

LabComm stores data from analysers in an SQL Database, but can also store data in an HL7 file format.

Labs should consider using files to store analyser data rather than paper copies of that data. In regulated environments laboratories may need to store the source data for 10 or 20 years. Thousands of labs store paper printout from analysers but there are considerable cost savings in storing analyser results electronically. The costs of maintaining conventional paper archives is considerable as well as the time required to track an individual sample down.. Electronic storage offers a more convenient and cost effective way to store, archive and retrieve this data.

LabComm usually communicates with another LIMS or HIS system by sending data in HL7 format using TCP/IP sockets. Files can be also used to store and transmit data. We use the HL7 2* standard. HL7 files are text files with pipe (|) delimiters and can be opened with software such as Notepad or Textpad. HL7 2.5 is the most common standard. A file will typically contain the data from one lab no (result data or QC data). Its possible to store result data in an SQL format and QC data in a file format - that can be useful if data is being sent to different systems

If files are used for data storage, thought should be given to the file name for easy searching and indexing. This will make it easy to locate an individual sample or analyser result. Our recommended solution is to store the files by analyser, then the year they were created, then by month and finally by file name. It is useful to know if the files were sent to or received from the analyser and we can include a code in the file to indicate that.

The file name typically includes the SID (sample identifier or Lab No), as this is the main method of sample identification. The data is stored in a very compact form. The naming on the files (as they are automatically created from data from the analyser) is configurable and one solution is shown below:

We create files with names such as:

D10_RH_13009389_20150309121616_00003479.dat

D10

RH

13009389

20180309121616

Analyser Name

R=Receive H=HL7 format

Laboratory No (SID)

Date and Time (ISO format)

00003479

dat

YYYYMMDDHHSS

Incremental file number

File extension name

These files can then be stored within directories that have a year and a month value as the file name. All the information transmitted by the analyser, including the model, serial no, the Operator ID, the date and time of the test and the analyser reference range can be captured and stored. if the data is sent we can capture it

The file sizes are small, typically 1 to 2 Kb in size (1000 - 2000 bytes). In this era of big data you can store tens of millions of files on one hard drive - or a cloud drive. (Rackspace, Amazon Web Services, Google Drive, Azure, Dropbox) etc. As with any other data stored the files can be password encrypted first.