Set up DICOM Retrieval Service between DICOMan and ConQuest DICOM

Yulong Yan PhD

DICOMan (http://www.radonc.uams.edu/DICOMan.asp) works seamlessly with ConQuest DICOM (http://www.xs4all.nl/~ingenium/dicom.html) that supports storage and query/retrieval services. DICOM objects from various imaging modalities and treatment planning systems can be transferred via DICOM connection to your in-house RT PACS (ConQuest DICOM is the RT PACS throughout this document). Powered with the world's most popular open source database engine, MySQL (http://www.mysql.com/), it can handle vast amount of image data with very efficient file retrieval. It is especially useful for case presentations in radiation therapy clinics equipped with various planning and delivery systems. The document is intended to help users set up DICOM retrieval service between DICOMan and RT PACS. To do so, the user needs to configure both ends as following.

1. Requirements
   - Install DICOMan and ConQuest DICOM on the same or different computers. Installing the server as NT service is recommended (see Figure 3).
   - Acquire static IP addresses for the computers on which DICOMan and ConQuest DICOM are to be installed.

2. Configure DICOMan

![Figure 1 Add RT PACS DICOM entity in DICOMan.](image)
To add a DICOM entry, the user is advised to click the [DICOM Retriever] button with a golden retriever icon on the toolbar as shown in Figure 1. When the DICOM retriever window pops up, click the very first button with ellipsis title to access the DICOM entity edition module. Click the button [Add] to expand the window so that you can add a new DICOM entity in DICOMan.

**Called Host Name:** It can be anything that helps you identify the DICOM entity. In this case, it should be the identifier of your RT PACS (for example, “RadOne” in Figure 1).

**Called AE Title:** It should match the AE title of your RT PACS. For instance, “RADONCDCM” in Figure 1. The setting of your RT PACS is shown in the input slot of “Local unique name of this DICOM server (application entity, AE)” in Figure 3.

**Called Port:** It should match the listening port number of your RT PACS. The setting of your RT PACS is shown in the input slot of “TCP/IP port to use in Figure 3. The default is 104.

**Called IP Address:** It should match the IP address of the computer where ConQuest DICOM was installed. DICOMan will retrieve the current IP address for you, but it must be changed if your RT PACS does not reside on the same computer along with DICOMan.

**Calling AE Title:** It is the AT Title of DICOMan. It should match the corresponding DICOM entity in your RT PACS (see Figure 2 and Figure 1).

**Calling Port:** It is the calling port number of DICOMan. Please be advised that it MUST NOT be the listening port number of your RT PACS.

After entering the information, click the checkbox [Q/R Enabled?] and click [Update] button to add this new DICOM entity to DICOMan system database.

3. **Configure ConQuest DICOM**

![Figure 2 Add a DiCOMan DICOM entity in ConQuest DICOM.](image-url)
Click the tab [Known DICOM providers]. In the edit window, enter your DICOMan DICOM entity.

First Column: The calling AE title of your DICOMan.
Second Column: The IP address of the computer where DICOMan was installed.
Third Column: The calling port number of your DICOMan.
Fourth Column: type “un” to disable incoming image compression.

Figure 3 Install Conquest DICOM as NT service.

ConQuest DICOM can be installed as a NT service so that one does not have to manually execute ConQuest DICOM to activate the server. The database of ConQuest DICOM can also be tailored to meet your needs, however its existing tables and table columns MUST NOT be deleted. Please feel free to contact technical support for DICOMan should you need further assistance. We would be glad to help you out. Enjoy.

September 14, 2011 @ UAMS