

# iRIS - Integrated Radiology Information System

## Introduction

Infonet Kranj, a member of SRC group developed a new proprietary product in the field of RIS/PACS solutions. We were inspired by one guiding thought: full integration! Unlike other providers of PACS/RIS products, we developed our own radiology system which is fully integrated with our BIRPIS21 Clinical Information System.



Picture 1.

## Comprehensive support for radiology departments and full system integration

The Infonet iRIS system supports the full range of operations in radiology departments and other image-intensive units. The system provides a comprehensive solution integrating PACS and RIS, providing connectivity with other HIS systems which support the HL7 data

interchange protocol. Infonet iRIS system is fully compatible with all DICOM devices currently used in the hospital. In addition, it allows for digitalization of images from devices which are not compatible with DICOM. The iRIS solution covers the following areas:

- capturing and archiving of all image materials (images, films) captured at the department,
- scheduling radiological examinations and organizing diagnostic examinations by individual device,
- dictating test results, sending audio files to the administrator, retyping test results and archiving results in a searchable database,

- distribution of images, video and test results across the hospital computer network to department physicians.

The system's adaptability and strong integration with the hospital IS ensures total support for work process at radiology units.

## Security and reliability

All referrals, examinations and reports are stored on computer equipment, whose components operate with full redundancy. It should be pointed out that once the iRIS system

is established, traditional film and paper-format diagnostic results are no longer used. For this reason it is particularly important that a defect on any single computer component does not cause system failure, potentially leading to a critical situation.

Because images and diagnostic results are stored on the computer system, the data can be easily maintained and archived, and it can be accessed by authorized personnel only. Each user can access data by logging in with a username and password, and all activities are monitored and logged. Data is protected from unauthorized access and once entered and confirmed, it can no longer be modified. Confirmation of a radiology record using the username and password is equivalent to an

criteria at once

- Listing of all examinations performed on a specific patient
- Double-clicking the patient's name opens a new view
- Showing all clinical data linked to a specific examination
- Simultaneous overview of all clinical data and images
- Live view of stored images during the examination
- Entered diagnostic results are saved in a database stored on a server
- Dictation of diagnostic results into the computer, the audio track is saved on the server next to the corresponding image
- The result is printed on a standard printer
- Standard image editing functions:

Picture 3.



electronic signature. Images and diagnostic results are stored on a server with fully redundant components. In case of failure of any single component, the system can retain normal operation. To increase security, a server can be installed in a "cluster" version, improving system reliability.

## New dimensions of the PACS - a short overview of the iRIS system features

- Access to the patient lists via shared database
- Access to patient records, images and diagnostic results from all diagnostic devices connected into the PACS system
- Sorting and filtering the patient list by several

magnification, highlighting a certain area,

filtering, sharpening, distance measurements

- Storing examinations on optic media (CD, DVD)
- Copy/Paste function for exporting images to other applications
- Printout of radiology images on a DICOM-compatible film printer
- Multi-monitor support
- High-resolution monitor support
- Simultaneous storing of the diagnostic results and clinical data on an applicative monitor while viewing images on an additional monitor
- Image overview using the web browser
- We can add a 3D module for reconstruction and virtual colonoscopy
- Option of working from remote locations
- Slovenian language application

## Competitive price

In addition to all the advantages we offer, the iRIS solution is highly cost-effective. We provide potential clients with a range of different financing options, making the solution even more accessible. The iRIS solution can cover all departments within a medical facility which create any type of image or video material:

- radiology,
- endoscopy,
- ultrasound,
- histology,
- different types of cameras etc.

## Summary

We are convinced that good integration of the HIS (Hospital Information System) and RIS is essential for efficient workflow in healthcare institutions, as this is the only way to ensure best quality of medical treatment. In addition to other advantages, it reduces the possibility of error in the treatment of individual patients. This has been confirmed through years of experience in the field. Only with complex and comprehensive integration of the HIS as a central system and RIS as a professional system used in radiology were we able to achieve expected results and optimal IT support for clinical staff and radiologists and ensure efficient healthcare.

Use of standards plays an important role in this regard. The iRIS solution is thus fully localized (international character encoding support) and standardized, as it complies with the DICOM and HL7 standards.

Boštjan Berčič

Picture 2.

## Radiological department working processes

