AppLabs
no doubt about it

# DICOM

Digital Imaging and Communications in Medicine (DICOM) is a standard developed jointly by the American College of Radiology (ACR) and the National Electronics Manufacturer's Association (NEMA). The DICOM standard has been used successfully to exchange medical images for some time. However, the important aspect of image display which is consistency has mostly been disregarded in the past, which led to inconsistent implementations. This situation is changing now since DICOM has defined a set which guarantee the consistency of grayscale images for both hardcopy and softcopy. AppLabs' testing services helps evaluate the conformance of an implementation of these.

## Key areas in DICOM

AppLabs' solutions draw on a wide range of skills and perspectives. The Capital Markets initiatives are led by domain and technology experts and backed by a team of high-caliber professionals. AppLabs has a dedicated Center of Excellence which concentrates on the training and development of resources within the Capital Markets domain and testing the complex real-time trading application. AppLabs' resources are experienced in developing, implementing and maintaining leading edge testing and QA solutions for its client base across the world to fulfill their technological needs.

- DICOM communication verification between PACS workstation and a remote system.
- Sending images from the local PACS workstation database to a remote system.
- Queries of remote database contents.
- Retrieval of images from a remote database to the local PACS workstation database.
- Print images.
- Retrieve a modality worklist from a remote system.

## The challenges

- DICOM communication tribulations between modalities from different manufacturers are very frequent.
- DICOM header values are created without standards.

## AppLabs' Solution

- Checking DICOM "objects" (such as images, structured reports etc.) to confirm whether they conform to the rules for the chosen SOP class.
- Checking network transactions to see if all mandatory fields are offered and supported. This is particularly useful for query/retrieve and modality work list applications and servers.
- More extensive testing, testing the tolerance of applications to minimalist data received from remote machines.
- DICOM header verification using DVTK (DICOM Verification Tool Kit) tool and DICOM Dump software.