



ROUTER

IMAGE COMPRESSION, TELERADIOLOGY
AND WORKFLOW MANAGEMENT

TAKING TELERADIOLOGY TO THE NEXT LEVEL



iQ-ROUTER ACCELERATES THE TRANSMISSION OF MEDICAL IMAGES THROUGH A NETWORK

DICOM compatible image data is forwarded up to eight times faster as it is sent in a lossless compressed format.

iQ-ROUTER works with state-of-the-art algorithms that compress medical images up to 1:8 times in a lossless compressed format. Extensive and speedy data transmissions can be achieved using existing, low-cost narrow bandwidth lines, thus saving time, resources and money.

In standard DICOM networks, native (uncompressed) DICOM trans-

missions via wide area networks generate bottle necks and cause slow data transmissions when data is leaving the LAN. iQ-ROUTER's Multichannel Technology guarantees constant high performance during imaging study exchange between multiple centers, even managing up to 20 channels simultaneously.

iQ-ROUTER offers bidirectional communication which means that modalities can not only receive data over the teleradiology line, but they are also able to start individual DICOM queries. The access to different DICOM modalities is regulated by means of permission control.



iQ-ROUTER supports virtually all DICOM formats and transfer syntaxes, thus making the software exceptionally versatile.

Thanks to the use of the DICOM TLS protocol, privacy and data integrity between two communicating applications are provided without the need for VPNs.

By supporting UNICODE, iQ-ROUTER allows the correct transmission of many worldwide characters, including those of Asian and all European languages.

Using iQ-ROUTER PRO, any DICOM tag (attributes) can be added, completed (e.g. using prefixes or suffixes), or deleted.

The PRO version offers the possibility to forward data based on rules or even a combination of rules - for example, to forward all incoming CT scans of the skull to a certain destination. This enables you to set up comprehensive, fully automatic workflow procedures that are frequently used in teleradiology. In addition, forwarding tasks may be scheduled at a predefined time or day of the week.

Of course, individual patient information within the forwarded data can be pseudonymized and/or sent as encrypted data in accordance with existing data protection laws. Upon receipt, the data is then decrypted.

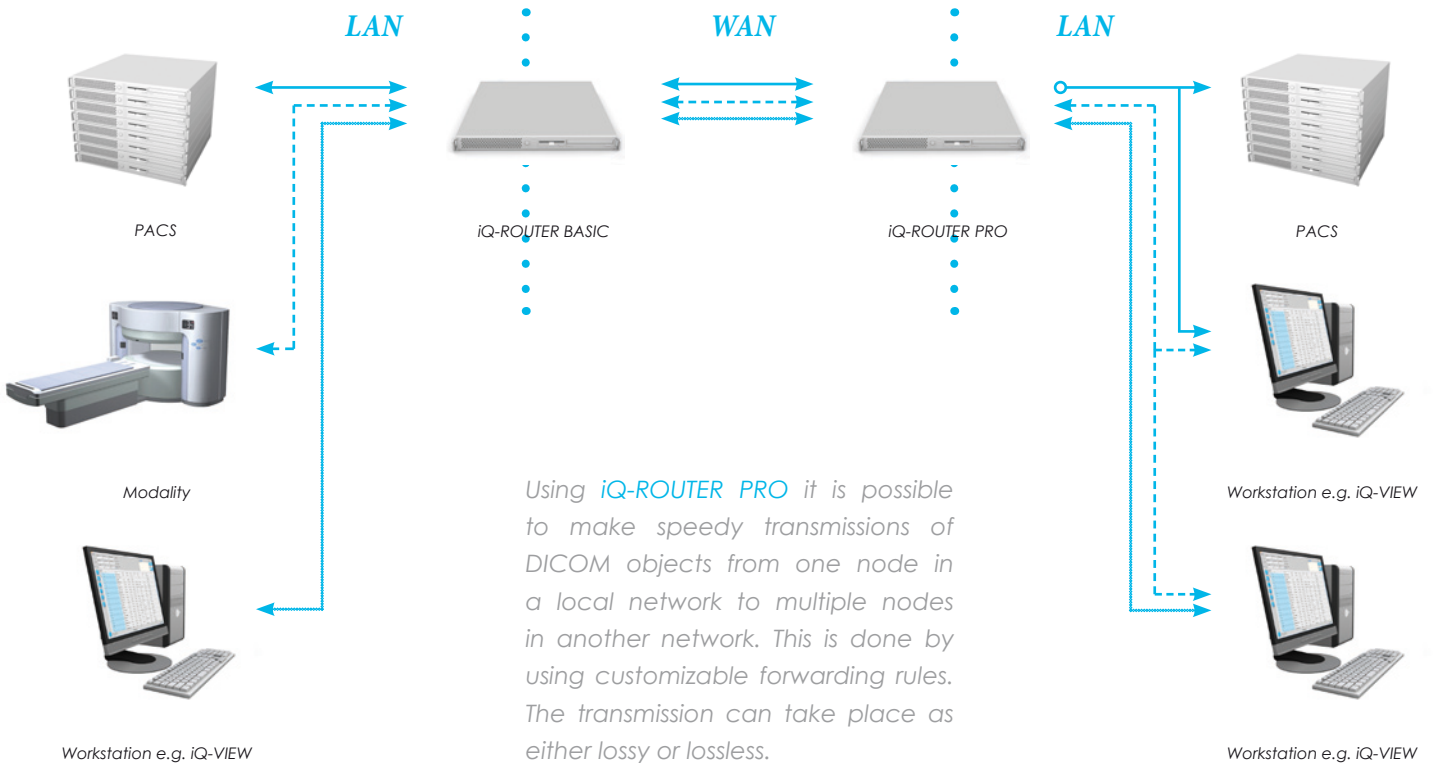
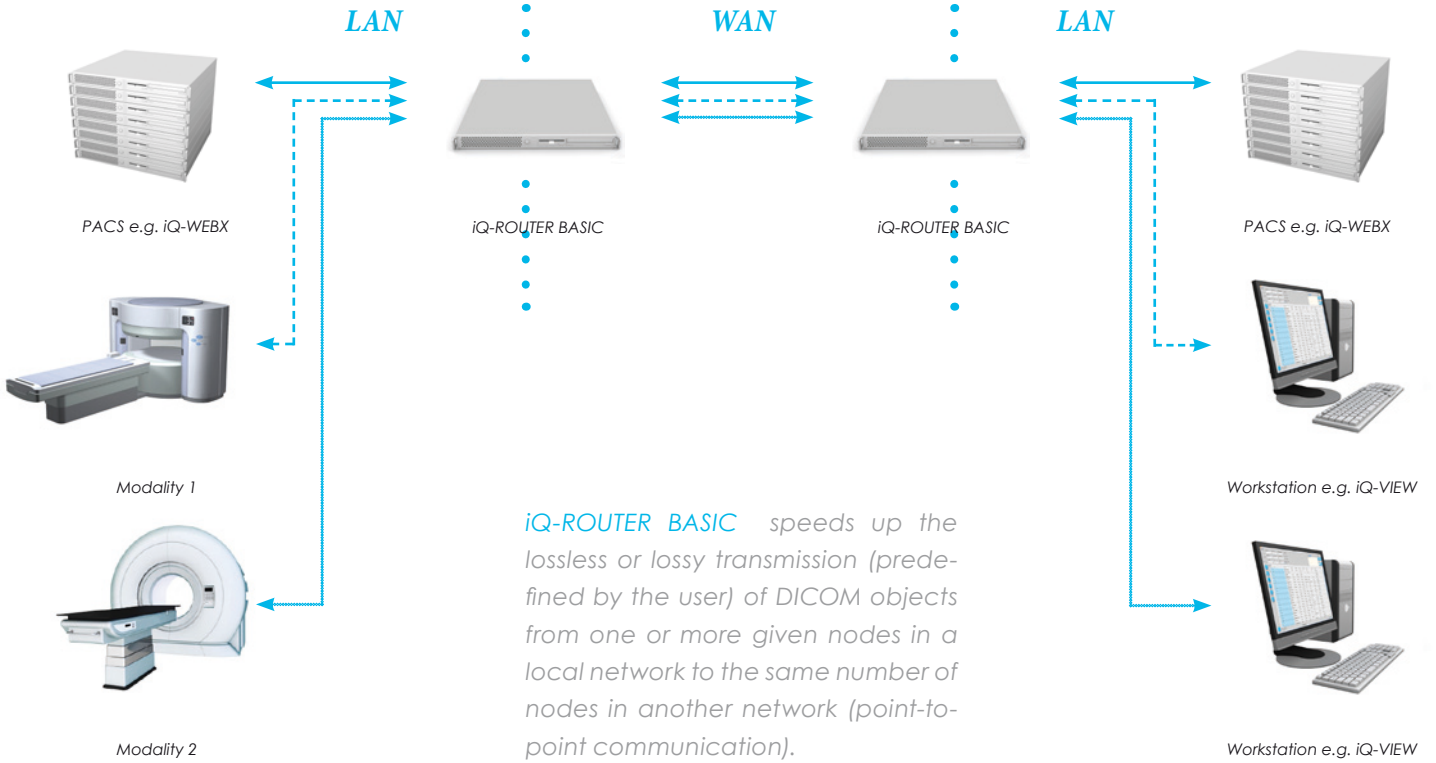
The PREMIUM version features "Import Workflow Patient Reconciliation" which ensures consistency in the transmitted patient data and IDs. This is done by using regulations of Integrating the Healthcare Enterprise (IHE) and a master patient index (MPI). While sharing data between several imaging centers with different coding systems, iQ-ROUTER PREMIUM identifies patients and studies automatically and adjusts patient and study identifiers to obtain consistent patient and study data between multiple centers.

iQ-ROUTER is the ideal tool for any frequently used and/or critical connection between imaging centers.

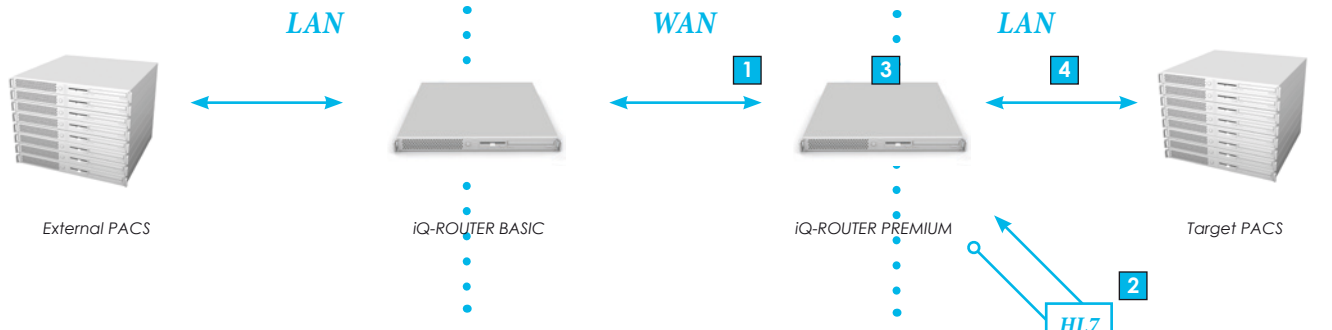
THE SOLUTION CAN BE SO SIMPLE



iQ-ROUTER WORKFLOW (BASIC & PRO)

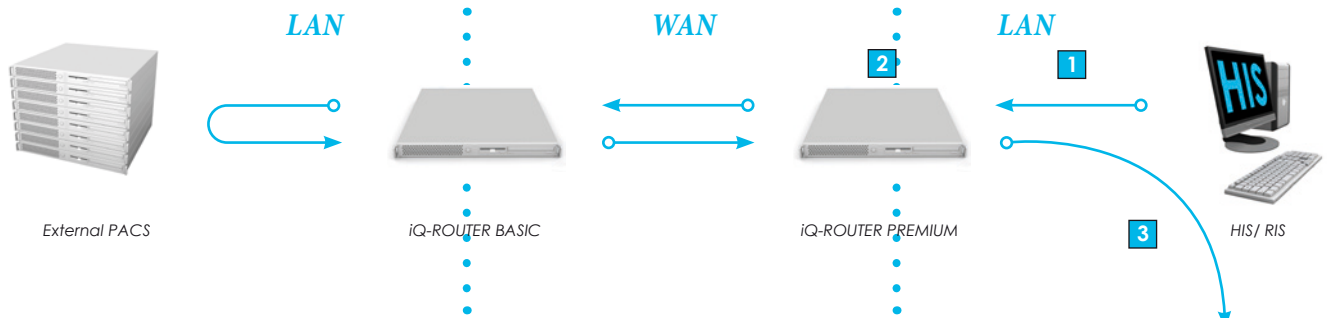


iQ-ROUTER WORKFLOW (PREMIUM)



iQ-ROUTER PREMIUM ensures data consistency between multiple imaging centers.

- 1** *iQ-ROUTER PREMIUM* receives a DICOM object from an external PACS, e.g. via *iQ-ROUTER*
- 2** *iQ-ROUTER PREMIUM* queries the master patient index of a connected HIS by HL7 (MPI) for the target patient ID and accession number
- 3** *iQ-ROUTER PREMIUM* adjusts the dataset with the target patient ID and accession number
- 4** *iQ-ROUTER PREMIUM* forwards the data to the target PACS



- 1** An HIS sends an HL7 command to *iQ-ROUTER PREMIUM* to query and retrieve given DICOM objects from an external PACS
- 2** *iQ-ROUTER PREMIUM* adjusts the patient ID and accession number with the data received from the querying HIS
- 3** Adjusted DICOM data will be forwarded to the target PACS

iQ-ROUTER FEATURES

GENERAL

- Runs without user login (NT service controlled by the OS)
- Flexible logging, monitoring and configuration tool

DICOM SUPPORT

- DICOM store, query/retrieve, verification
- Support of all DICOM-defined "specific character sets" including Asian languages and unicode UTF-8 (NEW!)
- Fully parallel processing (multi-threaded)
- Support of all DICOM store classes including non-image classes like Structured Reports
- Unlimited number of parallel connections and modalities within the network

ROUTING/ENHANCED DICOM

- Transparent routing of all requests
- Bidirectional DICOM-interface
- Patient root and study root model support for DICOM queries

SECURITY/PRIVACY

- Transport Layer Security (TLS) support (NEW!)
- Flexible service access control for all modalities within the network
- Restriction for query requests
- Automatic pseudonymization of patient data

TELERADIOLOGY

- Proprietary Wavelet compression
- JPEG-LS standard (NEW!)
- JPEG/JPEG 2000 lossy and lossless compression
- "Runtime Length Encoding" (RLE) lossless compression
- Adjustable compression ratio for all lossy compressions
- Support for long latency time and low bandwidth connections, e.g. satellite lines
- Supports VPN, dynamic IPs and firewalling

WORKFLOW

- Automatic correction of forwarded objects compliant to the DICOM standard
- Automatic changes of AE titles (AE mapping)

OPERATING SYSTEMS

- Windows XP, 2003 Server, 2008 Server, Vista

LANGUAGES

- Unicode support (NEW!)

CERTIFICATION

- CE and FDA 510(k)

iQ-ROUTER PRO FEATURES

IN ADDITION TO *iQ-ROUTER FEATURES*

DICOM SUPPORT

- Rule-based modification of DICOM attributes
- Definable conditions to set the rules: attributes, AE title source (calling AE), AE title destination (called AE)
- Possible modifications of attributes: add, replace, copy, delete, add prefix or suffix

WORKFLOW

- Automatic rule-based forwarding of DICOM data to multiple destinations
- Definable conditions to set the rules: attributes, AE title source, AE title destination, day of the week, hour
- Asynchronous forward management (multi-threaded)

FORWARD MANAGEMENT

- Support of multiple conditions for each rule
- Support of wildcards for all text fields in rules and conditions
- Supports forwards based on called or calling AE title, time or day of the week and any DICOM header information for rules and conditions

iQ-ROUTER PREMIUM FEATURES

IN ADDITION TO *iQ-ROUTER PRO FEATURES*

COMMUNICATION/ INTERFACING

- Possible customization of the interaction with available medical information systems (NEW!)
- Patient data validation for consistency consulting local databases (NEW!)
- HL7 triggered routing of DICOM data sets (NEW!)

DATA CONSISTENCY

- Import Workflow Patient Reconciliation using HL7 and Master Patient Index (MPI) (NEW!)

LICENSING

- On request



SYSTEM REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

	MINIMUM	RECOMMENDED
OS:	Windows XP, Vista, 2003 or 2008 Server	Windows XP Professional
CPU:	Pentium, 500 MHz	Pentium, 2 GHz
RAM:	256 MB RAM	512 MB RAM
HDD:	10 GB of empty hard disc space	20 GB of empty hard disc space
Network:	64 kbit/s	100 Mbit/s
Hardware:		Dell hardware



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