		2006/10/11 - 12:15:13		1.3.6.1.4.1.2452.6.4007965886.113471577
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.4029470474.128238746
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		1.3.6.1.4.1.2452.6.120040121.21137.344.4
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		2.16.124.113534.2.3.5.0.120031208.21135
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	1	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	2	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	3	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	4	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	5	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	6	1.3.6.1.4.1.2452.6.120040121.21137.344.1

Select All Delete Instances

Filtering Options

Please select the parameters used to filter the above Instances List:

Acquisition Date

☐ Show images acquired after: 2006/10/11 ☐ Show images acquired before: 2006/10/11

Store Date

☐ Show images stored after: 2006/10/11 ☐ Show images stored before: 2006/10/11

Filter

Backup status

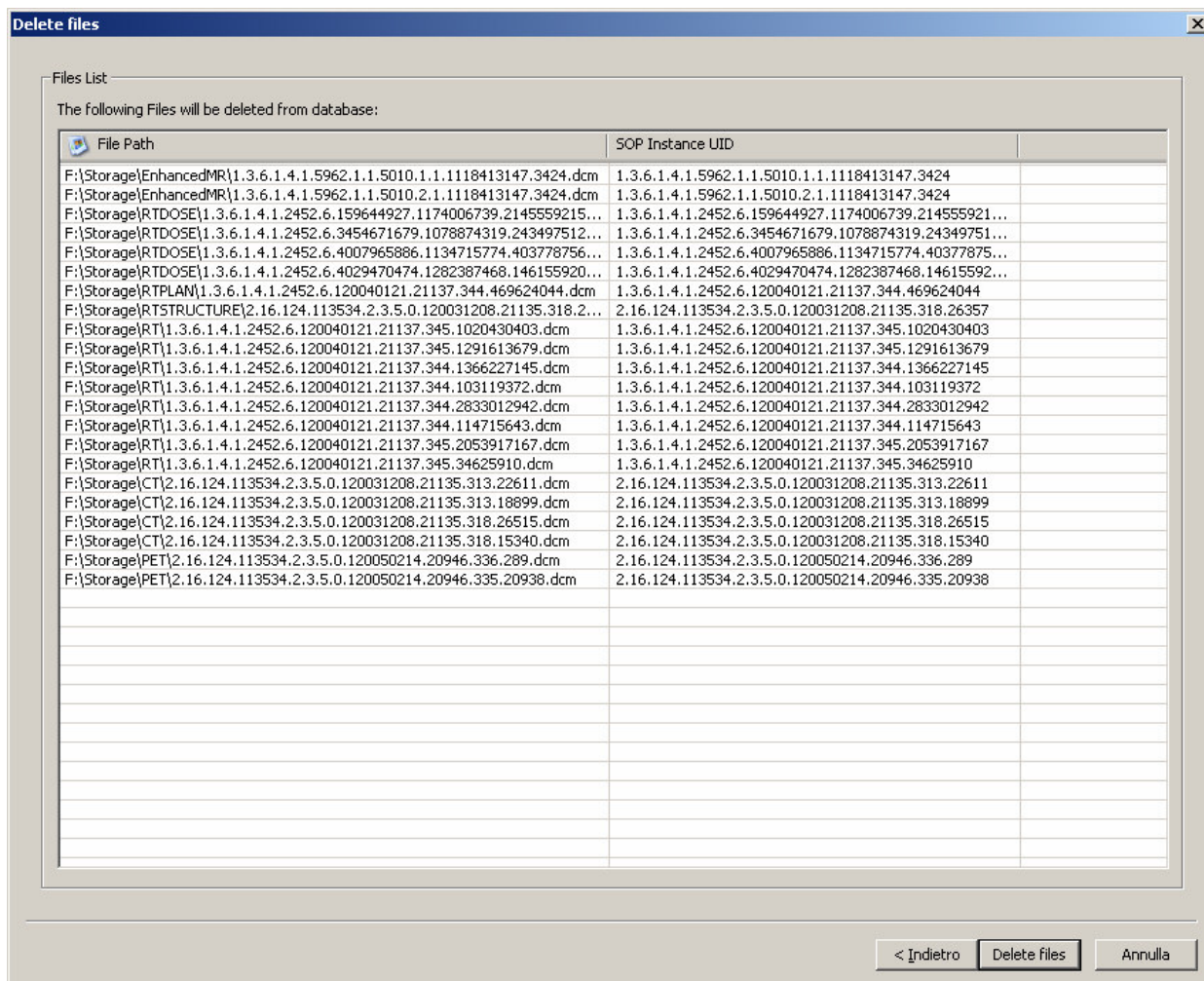
☒ All files ☐ Backed-up

Preview of highlighted image

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8.4 Delete files step

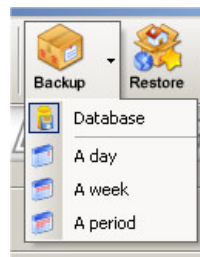
The delete files step is the last one in the wizard procedure: a list of the files that will be deleted from the local database is displayed. Finally, you can start the deleting process by pressing the **“Delete files”** button.



9 Backup DICOM files and database

DICOMBurner allows backing-up the database or creating backup CDs or DVDs containing DICOM files. The DICOM files to be archived on CD or DVD can be selected by the user. There exist four kinds of backup procedures:

1. Backup database
2. Backup a day
3. Backup a week
4. Backup a period



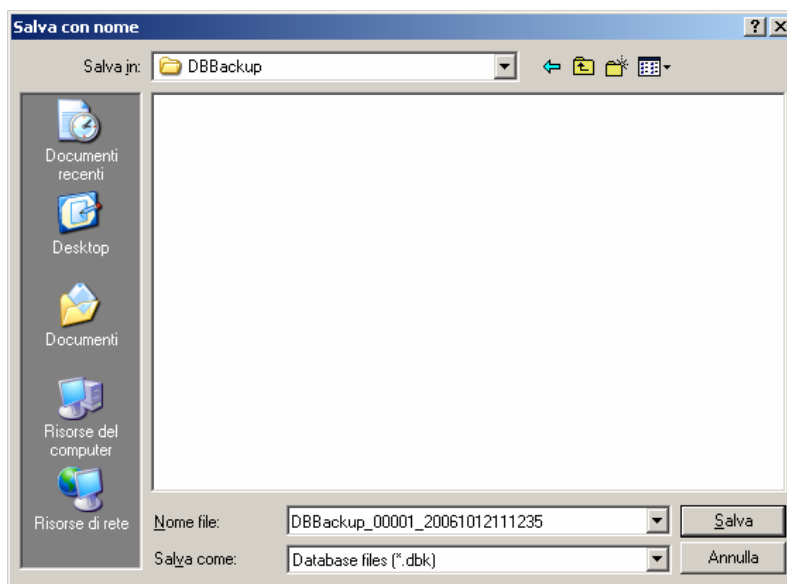
These four options are accessible by clicking the small down arrow located next to the **“Backup”** button on the main toolbar. Once you select one of the available backup options from the pop-up menu, it will become the default option associated with the **“Backup”** toolbar button.

Note: if the set of DICOM files to burn exceeds the free size of the media you’ve loaded, then DICOMBurner spans the DICOM files over two or more CDs/DVDs.

9.1 Backup database

DICOMBurner allows the backup of the database content to prevent loss of data in case of system crash. Note that this function saves only the database tables entries, not the DICOM files storage. To completely recover from a system disaster, you need to perform periodically backup of both database and DICOM files (as explained in the next sections).

To start the database backup procedure you have to select the *“Backup database”* popup menu option then it will appear a dialog similar to the following one allowing you to give a name to the database backup file. By pressing the **“Save”** button the procedure will start.



9.2 Backup a day

If you select the *“Backup a day”* popup menu option, it will appear a dialog similar to the following one. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the store date representing the day you want to backup and the backup status (backed-up or not) of the instances. By pressing the **“Filter”** button you obtain the list of instances satisfying the set conditions. If you select an instance by clicking with the mouse over the corresponding row of the Instance List, you

obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. Also in this case in you can change the CD/DVD options with respect to the default one set by the *“CD/DVD Burner Configuration”* tab. You can start the backup procedure of the selected instances by pressing the **“Backup”** button.

Backup a day

Instances List

List of Instances that will be backed-up on the CD/DVD:

Patient Name	Patient ID	Acquisition Date	Store Date	Inst Num	SOP Instance UID
Brain Sagittal3D	MF-0000010		2006/10/11 - 12:16:54	1	1.3.6.1.4.1.5962.1.1.5010.1.1.1118413147
Brain Sagittal3D	MF-0000010		2006/10/11 - 15:43:32	1	1.3.6.1.4.1.5962.1.1.5010.2.1.1118413147
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.159644927.1174006739
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.3454671679.107887431
Prostate Otto	Demo patient 2		2006/10/11 - 12:15:13		1.3.6.1.4.1.2452.6.4007965886.113471577
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.4029470474.128238746
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		2.16.124.113534.2.3.5.0.120031208.21135
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	1	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	2	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	3	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	4	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	5	1.3.6.1.4.1.2452.6.120040121.21137.344.2
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	6	1.3.6.1.4.1.2452.6.120040121.21137.344.2

Filtering Options

Please select the parameters used to filter the above Instances List:

Store Date: 2006/10/12

Backup status: ☐ All files ☒ Non backed-up

Filter

CD/DVD options

CD/DVD unit name: RMG_CD_BKP Num. of copies: 1

☒ Close burnt CDs/DVDs at the end of the process
☐ Delete burnt files from database at the end of the burning process

Interchange Profile: No Profile (Unmodified Transfer Syntax)

Select All

Preview of highlighted image

Backup

9.3 Backup a week

If you select the *“Backup a week”* popup menu option, it will appear a dialog similar to the following one. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the store dates range representing the week you want to backup and the backup status (backed-up or not) of the instances. By pressing the **“Filter”** button you obtain the list of instances satisfying the set conditions. If you select an instance by clicking with the mouse over the corresponding row of the Instance List, you obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. Also in this case in you can change the CD/DVD options with respect to the default one set by the

“CD/DVD Burner Configuration” tab. You can start the backup procedure of the selected instances by pressing the **Backup** button.

Backup a week

Instances List

List of Instances that will be backed-up on the CD/DVD:

Patient Name	Patient ID	Acquisition Date	Store Date	Inst Num	SOP Instance UID
Brain Sagittal3D	MF-0000010		2006/10/11 - 12:16:54	1	1.3.6.1.4.1.5962.1.1.5010.1.1.1118413147
Brain Sagittal3D	MF-0000010		2006/10/11 - 15:43:32	1	1.3.6.1.4.1.5962.1.1.5010.2.1.1118413147
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.159644927.1174006739
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.3454671679.107887431
Prostate Otto	Demo patient 2		2006/10/11 - 12:15:13		1.3.6.1.4.1.2452.6.4007965886.113471577
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34		1.3.6.1.4.1.2452.6.4029470474.128238746
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:35		2.16.124.113534.2.3.5.0.120031208.21135
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	1	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	2	1.3.6.1.4.1.2452.6.120040121.21137.345.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	3	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	4	1.3.6.1.4.1.2452.6.120040121.21137.344.1
Prostate Otto	Demo patient 2		2006/10/10 - 16:53:34	5	1.3.6.1.4.1.2452.6.120040121.21137.344.1

Filtering Options

Please select the parameters used to filter the above Instances List:

Store Date

☒ Show images stored after: 2006/10/09

☒ Show images stored before: 2006/10/15

Backup status

☐ All files

☒ Non backed-up

Filter

CD/DVD options

CD/DVD unit name: RMG_CD_BKP Num. of copies: 1

☒ Close burnt CDs/DVDs at the end of the process

☐ Delete burnt files from database at the end of the burning process

Interchange Profile: No Profile (Unmodified Transfer Syntax)

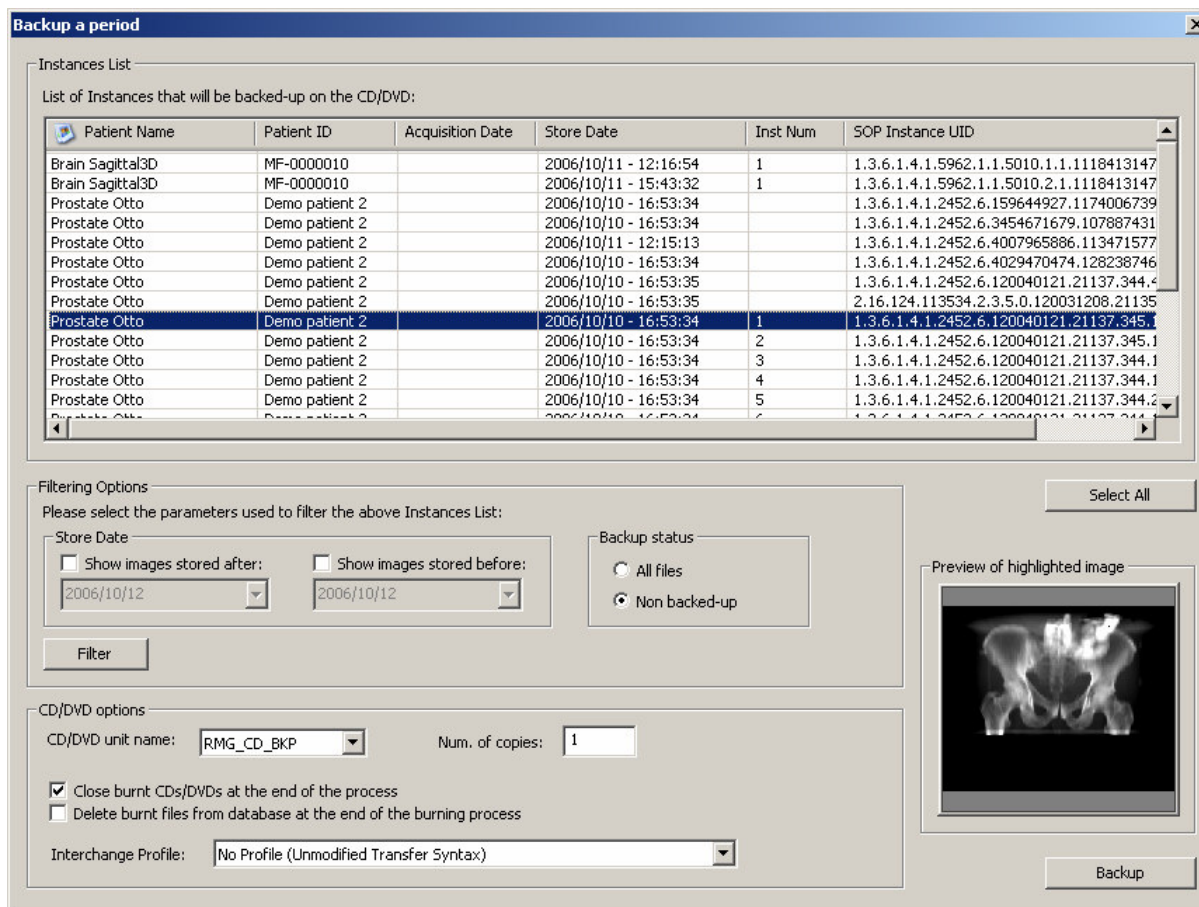
Select All

Preview of highlighted image

Backup

9.4 Backup a period

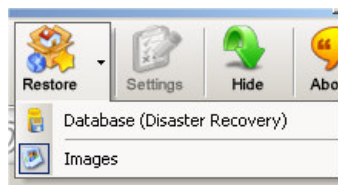
If you select the “Backup a week” popup menu option, it will appear a dialog similar to the following one. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the store dates range representing the period you want to backup and the backup status (backed-up or not) of the instances. By pressing the **Filter** button you obtain the list of instances satisfying the set conditions. If you select an instance by clicking with the mouse over the corresponding row of the Instance List, you obtain a preview image of the DICOM file. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **Deselect All/Select All** button can simplify this task. Also in this case in you can change the CD/DVD options with respect to the default one set by the “CD/DVD Burner Configuration” tab. You can start the backup procedure of the selected instances by pressing the **Backup** button.



10 Restore DICOM files and database

In case of accidental loss of data DICOMBurner allows restoring DICOM files and database contents, by using the database backup files and backup CDs or DVDs containing DICOM files. There exist two kinds of restore procedures:

1. Restore database
2. Restore images

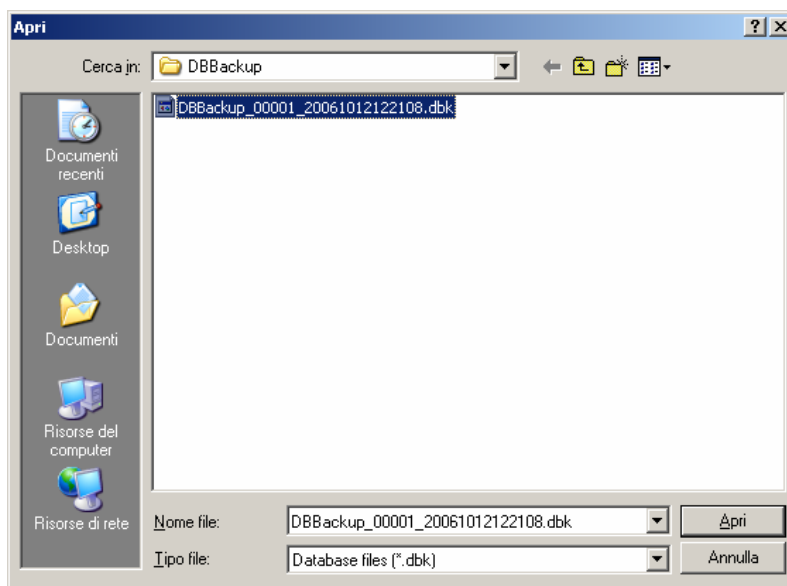


These two options are accessible by clicking the small down arrow located next to the **“Restore”** button on the main toolbar. Once you select one of the available restore options from the pop-up menu, it will become the default option associated with the **“Restore”** toolbar button.

10.1 Restore database

In case of system crashes the entire content of the database can be lost. In this case after you have reinstalled the system, you can recover the database content by using most recent database backup file (having the DBK extension). This operation restores the database content and then starts the purging of the entire content of the DICOM storage setting all instances status to offline. This is to reset the system preparing it to the restore of the DICOM files. To start the database restoring procedure you have to select the “*Restore database*” popup menu option then it will appear a dialog similar to the following one allowing you to select a database backup file. By pressing the “**Open**” button the procedure will start.

Important note: this functionality shouldn’t be started if a system disaster doesn’t happen else you can loss all of the DICOM files stored.



10.2 Restore images

To start the DICOM files restoring procedure you have to select the “*Restore images*” popup menu option then DICOMBurner shows a GUI wizard guiding you through a hierarchical (Study – Series – Instance) selection of the DICOM files to be restored.

10.2.1 Study-level search

The study-level step of the wizard procedure allows you to select the studies containing the DICOM files you want to restore in the local database. This step includes both the filtering options related to patient and study levels. The list of studies can be filtered by specifying some filtering options (or search criteria): in particular, the patient identification filters, the acceptable range of birth dates, the patient sex and the

[illegible]

The series-level step of the wizard procedure allows you to select the series containing the DICOM files you want to restore in the local database. The list of series can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of series dates and the producing modalities. By pressing the “**Filter**” button you obtain the list of series satisfying the set conditions. Then you can select all series you are interested in by using the mouse and multiple file selection technique. The “**Deselect All/Select All**” button can simplify this task. Finally, you can proceed to the next step by pressing

the **Next>** button. As a shortcut you can start the restoring procedure of the selected series without reaching the last wizard step by pressing the **Restore Series** button.

[illegible]

10.2.3 Instance-level search

The instance-level step of the wizard procedure allows you to select the DICOM files/instances you want to restore in the local database. The list of instances can be filtered by specifying some filtering options (or search criteria): in particular, you can set the acceptable range of acquisition dates, the acceptable range of store dates and the backup status (backed-up or not) of the instances. By pressing the **“Filter”** button you obtain the list of instances satisfying the set conditions. Then you can select all instances you are interested in by using the mouse and multiple file selection technique. The **“Deselect All/Select All”** button can simplify this task. Finally, you can proceed to the next step by pressing the **“Next>”** button.

10.2.4 Restore files step

48

[illegible]

11 Viewing information

11.1 View Log dialog box

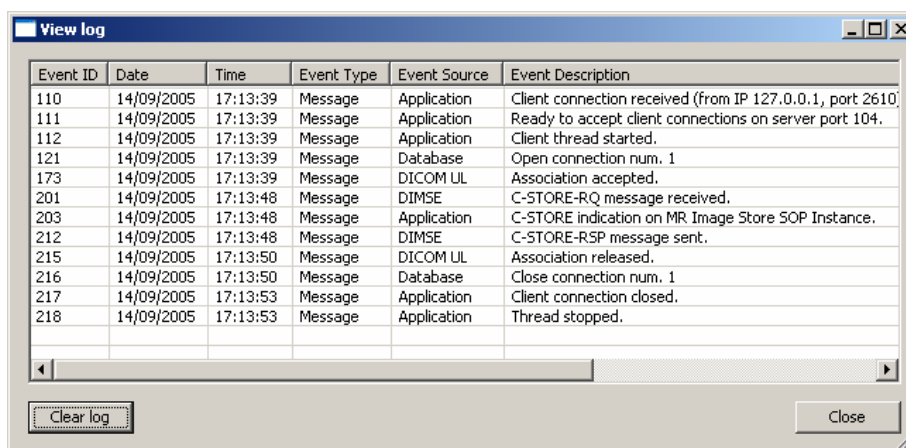
The “**View Log**” dialog box allows viewing a detailed log of the events occurring inside DICOMBurner and of the actions performed.

A List control is displayed on the dialog: each row of the list represents a logged event. Each event is defined by the following information:

- **Event ID:** a unique number that univocally identifies the event.
- **Date:** the date when the event occurred.
- **Time:** the time when the event occurred.
- **Event type:** tells if the logged event is a “Message”, a “Warning” or an “Error”.

- **Event source:** describes the source that originated the logged event or action. Currently defined sources are:
 - **DICOM UL:** events coming from the DICOM Upper Layer software layer.
 - **DIMSE:** events coming from the DIMSE software layer.
 - **Database:** events or action coming from the database manager.
 - **Application:** events or actions occurring at application level.
- **Event description:** the actual description of the logged event or action.

The following picture shows a snapshot of the “**View Log**” dialog box:



Event ID	Date	Time	Event Type	Event Source	Event Description
110	14/09/2005	17:13:39	Message	Application	Client connection received (from IP 127.0.0.1, port 2610)
111	14/09/2005	17:13:39	Message	Application	Ready to accept client connections on server port 104.
112	14/09/2005	17:13:39	Message	Application	Client thread started.
121	14/09/2005	17:13:39	Message	Database	Open connection num. 1
173	14/09/2005	17:13:39	Message	DICOM UL	Association accepted.
201	14/09/2005	17:13:48	Message	DIMSE	C-STORE-RQ message received.
203	14/09/2005	17:13:48	Message	Application	C-STORE indication on MR Image Store SOP Instance.
212	14/09/2005	17:13:48	Message	DIMSE	C-STORE-RSP message sent.
215	14/09/2005	17:13:50	Message	DICOM UL	Association released.
216	14/09/2005	17:13:50	Message	Database	Close connection num. 1
217	14/09/2005	17:13:53	Message	Application	Client connection closed.
218	14/09/2005	17:13:53	Message	Application	Thread stopped.

The View Log dialog box

12 DICOMBurner Configuration

In order to enter the DICOMBurner Configuration section, you must stop the connection server (by pressing the “**Stop**” button on the main toolbar) and press the “**Settings**” button on the main toolbar. The “*DICOMBurner Configuration*” dialog appears: this dialog is composed of several different tabs, each one dedicated to a specific configuration section.

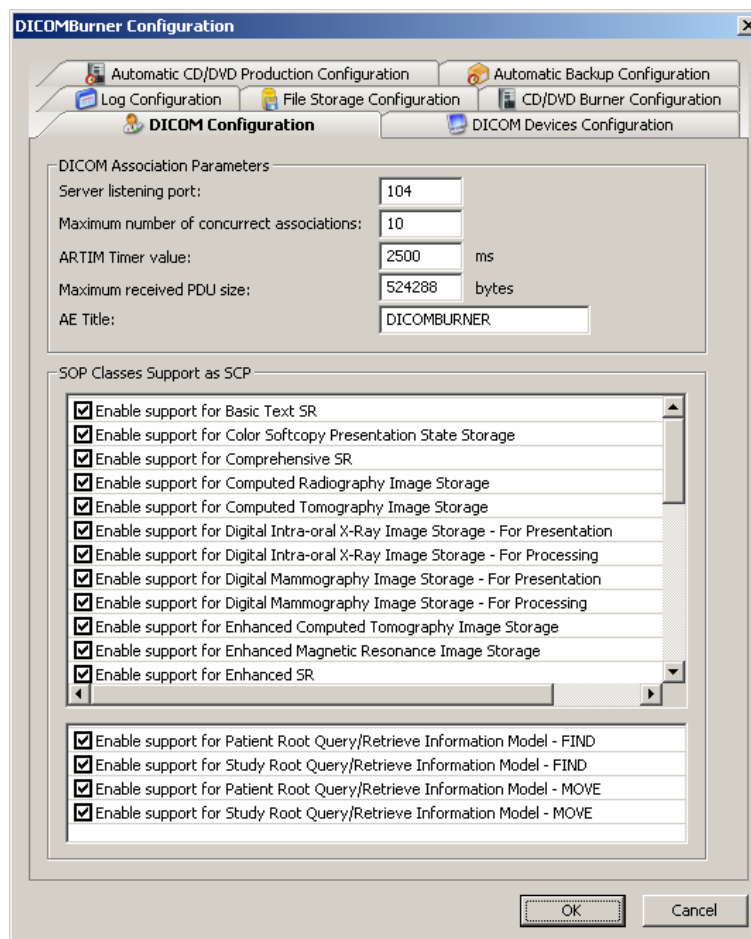
12.1 DICOM Configuration

The “**DICOM Configuration**” tab allows setting several parameters related to the DICOM associations and communication. A description of each configuration parameter available in this dialog box is now provided:

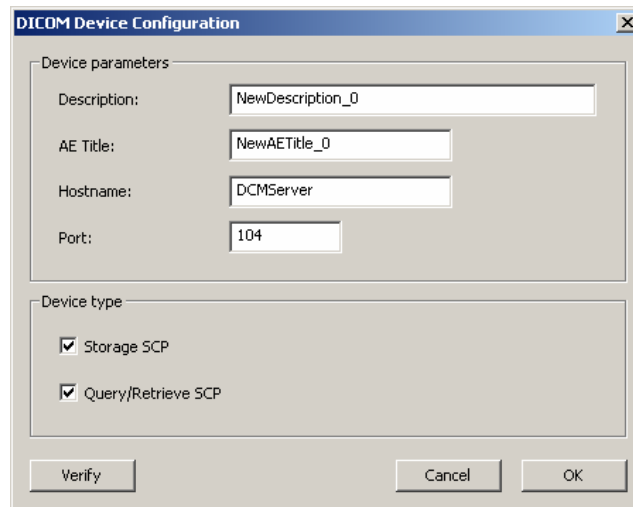
- **DICOM Association Parameters:**
 - **Server listening port:** the TCP port on which the connection server is listening for incoming connections by DICOM Storage SCU. Default value is 104.

- **Maximum number of associations:** the maximum number of concurrent DICOM associations accepted by DICOMBurner.
 - **ARTIM Timer value:** the timeout value (in milliseconds) of the ARTIM Timer, used in the DICOM Upper Layer (see DICOM PS 3.8).
 - **Maximum received PDU size:** the maximum PDU length (in bytes) accepted by DICOMBurner. This value refers to the maximum length of the variable field of the P-DATA-TF PDUs that will be sent by the association requestor.
 - **AE Title:** the Application Entity Titles that is currently associated with DICOMBurner.
- **SOP Classes Support as SCP:** by checking/unchecking a row of the list you are able to enables/disables support for the related SOP Class.

The following picture shows a snapshot of the “**DICOM Configuration**” dialog box:



The *DICOM Configuration* tab



12.3 Log Configuration

The “**Log Configuration**” tab allows setting some parameters related to the production of log by DICOMBurner. A description of each configuration parameter available in this dialog box is now provided:

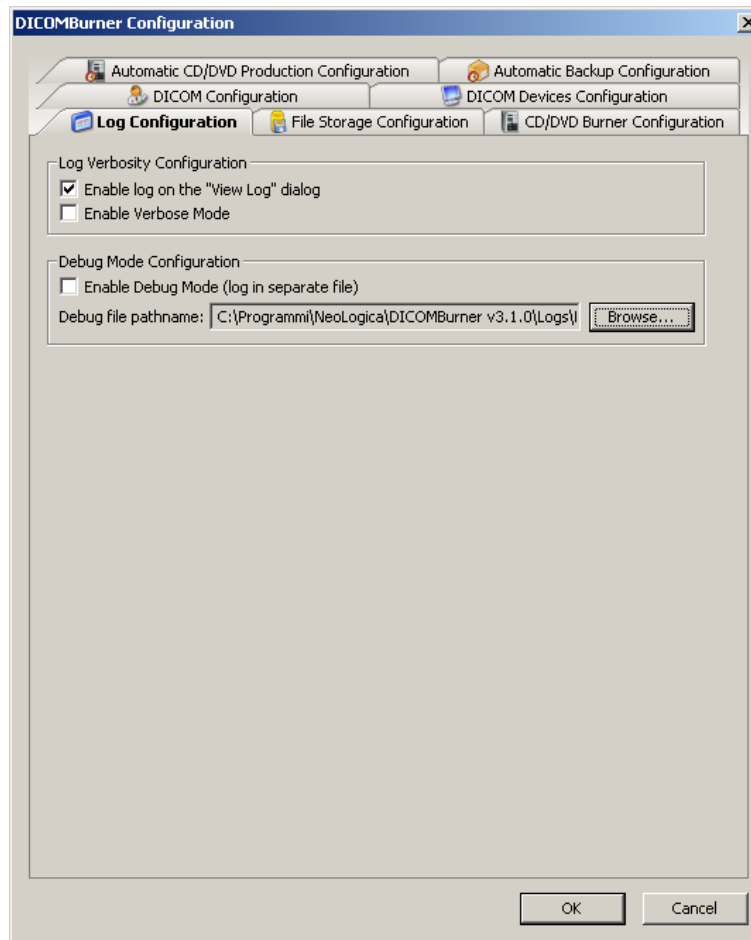
- **Log Verbosity Configuration:**

- **Enable log on the “View Log” dialog:** enables/disables the log output on the View Log dialog box. Disabling the log on the “**View Log**” window may be useful in cases where DICOMBurner may run unattended for long time periods, since a long log output on the View Log window may consume a lot of memory. In any case, DICOMBurner periodically performs an automatic truncation of the log on window.
- **Enable Verbose Mode:** enables/disables the Verbose Mode. If the Verbose Mode is enabled, the logged information presents a higher level of detail.

- **Debug Mode Configuration:**

- **Enable Debug Mode:** enables/disables the Debug Mode. If the Debug Mode is enabled, a debug file is produced by DICOMBurner, containing all the main events occurring inside DICOMBurner and the main performed actions.
- **Debug file pathname:** allows specifying, through the “**Browse...**” button, the pathname of the Debug file.

The following picture shows a snapshot of the “**Log Configuration**” tab:



The Log Configuration tab

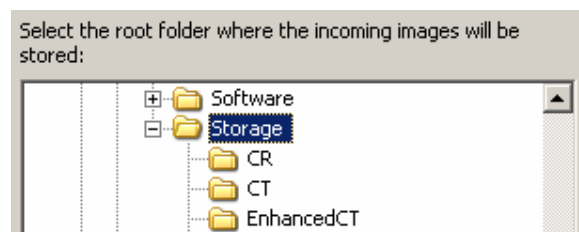
12.4 File Storage Configuration

The “**File Storage Configuration**” tab allows setting some preferences related to the policies used by DICOMBurner to manage the database where the received DICOM files are stored in. A description of each configuration parameter available in this dialog box is now provided:

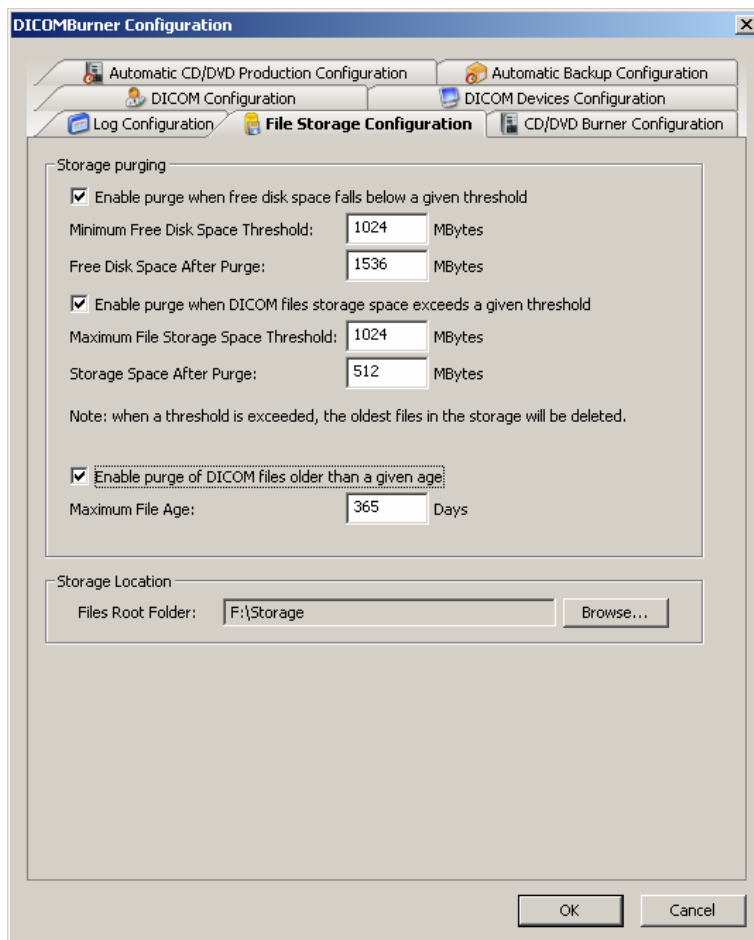
- **Storage Purging:** DICOMBurner is able to perform periodic checks on the current storage space and thresholds used by its internal DICOM files database. Based on user-defined rules, DICOMBurner can automatically delete the oldest files (according to the actual storage date/time) from database, in order to recover storage space. This deletion activity is known as “*Storage Purging*”.
 - **Enable purge when free disk space falls below a given threshold:** if this option is enabled, the storage database will increase its size until the free disk space falls below the specified threshold (*Minimum Free Disk Space Threshold*). At this point, the oldest DICOM

files contained in the database (according to the actual storage date) will be deleted until the free disk space rises above the second specified threshold (*Free Disk Space After Purge*):

- **Minimum Free Disk Space Threshold:** a value representing the minimum number of megabytes always granted as free disk space.
- **Free Disk Space After Purge:** a value representing the number of megabyte of free disk space available after database purging. Note: this value has to be greater than the *Minimum Free Disk Space Threshold*.
- **Enable purge when DICOM files storage space exceeds a given threshold:** if this option is enabled, the storage database will grow until its size exceeds below the specified threshold (*Maximum File Storage Space Threshold*). At this point, the oldest DICOM files contained in the database (according to the actual storage date) will be deleted until the storage space falls below the second specified threshold (*Storage Space After Purge*):
 - **Maximum File Storage Space Threshold:** a value representing the maximum number of megabytes allowed for the database space.
 - **Storage Space After Purge:** a value representing the number of megabyte of database space after its purging. Note: this value has to be less than the *Maximum File Storage Space Threshold*.
- **Enable purge of DICOM files older than a given age:** if this option is enabled, all the DICOM files older than the set number of days are automatically deleted:
 - **Maximum File Age:** a value representing the maximum age (in days) allowed for a stored DICOM files.
- **Storage Location:** this section allows setting up the local folder to store where the received DICOM files will be stored:
 - **Files Root Folder:** indicates the root folder in which DICOMBurner stores the received DICOM files. The “**Browse...**” button allows an easy selection of the root folder.



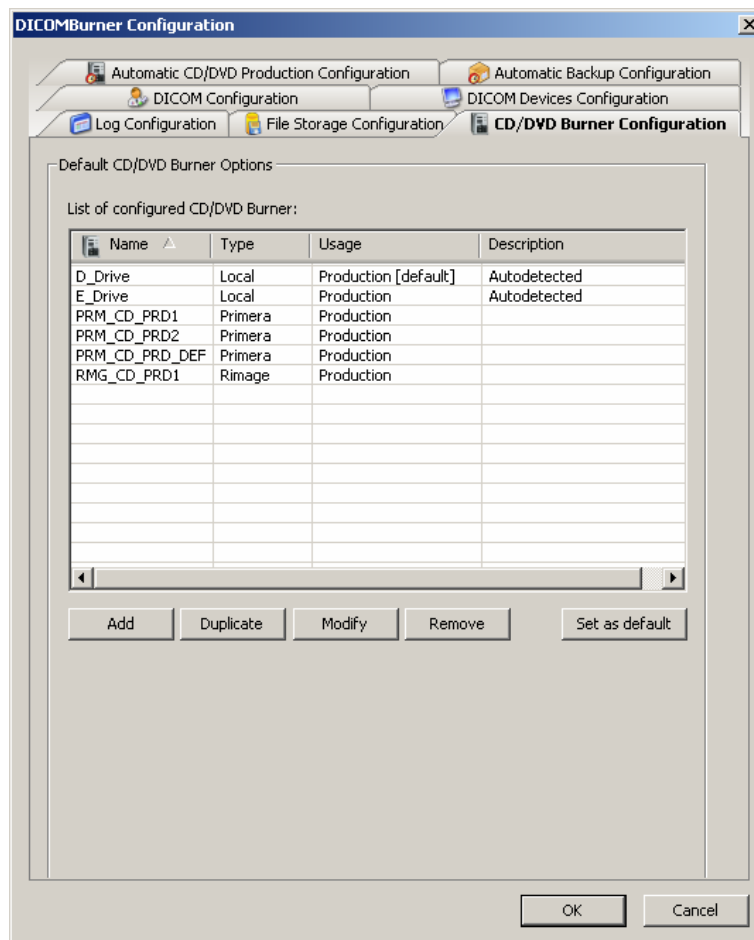
The following picture shows a snapshot of the “**File Storage Configuration**” tab:



The File Storage Configuration tab

12.5 CD/DVD Burner Configuration

The “**CD/DVD Burner Configuration**” tab allows setting up the burner units that you need to use to produce CD or DVD containing DICOM files. For any configured unit you can set the default parameters used during the burning process (for production or backup). The button on the dialog allows you to add a new burner configuration, modify, remove or duplicate an exiting one or set a burner as default for backup or production. Note that any configured unit can be associated to the same hardware robot, so you can obtain many different configurations for a single physical unit.



The CD/DVD Burner Configuration tab

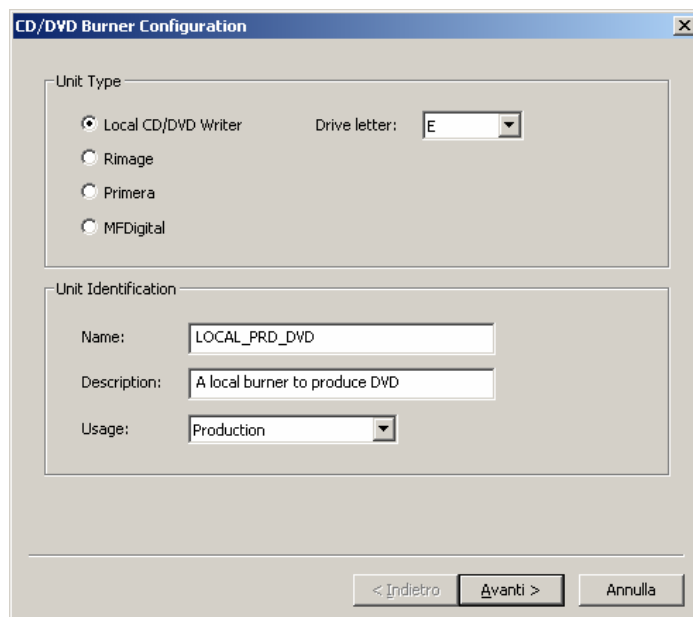
By pressing the “**Add**” or “**Modify**” button, DICOMBurner shows a GUI wizard allowing you to set all the unit parameters. DICOMBurner is able to manage local CD/DVD burners and CD/DVD robot producer such as Rimage, MFDigital and Primera. Since some parameters are specific of a certain kind of burner, we’ll discuss any single configuration wizard in the following sections.

12.6 Local Burner Configuration

At the first step of the GUI wizard you have to select “*Local CD/DVD Writer*”. Then you can specify the following options:

- **Unit Type:**
 - **Local CD/DVD Writer:** specifies a local burner
 - **Drive Letter:** indicates the drive letter of the local burner
- **Unit Identification:**

- **Name:** a not-null and unique name that identifies the unit
- **Description:** an optional description of the unit
- **Usage:** the destination use (*Production or Backup*) assigned to the unit (for a local burner only *Production* is suitable)



By clicking “**Next>**” button you reach the second step of the GUI wizard where you can specify the following options:

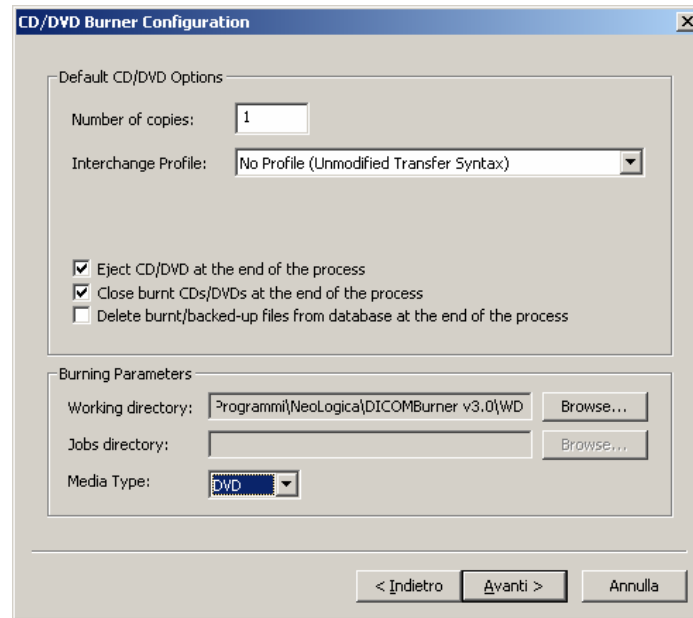
- **Default CD/DVD Options:**

- **Number of copies:** specifies the number of CD/DVD copies for any burn process.
- **Interchange Profile:** specifies a Media Storage Application Profile as defined by DICOM PS 3.11.
- **Eject CD/DVD at the end of the process:** a flag specifying if the media has to be ejected at the end of the burning process.
- **Close CD/DVD at the end of the process:** a flag specifying if the media has to be closed (no more burnable) at the end of the burning process.
- **Delete burnt/backed-up files from database at the end of the process:** a flag specifying if the files copied to CD or DVD have to be deleted from the local database at the end of the burning process.

- **Burning Parameters:**

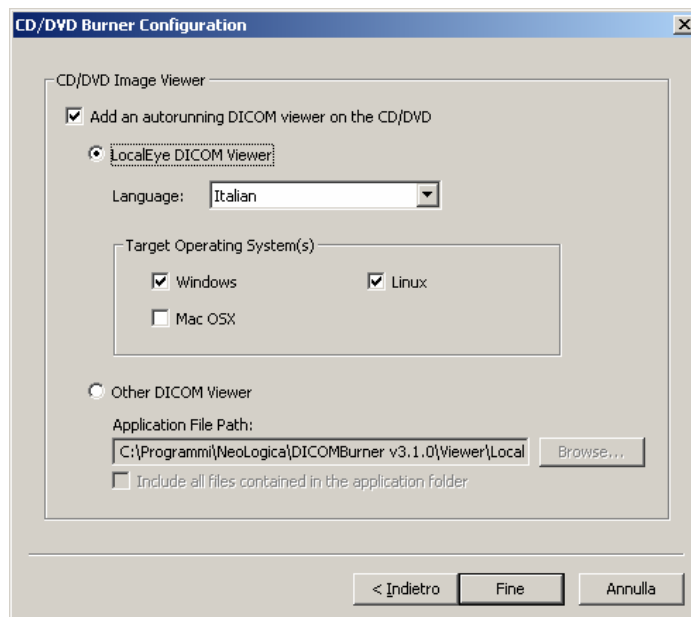
- **Working directory:** specifies a temporary folder where DICOMBurner will copy all the files to be burnt. At the end of the burning process DICOMBurner removes these files.

- **Media Type:** specifies if the burner has to produce CDs or DVDs.



By clicking “**Next>**” button you reach the third step of the GUI wizard where you can specify the following options:

- **CD/DVD Image Viewer:** DICOMBurner allows putting a DICOM image viewer on every burnt CD/DVD, so you can specify the location of the executable application file:
 - **Add an autorunning DICOM viewer on the CD/DVD:** a flag specifying if a DICOM Viewer has to be included into CD/DVD during the burning process.
 - **LocalEye DICOM Viewer:** is a DICOM Viewer developed by NeoLogica and provided with the DICOMBurner application package. For LocalEye Viewer you can select the interface language and the target operating system(s) to run the disk on.
 - **Other DICOM Viewer:** this option allows you to select any other viewer you like. The “**Browse...**” button allows an easy selection of the pathname. If the viewer is made of a set of files, you have to check “*Include all files contained into the application folder*”.



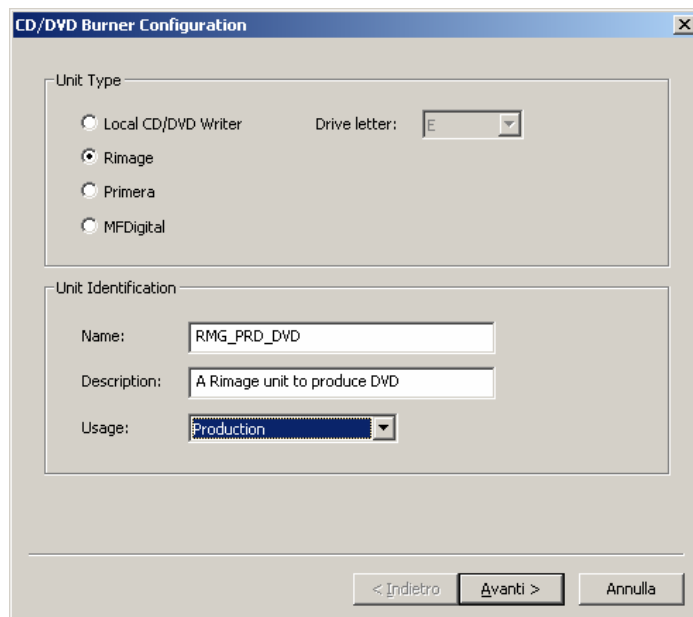
By clicking “**Finish**” button you save the configuration.

12.7 Rimage Unit Configuration

If you have a Rimage CD/DVD Production Unit and a DICOMBurner license including the Rimage option then you can configure it for production or backup purposes.

At the first step of the GUI wizard you have to select “*Rimage*”. Then you can specify the following options:

- **Unit Type:**
 - **Rimage:** specifies a Rimage robot
- **Unit Identification:**
 - **Name:** a not-null and unique name that identifies the unit
 - **Description:** an optional description of the unit
 - **Usage:** the destination use (*Production or Backup*) assigned to the unit



The image shows a 'CD/DVD Burner Configuration' dialog box. It has two main sections: 'Unit Type' and 'Unit Identification'. In the 'Unit Type' section, there are four radio buttons: 'Local CD/DVD Writer', 'Rimage' (which is selected), 'Primera', and 'MFDigital'. To the right of these is a 'Drive letter:' dropdown menu showing 'E'. The 'Unit Identification' section contains three text fields: 'Name' with the value 'RMG_PRD_DVD', 'Description' with the value 'A Rimage unit to produce DVD', and 'Usage' with a dropdown menu showing 'Production'. At the bottom right, there are three buttons: '< Indietro', 'Avanti >', and 'Annulla'.

By clicking “**Next>**” button you reach the second step of the GUI wizard where you can specify the following options:

- **Networking:** specifies the networking parameters used to connect DICOMBurner to the Rimage Unit.
 - **Server Host Name:** specifies the name of the server managing the Rimage Unit.
 - **Server Host Port:** specifies the port of the server managing the Rimage Unit.
 - **Server Password:** specifies the password of the server managing the Rimage Unit.
 - **Email Notification:** a checkbox allows you to receive an email notification on the completion or cancellation of the issued Rimage order.
 - **Email address:** specifies the email address to be notified.

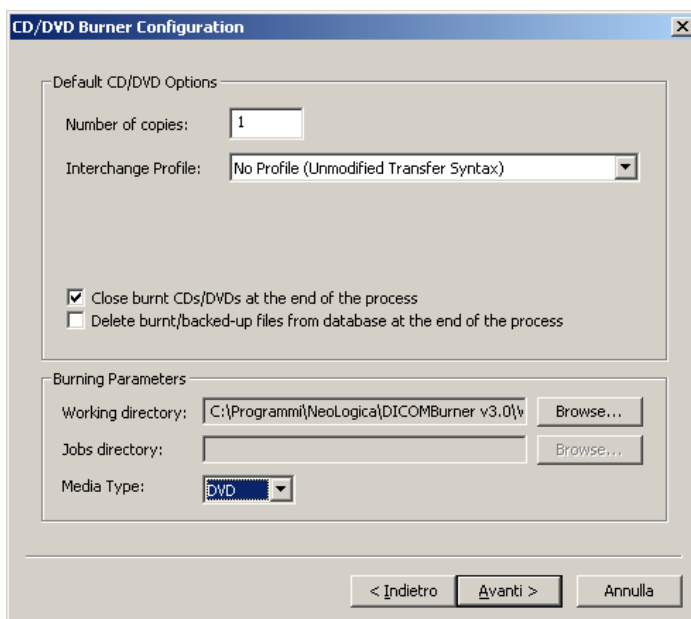
By clicking “**Next>**” button you reach the third step of the GUI wizard where you can specify the following options:

- **Default CD/DVD Options:**

- **Number of copies:** specifies the number of CD/DVD copies for any burn process.
- **Interchange Profile:** specifies a Media Storage Application Profile as defined by DICOM PS 3.11.
- **Close CD/DVD at the end of the process:** a flag specifying if the media has to be closed (no more burnable) at the end of the burning process.
- **Delete burnt/backed-up files from database at the end of the process:** a flag specifying if the files copied to CD or DVD have to be deleted from the local database at the end of the burning process.

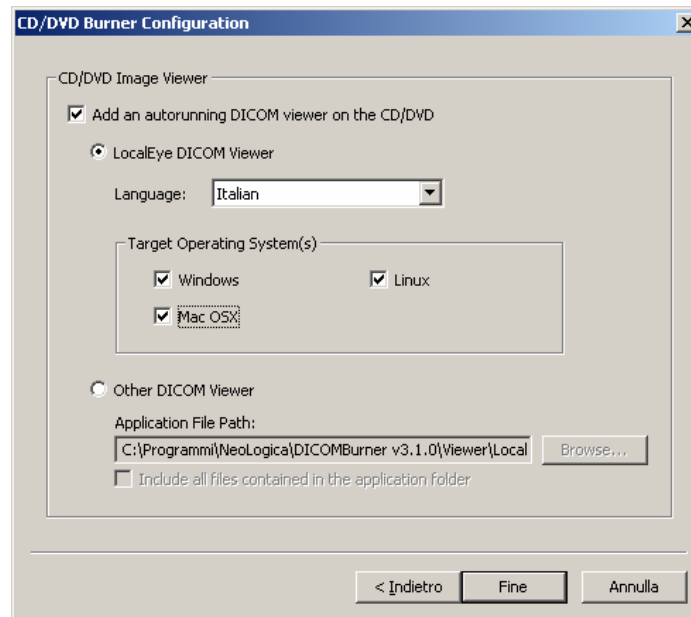
- **Burning Parameters:**

- **Working directory:** specifies a temporary folder where DICOMBurner will copy all the files to be burnt. At the end of the burning process DICOMBurner removes these files.
- **Media Type:** specifies if the burner has to produce CDs or DVDs.



By clicking “**Next>**” button you reach the fourth step of the GUI wizard where you can specify the following options:

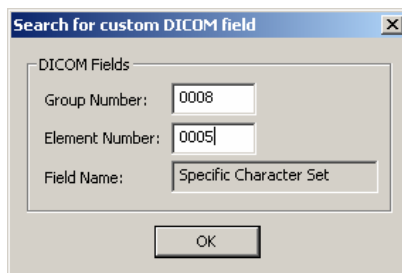
- **CD/DVD Image Viewer:** DICOMBurner allows putting a DICOM image viewer on every burnt CD/DVD, so you can specify the location of the executable application file:
 - **Add an autorunning DICOM viewer on the CD/DVD:** a flag specifying if a DICOM Viewer has to be included into CD/DVD during the burning process.
 - **LocalEye DICOM Viewer:** is a DICOM Viewer developed by NeoLogica and provided with the DICOMBurner application package. For LocalEye Viewer you can select the interface language and the target operating system(s) to run the disk on.
 - **Other DICOM Viewer:** this option allows you to select any other viewer you like. The “**Browse...**” button allows an easy selection of the pathname. If the viewer is made of a set of files, you have to check “*Include all files contained into the application folder*”.



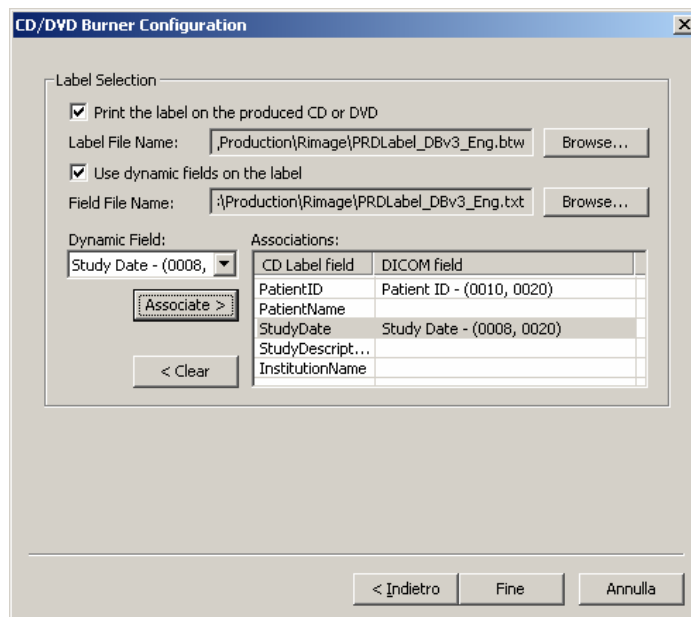
Note: if at the first step of the wizard you set Rimage for *Backup* usage then this step isn't shown because the image viewer is useless on a backup CD/DVD.

By clicking “**Next>**” button you reach the fifth step of the GUI wizard where you can specify the following options:

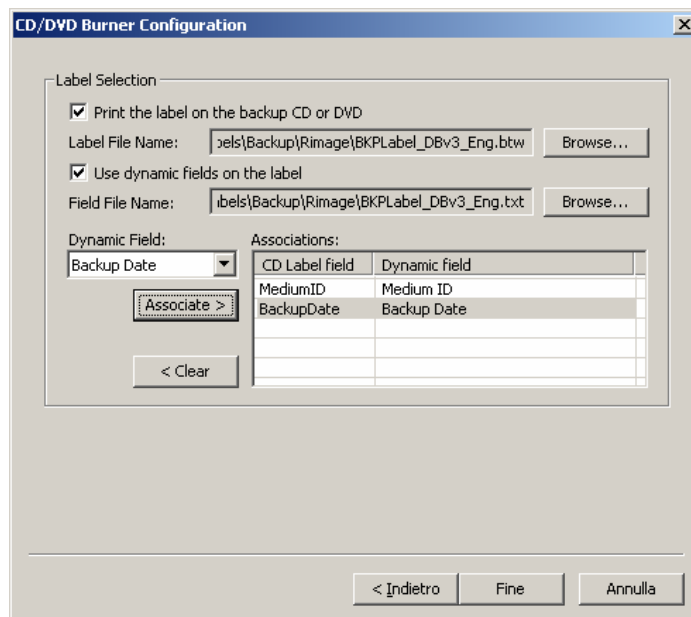
- **Label Selection:** the Rimage Unit allows you to print the CD/DVD surface, so you have to specify the file pathnames containing the label project.
 - **Label File Name:** specifies the pathname of the label project (BTW file).
 - **Field File Name:** specifies the pathname of the text file containing the dynamic field names (a TXT file containing the tab separated placeholders of every text field to be dynamically replaced by DICOMBurner at running time before printing of the media surface).
 - **Dynamic Field Associations:** allows setting the associations between a label field and a dynamic field. The “**Associate>**” and “**<Clear**” buttons respectively create or delete an association between a listed and selected “*CD Label Field*” and a “*Dynamic Field*” of the dropdown containing basic DICOM fields and Custom ones. To set a “*Custom DICOM Field*” you have to select the “*Custom...*” item into the dropdown and then the dialog below appears. It allows you to input the exadecimal “*Group Number*” and the “*Element Number*” of the DICOM element you desire.



The Custom DICOM Field Search dialog



Note: if at the first step of the wizard you set Rimage for *Backup* usage then the label selection step allows you to select a backup label instead of a production one and the dynamic fields aren't of DICOM type:



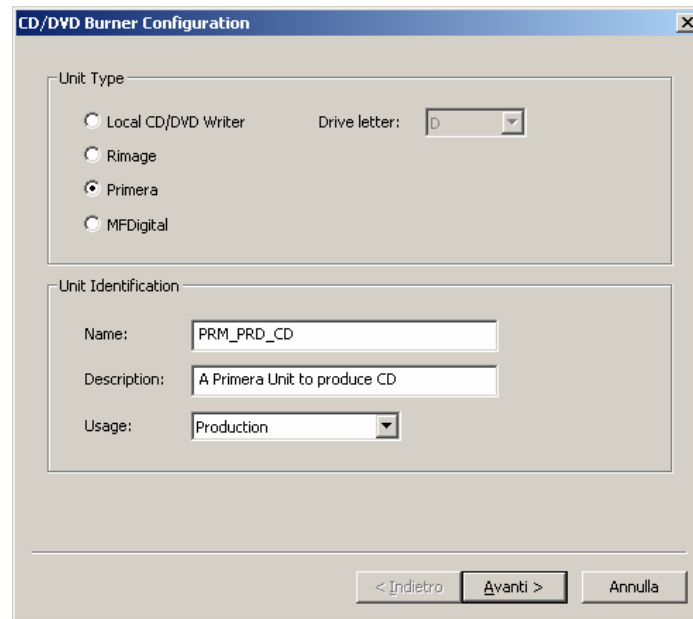
By clicking “**Finish**” button you save the configuration.

12.8 Primera Unit Configuration

If you have a Primera CD/DVD Production Unit and a DICOMBurner license including the Primera option then you can configure it for production or backup purposes.

At the first step of the GUI wizard you have to select “*Primera*”. Then you can specify the following options:

- **Unit Type:**
 - **Primera:** specifies a Primera robot
- **Unit Identification:**
 - **Name:** a not-null and unique name that identifies the unit
 - **Description:** an optional description of the unit
 - **Usage:** the destination use (*Production or Backup*) assigned to the unit



The image shows a 'CD/DVD Burner Configuration' dialog box. It has two main sections: 'Unit Type' and 'Unit Identification'. In the 'Unit Type' section, there are four radio buttons: 'Local CD/DVD Writer', 'Rimage', 'Primera' (which is selected), and 'MFDigital'. To the right of these is a 'Drive letter:' dropdown menu showing 'D'. The 'Unit Identification' section contains three text fields: 'Name' with the value 'PRM_PRD_CD', 'Description' with the value 'A Primera Unit to produce CD', and 'Usage' with a dropdown menu showing 'Production'. At the bottom right, there are three buttons: '< Indietro', 'Avanti >' (which is highlighted), and 'Annulla'.

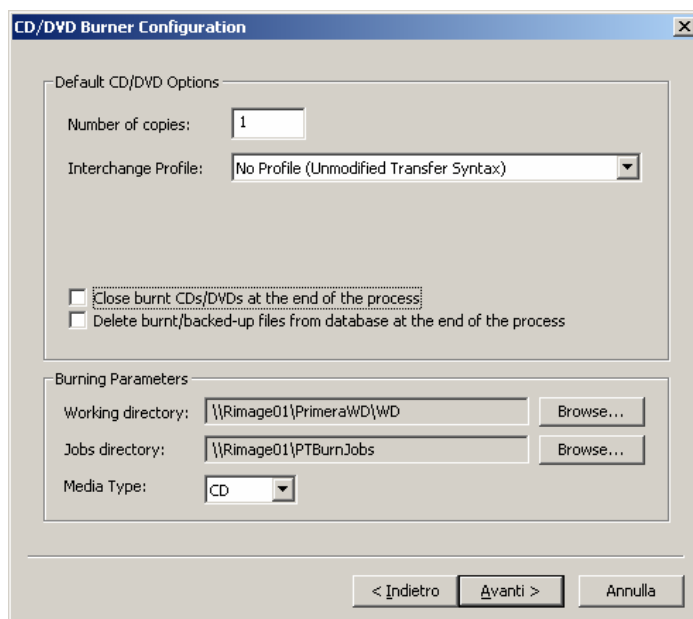
By clicking “**Next>**” button you reach the third step of the GUI wizard where you can specify the following options:

- **Default CD/DVD Options:**

- **Number of copies:** specifies the number of CD/DVD copies for any burn process.
- **Interchange Profile:** specifies a Media Storage Application Profile as defined by DICOM PS 3.11.
- **Close CD/DVD at the end of the process:** a flag specifying if the media has to be closed (no more burnable) at the end of the burning process.
- **Delete burnt/backed-up files from database at the end of the process:** a flag specifying if the files copied to CD or DVD have to be deleted from the local database at the end of the burning process.

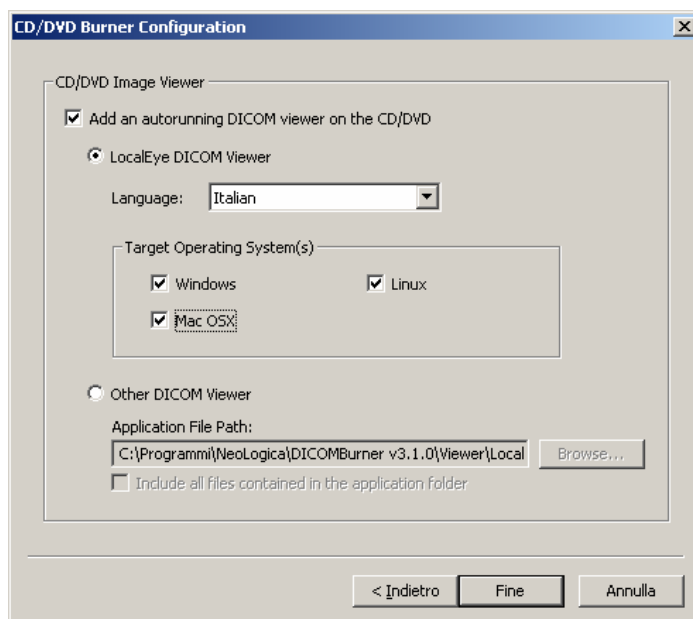
- **Burning Parameters:**

- **Working directory:** specifies a temporary folder where DICOMBurner will copy all the files to be burnt. At the end of the burning process DICOMBurner removes these files.
- **Jobs directory:** specifies the folder where DICOMBurner will copy the job file describing the order to be processed by the “PTBurner” software managing the Primera unit.
- **Media Type:** specifies if the burner has to produce CDs or DVDs.



By clicking “**Next>**” button you reach the fourth step of the GUI wizard where you can specify the following options:

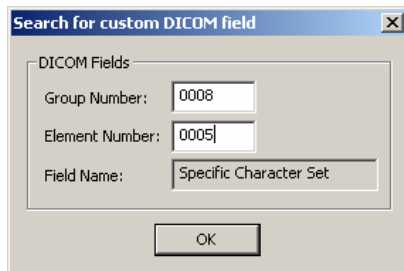
- **CD/DVD Image Viewer:** DICOMBurner allows putting a DICOM image viewer on every burnt CD/DVD, so you can specify the location of the executable application file:
 - **Add an autorunning DICOM viewer on the CD/DVD:** a flag specifying if a DICOM Viewer has to be included into CD/DVD during the burning process.
 - **LocalEye DICOM Viewer:** is a DICOM Viewer developed by NeoLogica and provided with the DICOMBurner application package. For LocalEye Viewer you can select the interface language and the target operating system(s) to run the disk on.
 - **Other DICOM Viewer:** this option allows you to select any other viewer you like. The “**Browse...**” button allows an easy selection of the pathname. If the viewer is made of a set of files, you have to check “*Include all files contained into the application folder*”.



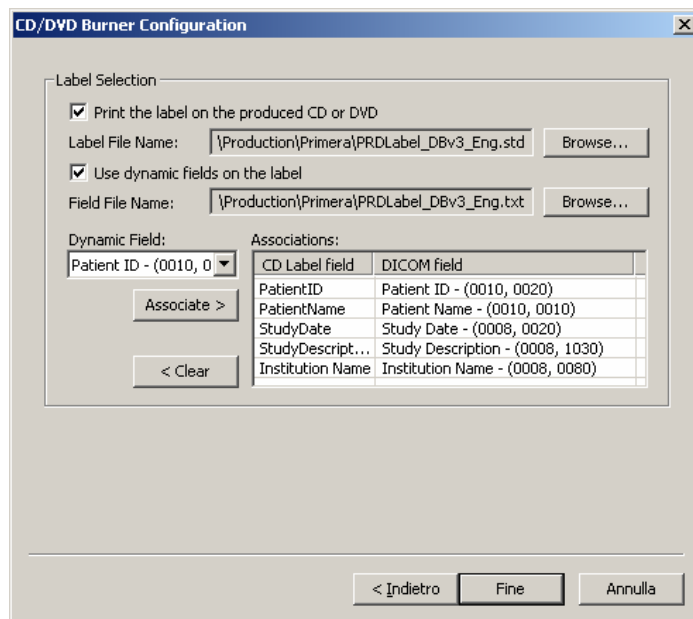
Note: if at the first step of the wizard you set Primera for *Backup* usage then this step isn't shown because the image viewer is useless on a backup CD/DVD.

By clicking “**Next>**” button you reach the fifth step of the GUI wizard where you can specify the following options:

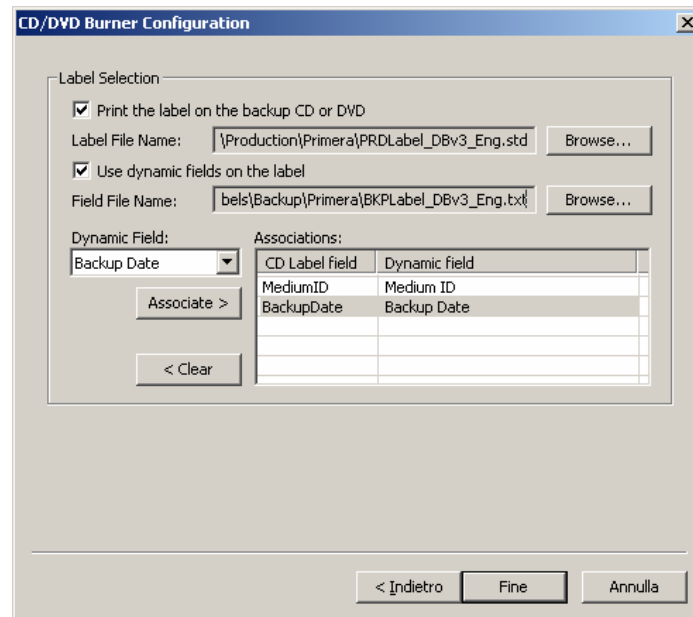
- **Label Selection:** the Primera Unit allows you to print the CD/DVD surface, so you have to specify the file pathnames containing the label project.
 - **Label File Name:** specifies the pathname of the label project (STD file).
 - **Field File Name:** specifies the pathname of the text file containing the dynamic field names (a TXT file containing the comma separated placeholders of every text field to be dynamically replaced by DICOMBurner at running time before printing of the media surface).
 - **Dynamic Field Associations:** allows setting the associations between a label field and a dynamic field. The “**Associate>**” and “**<Clear**” buttons respectively create or delete an association between a listed and selected “*CD Label Field*” and a “*Dynamic Field*” of the dropdown containing basic DICOM fields and Custom ones. To set a “*Custom DICOM Field*” you have to select the “*Custom...*” item into the dropdown and then the dialog below appears. It allows you to input the exadecimal “*Group Number*” and the “*Element Number*” of the DICOM element you desire.



The Custom DICOM Field Search dialog



Note: if at the first step of the wizard you set Primera for *Backup* usage then the label selection step allows you to select a backup label instead of a production one and the dynamic fields aren't of DICOM type:



By clicking “**Finish**” button you save the configuration.

12.9 MFDigital Unit Configuration

If you have a MFDigital CD/DVD Production Unit and a DICOMBurner license including the MFDigital option then you can configure it for production or backup purposes.

At the first step of the GUI wizard you have to select “*MFDigital*”. Then you can specify the following options:

- **Unit Type:**
 - **MFDigital:** specifies a MFDigital robot
- **Unit Identification:**
 - **Name:** a not-null and unique name that identifies the unit
 - **Description:** an optional description of the unit
 - **Usage:** the destination use (*Production or Backup*) assigned to the unit

The dialog box is titled "CD/DVD Burner Configuration". It contains two main sections:

- Unit Type:** Four radio buttons are listed: "Local CD/DVD Writer", "Rimage", "Primer a", and "MFDigital". The "MFDigital" option is selected. To the right, there is a "Drive letter:" label and a dropdown menu showing "D".
- Unit Identification:** Three text input fields are present: "Name:" with the value "MFD_CD_PRD", "Description:" with the value "An MFDigital Unit to produce CD", and "Usage:" with a dropdown menu showing "Production".

At the bottom right, there are three buttons: "< Indietro", "Avanti >", and "Annulla".

By clicking "**Next>**" button you reach the second step of the GUI wizard where you can specify the following options:

- **Networking:** specifies the networking parameters used to connect DICOMBurner to the MFDigital Unit.
 - **Server User Name:** specifies the name of the user configured on the MFDigital Unit (the default is mfdigital).

The dialog box is titled "CD/DVD Burner Configuration". It contains a "Networking" section with the following fields:

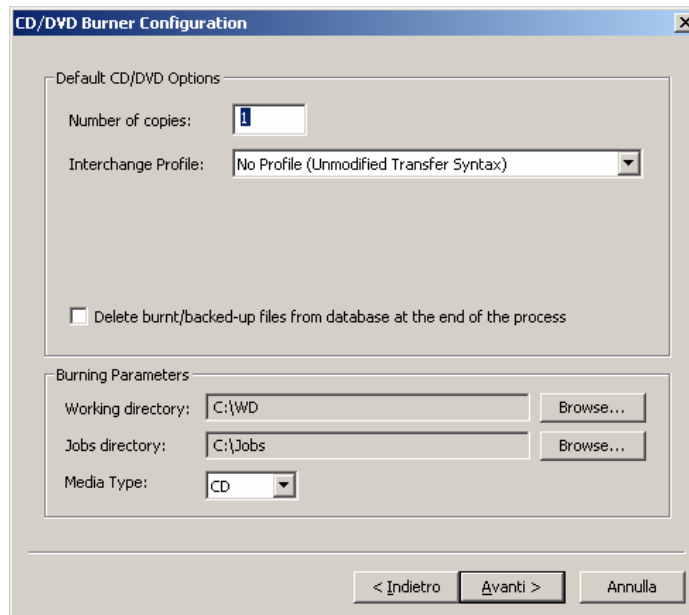
- "Server User Name:" with the value "mfdigital".
- "Server Host Name:" (empty).
- "Server Host Port:" (empty).
- "Server Password:" (empty).

Below these fields, there is a checkbox labeled "An email will be sent on completion or cancellation of the order." which is currently unchecked. Below the checkbox is an "Email address:" label and an empty text input field.

At the bottom right, there are three buttons: "< Indietro", "Avanti >", and "Annulla".

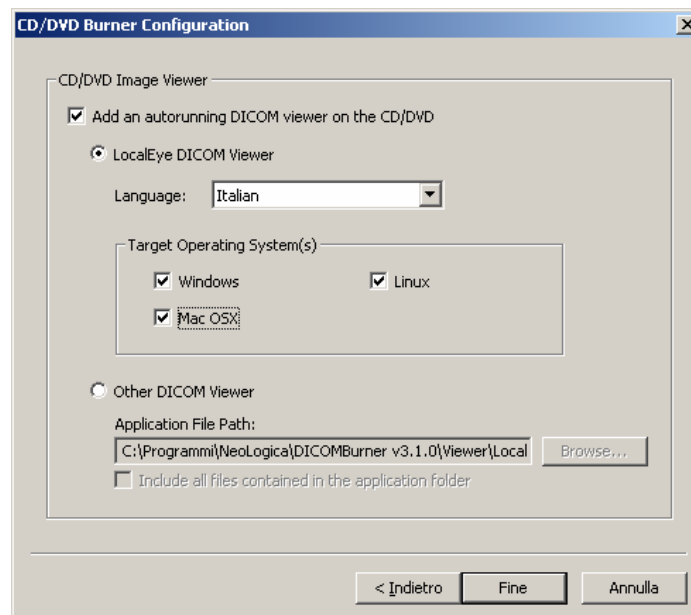
By clicking “**Next>**” button you reach the third step of the GUI wizard where you can specify the following options:

- **Default CD/DVD Options:**
 - **Number of copies:** specifies the number of CD/DVD copies for any burn process.
 - **Interchange Profile:** specifies a Media Storage Application Profile as defined by DICOM PS 3.11.
 - **Close CD/DVD at the end of the process:** a flag specifying if the media has to be closed (no more burnable) at the end of the burning process.
 - **Delete burnt/backed-up files from database at the end of the process:** a flag specifying if the files copied to CD or DVD have to be deleted from the local database at the end of the burning process.
- **Burning Parameters:**
 - **Working directory:** specifies a temporary folder where DICOMBurner will copy all the files to be burnt. At the end of the burning process DICOMBurner removes these files.
 - **Jobs directory:** specifies the folder where DICOMBurner will copy the job file describing the order to be processed by the “*Director*” software managing the MFDigital unit.
 - **Media Type:** specifies if the burner has to produce CDs or DVDs.



By clicking “**Next>**” button you reach the fourth step of the GUI wizard where you can specify the following options:

- **CD/DVD Image Viewer:** DICOMBurner allows putting a DICOM image viewer on every burnt CD/DVD, so you can specify the location of the executable application file:
 - **Add an autorunning DICOM viewer on the CD/DVD:** a flag specifying if a DICOM Viewer has to be included into CD/DVD during the burning process.
 - **LocalEye DICOM Viewer:** is a DICOM Viewer developed by NeoLogica and provided with the DICOMBurner application package. For LocalEye Viewer you can select the interface language and the target operating system(s) to run the disk on.
 - **Other DICOM Viewer:** this option allows you to select any other viewer you like. The “Browse...” button allows an easy selection of the pathname. If the viewer is made of a set of files, you have to check “Include all files contained into the application folder”.



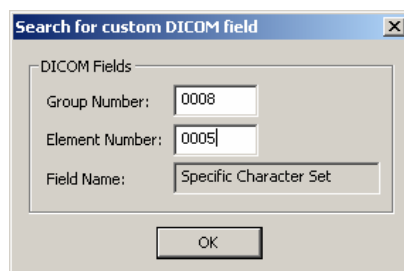
Note: if at the first step of the wizard you set MFDigital for *Backup* usage then this step isn't shown because the image viewer is useless on a backup CD/DVD.

By clicking “**Next>**” button you reach the fifth step of the GUI wizard where you can specify the following options:

- **Label Selection:** the MFDigital Unit allows you to print the CD/DVD surface, so you have to specify the file pathnames containing the label project.
 - **Label File Name:** specifies the pathname of the label project (a LBL file describing the object location of every label component including the placeholders, preceded by an underscore, of every text field to be dynamically replaced by DICOMBurner at running time before printing of the media surface).

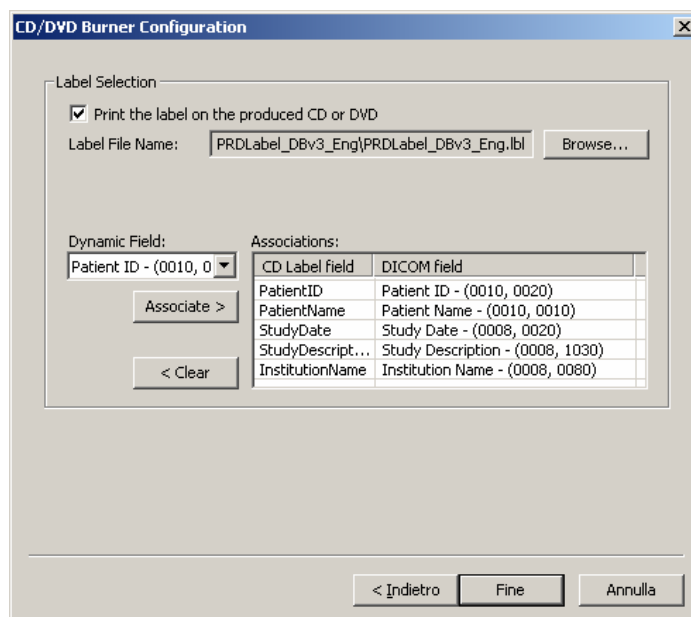
Note: if the label project contains images, they have to be put in the same folder of the LBL file.

- **Dynamic Field Associations:** allows setting the associations between a label field and a dynamic field. The “**Associate>**” and “**<Clear**” buttons respectively create or delete an association between a listed and selected “*CD Label Field*” and a “*Dynamic Field*” of the dropdown containing basic DICOM fields and Custom ones. To set a “*Custom DICOM Field*” you have to select the “*Custom...*” item into the dropdown and then the dialog below appears. It allows you to input the hexadecimal “*Group Number*” and the “*Element Number*” of the DICOM element you desire.



The dialog box titled "Search for custom DICOM field" contains three input fields: "Group Number" with the value "0008", "Element Number" with the value "0005", and "Field Name" with the value "Specific Character Set". There is an "OK" button at the bottom.

The Custom DICOM Field Search dialog

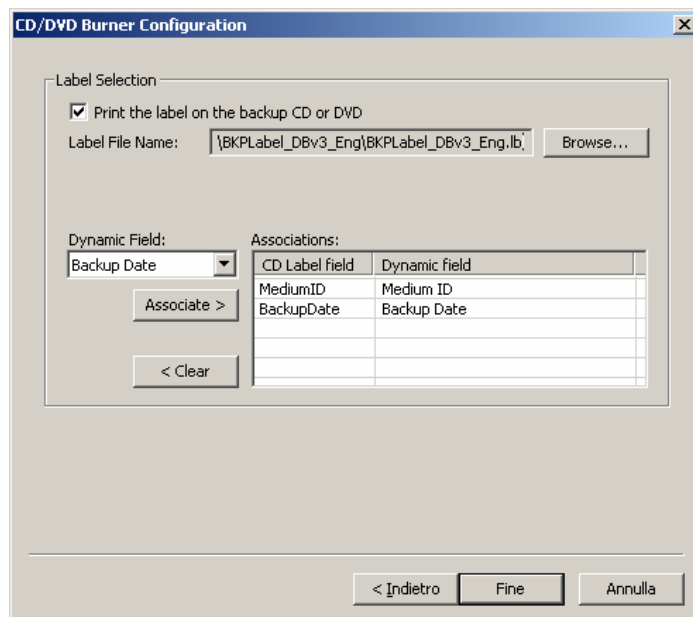


The "CD/DVD Burner Configuration" dialog box has a "Label Selection" section with a checked option "Print the label on the produced CD or DVD" and a "Label File Name" field containing "PRDLabel_Dbv3_Eng\PRDLabel_Dbv3_Eng.lbl" with a "Browse..." button. Below this is a "Dynamic Field" dropdown menu showing "Patient ID - (0010, 0)". To the right is an "Associations" table:

CD Label field	DICOM field
PatientID	Patient ID - (0010, 0020)
PatientName	Patient Name - (0010, 0010)
StudyDate	Study Date - (0008, 0020)
StudyDescript...	Study Description - (0008, 1030)
InstitutionName	Institution Name - (0008, 0080)

Below the table are "Associate >" and "< Clear" buttons. At the bottom of the dialog are "< Indietro", "Fine", and "Annulla" buttons.

Note: if at the first step of the wizard you set MFDigital for *Backup* usage then the label selection step allows you to select a backup label instead of a production one and the dynamic fields aren't of DICOM type:



By clicking “**Finish**” button you save the configuration.

12.10 Automatic CD/DVD Production Configuration

The “**Automatic CD/DVD Production Configuration**” tab allows setting up the parameters to manage the automatic burning processes. A description of each configuration parameter available in this dialog box is now provided:

- **Automatic CD/DVD Production Options:** to enable this functionality you have to check the “*Enable Automatic CD/DVD Production*”.
- **Production unit:** specifies the unit to be used as default for automatic production.
 - **CD/DVD default unit name:** the name of the default unit for automatic production
- **Unit selection rules:** this section allows setting up some unit selection rules to forward a production job through a production unit based on the Calling AE Title, Modality and Referring Physician of the current store request. In order to add a new unit selection rule, the “**Add**” button must be pressed: the “**Add Unit Selection Rule**” dialog appears, which allows specifying the values of the parameters composing the new unit selection rule:

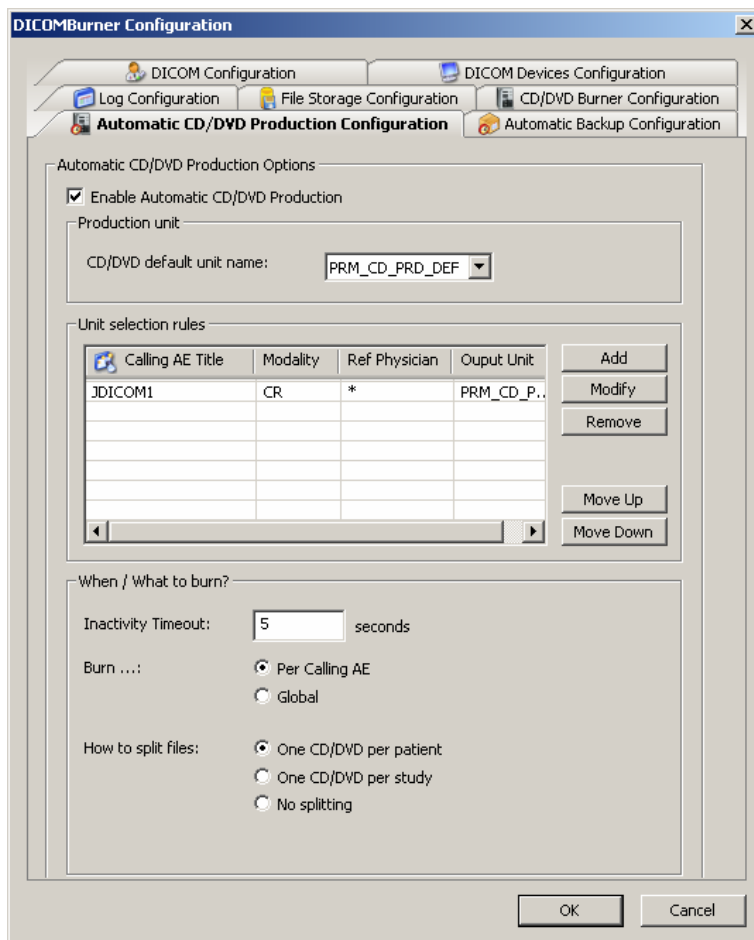
Each Unit Selection Rule is composed of the following parameters:

- **Calling AE Title:** the Calling AE Title of the association. The user may either specify a specific Calling AE Title, a Calling AE Title present in the DICOMBurner database or select the “**Any**” option if this rule should match any Calling AE Title.
- **Modality:** the Modality performing the store request. Even in this case, the “**Any**” option and a list of known modalities are provided.
- **Referring Physician:** the Referring Physician for the present exam. Even in this case, the “**Any**” option and a list of known Referring Physicians are provided.
- **Output Unit:** the output unit for the current rule. It can be chosen among the available units.

To modify or remove a selected rule the buttons **Modify** and **Remove** are provided. Since the rules are applied following a top-down order the buttons **Move Up** and **Move Down** enable you to move the rules up and down in the list.

- **When/What to burn:** specifies when the automatic burn process has to start and what it has to burn.
 - **Inactivity Timeout:** this timeout is expressed in seconds and it is reset every time new data is received from the SCUs. When it expires the burning process starts.
 - **Burn ...:** specifies the type of burning process to start after inactivity timeout expiration.
 - **How to split files:** specifies how the DICOM files has to be divided into the produced CD/DVD:
 - one CD/DVD per patient
 - one CD/DVD per study
 - no splitting (a CD/DVD can contains DICOM files belonging to more than one patient or study)

The following picture shows a snapshot of the “**Automatic CD/DVD Production Configuration**” tab:



The Automatic CD/DVD Production Configuration tab

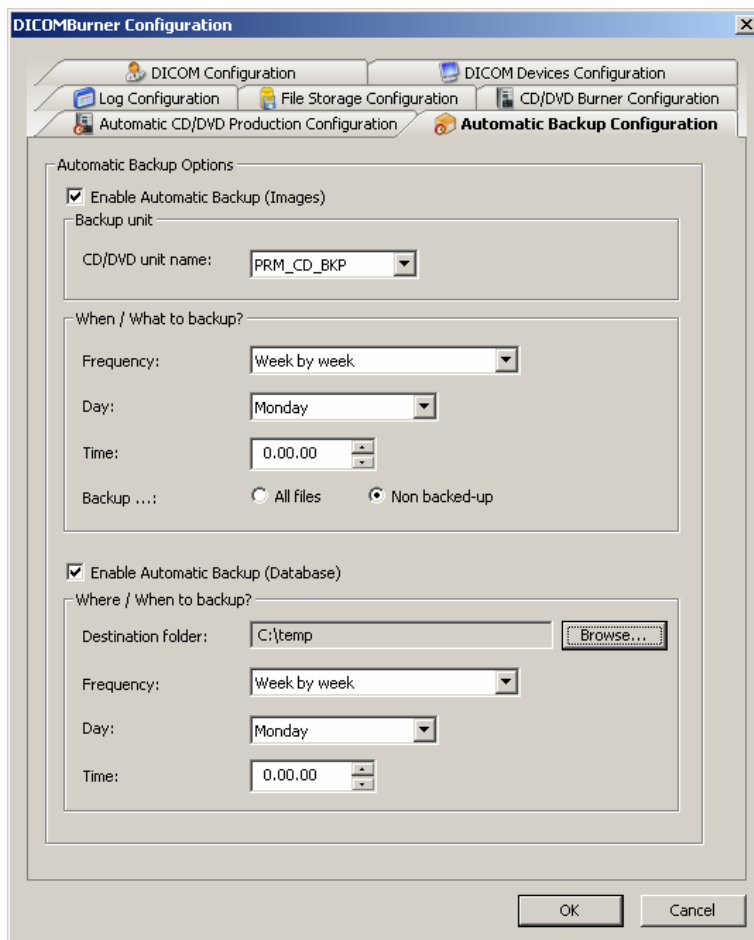
12.11 Automatic Backup Configuration

The “**Automatic Backup Configuration**” tab allows setting up the parameters to manage the automatic backup processes (for DICOM files storage and database content). A description of each configuration parameter available in this dialog box is now provided:

- **Automatic Backup Options:** allows to enable/disable and set parameter related to the automatic backup of DICOM files storage and database.
 - **DICOM files backup:**
 - **Backup unit:** specifies the unit to be used as default for automatic backup of DICOM files.
 - **CD/DVD unit name:** the name of the default unit for automatic backup
 - **When/What to backup:** specifies when the automatic backup process has to start and what it has to backup.

- **Frequency:** specifies the frequency of the backup operation selected between “*Week by week*” or “*Day by day*”.
- **Day:** specifies the day of the week in which the backup is launched (available only for “*Week by week*” backup)
- **Time:** specifies the time of the day in which the backup is launched
- **Backup ...:** specifies which DICOM files has to be backed-up
 - All files
 - Non backed-up
- **Database backup:**
 - **Where/When to backup:** specifies where the database backup file has to be stored and when the process will start.
 - **Destination folder:** by pressing the “**Browse...**” button, a folder dialog appears allowing the user to specify the folder where the database backup file has to be stored (we recommend to backup the database on a removable media).
 - **Frequency:** specifies the frequency of the backup operation selected between “*Week by week*” or “*Day by day*”.
 - **Day:** specifies the day of the week in which the backup is launched (available only for “*Week by week*” backup)
 - **Time:** specifies the time of the day in which the backup is launched

The following picture shows a snapshot of the “**Automatic Backup Configuration**” tab:



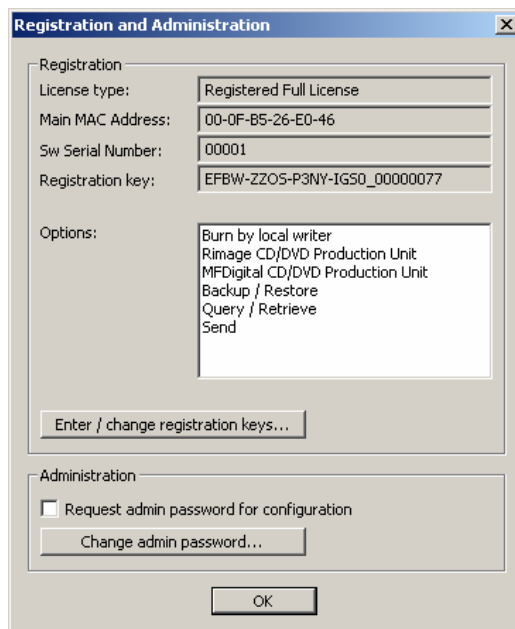
The Automatic Backup Configuration tab

13 Registration and Administration

13.1 Registration & Administration dialog box

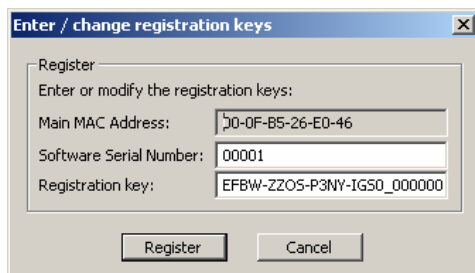
The “**Registration & Administration**” dialog box appears when the DICOMBurner user selects the “**Registration & Administration**” menu item from the DICOMBurner tray pop-up menu. It shows the kind of license activated for the current copy of DICOMBurner.

The following picture shows a snapshot of the “**Registration & Administration**” dialog box:

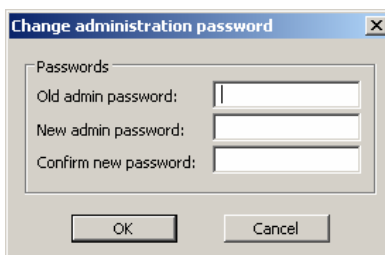


The Registration & Administration dialog box

Through the “**Enter/change registration keys...**” button, the user may enter new registration keys for the current copy of DICOMBurner, or change the current registration keys. This operation is protected by an *administration password*. The default administration password for DICOMBurner is “*db_2005*”.



The administration password may be changed by the user by pressing the “**Change admin password...**” button; the “**Change administration password**” dialog (shown in the following picture) will appear.



The DICOMBurner administrator (i.e., a person who knows the DICOMBurner administration password) may also choose to protect the DICOMBurner configuration section with the administration password: if the **“Request admin password for configuration”** option is enabled, then the user will be asked for the administration password when the **“Settings”** button of the main toolbar is pressed. This is a kind of protection against possible “misuses” of the DICOMBurner configuration interface.