MIQA 2.0
Installation local system

1. MIQA overview

CT, MR, RT, PET,..

MIQA DICOM Service

DICOM files are copied to the incoming folder through a DICOM node or by copying files directly to the folder.

Incoming

OIS

Mosaiq, Varian

MIQA

MIQA monitors the incoming folder, reads the DICOM files, and stores structured information in the MIQA database.
Files with unrecognized format are moved to the unknown folder

Unknown

SQL-server
MIQA database

MIQA Management

MIQA Management is used to:
- Administer the databasen,
- Get overview,
- Keep order,
- Export and anonymize
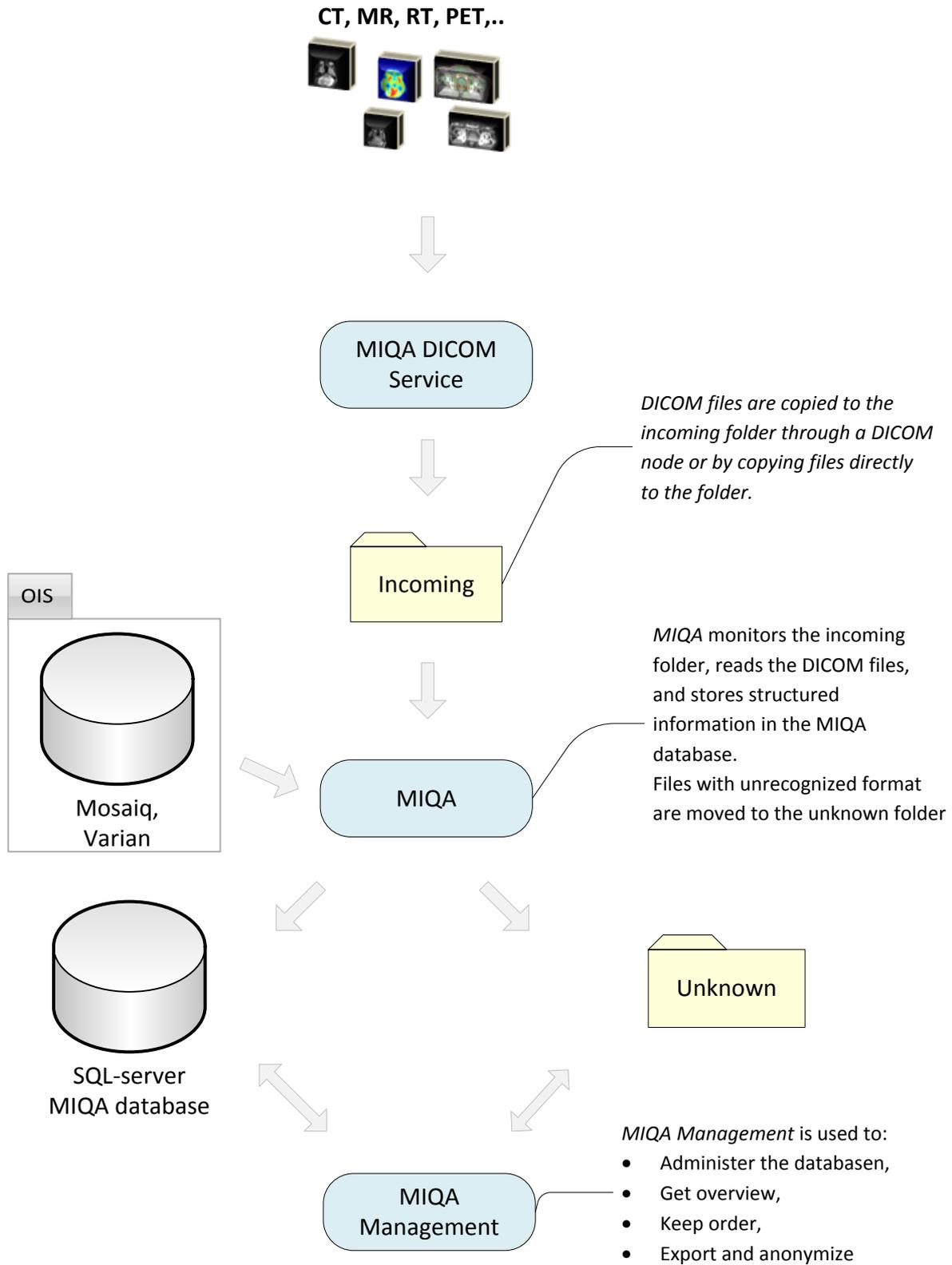
2. System requirements

The MIQA system can be installed and configured in different ways. This manual only describes when the system is installed on a single computer.
The requirement is:

- **Windows server 2008 R2 or higher / Windows 7 / Windows 10**

- **SQL Server 2008 R2 / SQL Server 2012 / SQL Server 2014**
  Must be configured for FILESTREAM, which is a SQL server feature that allows storage of and efficient access to BLOB data using a combination of SQL Server and the NTFS file system. Se chapter 5 in this document.
  If Microsoft Sever already is installed, make sure it is configured for FILESTREAM by following the instruction in chapter five in this manual.
  If Microsoft SQL Server is not installed, Microsoft SQL Server 2014 Express 64-bit can be downloaded from www.gentleradiotherapy.se. To install, unpack the zip file and do one of the following:
  - **Normal installation**. Run setup.exe. Use default values until the step *Database Engine Configuration*:
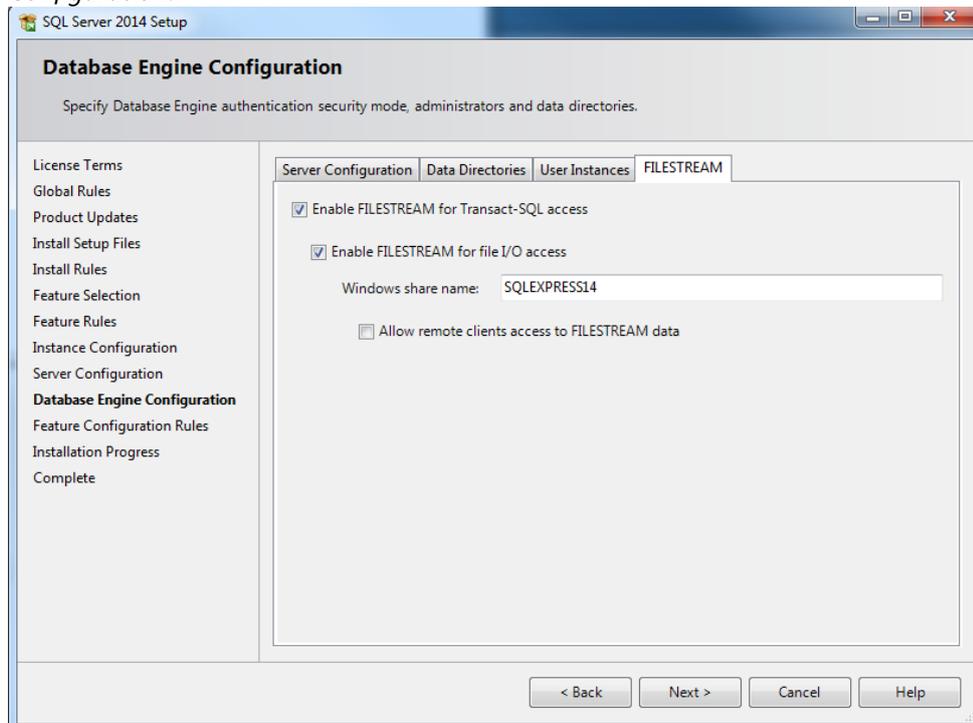
    Check Enable FILESTREAM for Transact-SQL access and Enable FILESTREAM for file I/O access and continue.
    If everything continues without problem, a SQL-server instance named SQLEXPRESS enabled for FILESTREAM will be installed.
  - **Silent installation**, which means that the installation process is done automatically by using a configurationfile customized for MIQA. Start the installation by clicking the shortcut *SetupMIQASQL*, and a SQL-server instance named SQLEXPRESS enabled for FILESTREAM will be installed.

- .NET Framework 4.5

- Storage area for DICOM files
Depending on number of files being stored in the database, more or less hard drive space is needed.

3. Download installation files

Download the installation file from www. gentleradiotherapy.se. The MIQA installation file is just one single zip file, miqa.zip, containing:
1. miqa.zip
2. miqamanagement.zip
3. MIQADICOMService.zip

At the moment all installations are xcopy installations, i.e for each program you just copy a folder containing all necessary files to some folder on the hard drive, or by extracting the zip files to the folder.

4. Installation of MIQA 2.0

To install you need administrator privileges.
Follow these steps:

1. Create the Incoming and Unknown folders, e.g. c:\miqa\incoming and c:\miqa\unknown
2. If not already configured at the installation, configure/setup the SQL-server for FILESTREAM. Read chapter 5 below.
3. Install MIQA by extracting the miqa.zip file to a MIQA folder on the hard drive.
4. Create the database.
    4.1.1. Start MIQA, click on the *Settings* button to activate the settings dialog.
    4.1.2. Click on the *Setup database* button.
        4.1.2.1. Enter the MIQA Database connection string by activating the Connection dialog (click on ...). Enter hostname, the name of the database and select "Integrated security".
        NOTE! If you enter the name of a database that do not exist, you can not use the Check connection button.
        4.1.2.2. Enter "Filestream location", e.g. c:\miqa\miqafs. This is the directory where SQL-server stores the files. You should never remove or adding files manually in this directory.
        4.1.2.3. Click on *Create Tables*.
        If the database does not exist, it will be created in this step.
        Close the dialog.
    4.2. Fill in the MIQA settings dialog. The following fields are required:
        4.2.1. MIQA Database connection string.
        4.2.2. Path to the Unknown folder.
        4.2.3. Path to the Incoming folder.
5. Test of MIQA.
    5.1. Start MIQA, and click on *Start* in the menu to activate the monitoring of the Incoming folder.
    5.2. Copy a few DICOM files to the Incoming folder. Within 10s (if default settings are used) the files will be inserted into the database and removed from the Incoming folder.
6. Install MIQA Management by extracting the MIQAManagement.zip file to a MIQAManagement folder on the hard drive.
    6.1. Start MIQA Management, open the Settings dialog and enter the *MIQA Database connection*. Restart the program.
    6.2. In the patient tab, the patients copied during the test of MIQA should be listed.
7. Install and start MIQA as a windows service.
    7.1. Start MIQA and select Installation: Install MIQA Service. Note! This requires that the Windows feature Power Shell is installed on the computer. MIQA is installed as a windows service with the name MIQAService..
8. Start MIQA Management, select the MIQA Service tab and click on the *Start* button to activate MIQA's monitoring of the incoming folder.

5. Configure/setup the SQL-server for FILESTREAM

Here follows an excerpt from a Microsoft® document describing how to configure the SQL-server for FILESTREAM.
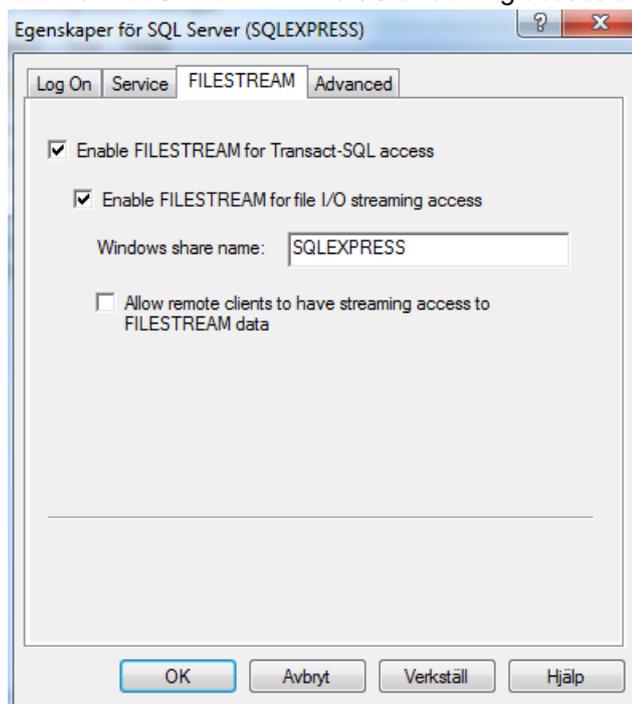
5.1 Enabling FILESTREAM in Windows

FILESTREAM is enabled either during the installation of SQL Server 2008 / 2012 / 2014 or by running SQL Server Configuration Manager. Here are the steps to follow:

1. On the **Start** menu, point to **All Programs**, point to **Microsoft SQL Server 20XX**, point to **Configuration Tools**, and then click **SQL Server Configuration Manager**.

2. In the list of services, click on **SQL Server Services** and locate the instance of SQL Server on which you want to enable FILESTREAM.
   Right-click the instance and then click **Properties**.
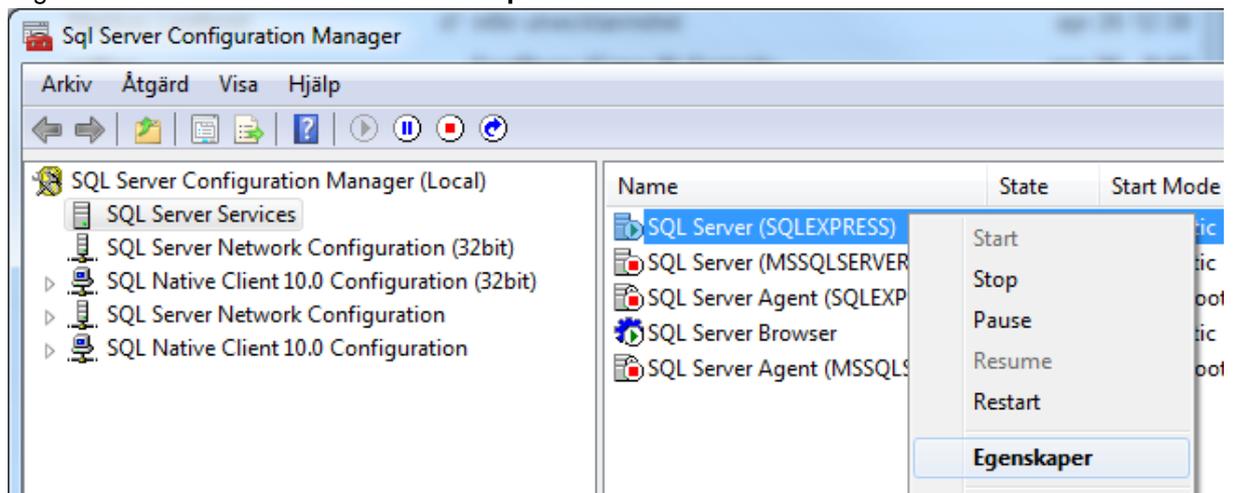
3. In the **SQL Server Properties** dialog box, click the **FILESTREAM** tab and select the *Enable FILESTREAM for Transact-SQL Access* check box and the *Enable FILESTREAM for file I/O streaming access* check box.

4. Click **Apply**.