



ROUTER

IMAGE COMPRESSION, TELERADIOLOGY
AND WORKFLOW MANAGEMENT

TAKING TELERADIOLOGY TO THE NEXT LEVEL



VERSION 2.1

iQ-ROUTER ACCELERATES THE TRANSMISSION OF ANY MEDICAL IMAGE THROUGH ANY NETWORK

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

iQ-ROUTER is the ideal tool for any frequently used and/or critical connection between imaging centers. It 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 transmissions via wide area networks generate bottle necks and cause slow data transmissions when data leaves 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/SSL protocol, privacy between two communicating partners is maintained 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 (attribute) can be added, completed (e.g. using prefixes or suffixes), or deleted.

The PRO version includes data forwarding based on a specific rule or even a combination of them - for example, to forward all incoming CT scans of the skull to a certain destination. This facilitates setting 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.

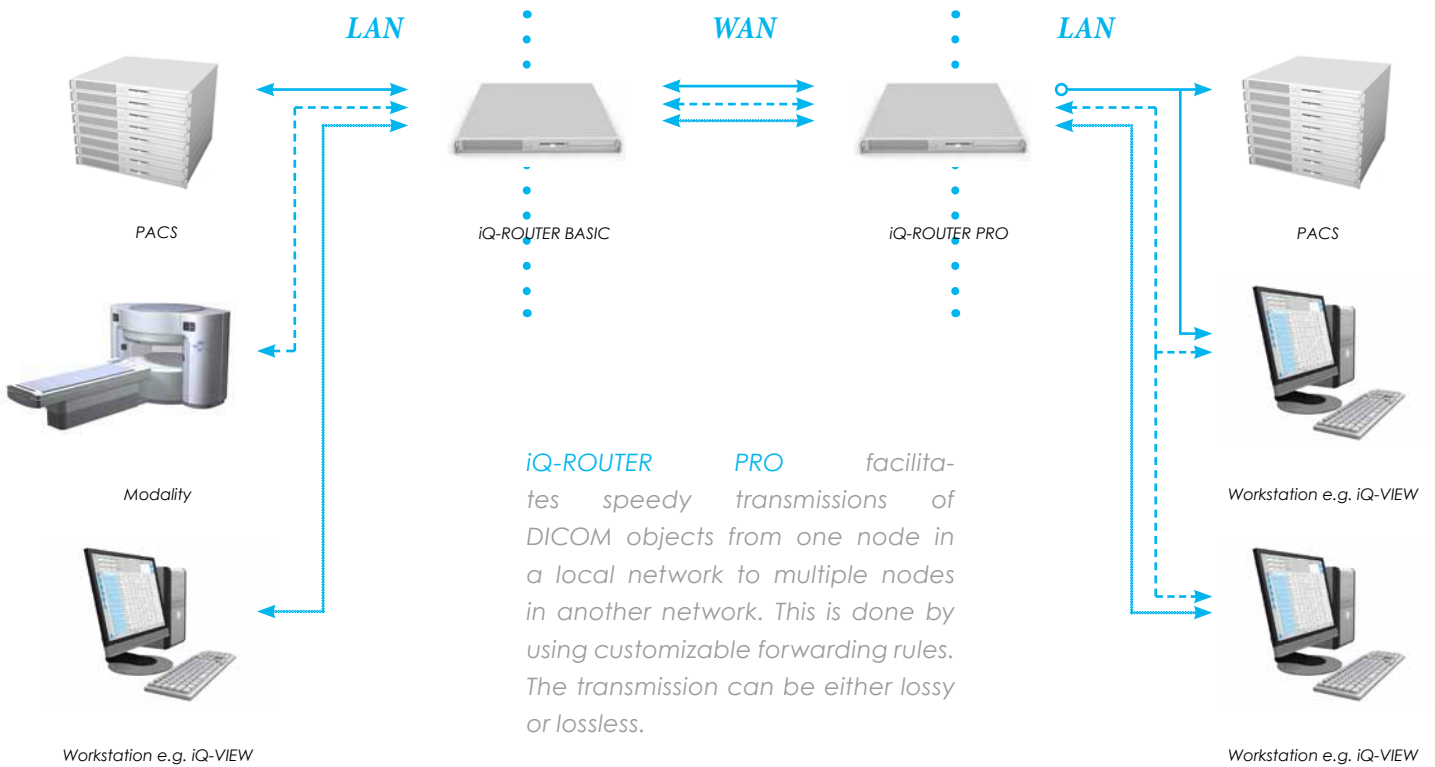
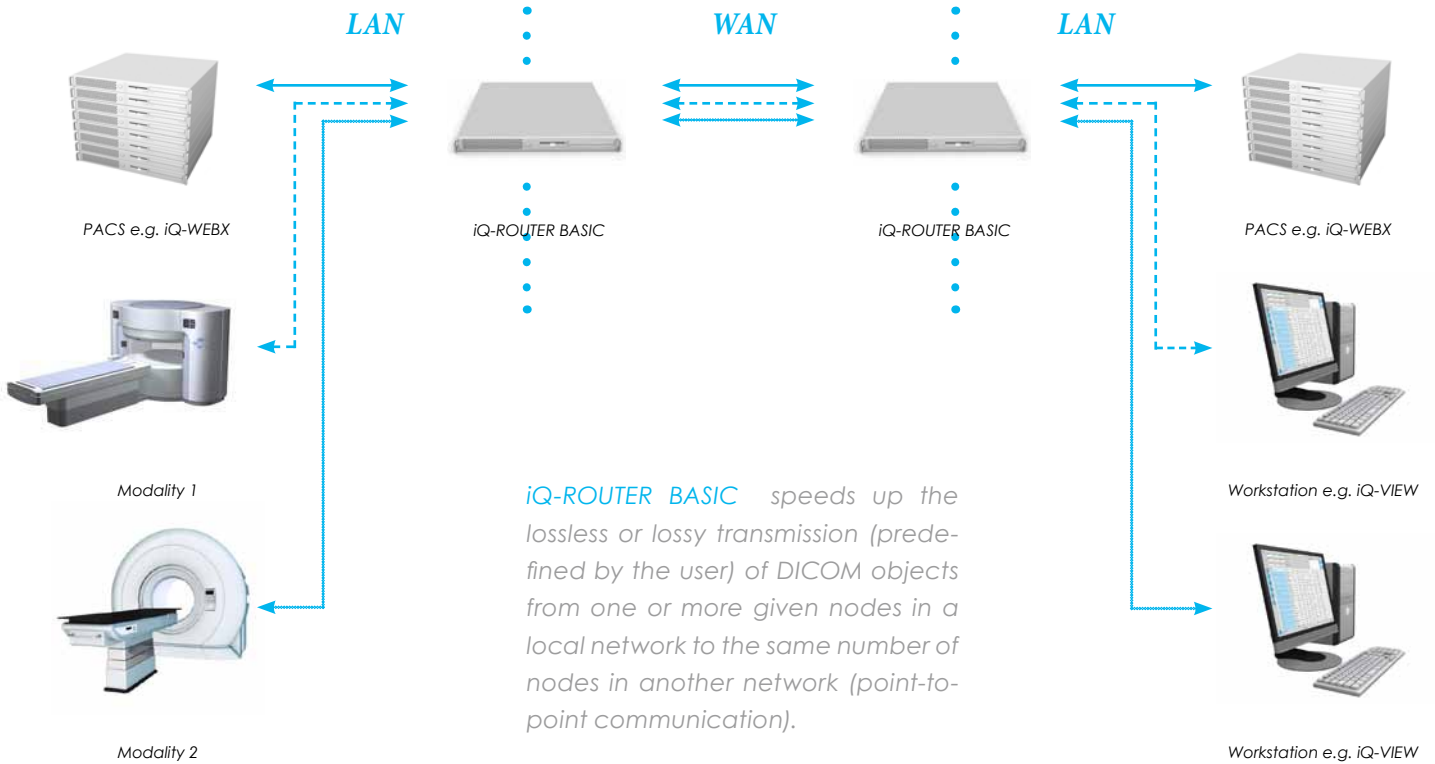
iQ-ROUTER PRO is the world's first and only DICOM product that incorporates Regular Expressions. Based on user-defined rules, the software automatically corrects virtually any image or data error as well as DICOM inconsistencies. It can, for example, adjust incorrectly coded image acquisition parameters or number formats (e.g. remove leading zeros). Accurate data exchange between various modalities and workstations is at last possible, regardless of the vendor.

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 automatically identifies patients and studies and adjusts patient and study identifiers to obtain consistent patient and study data between multiple centers.

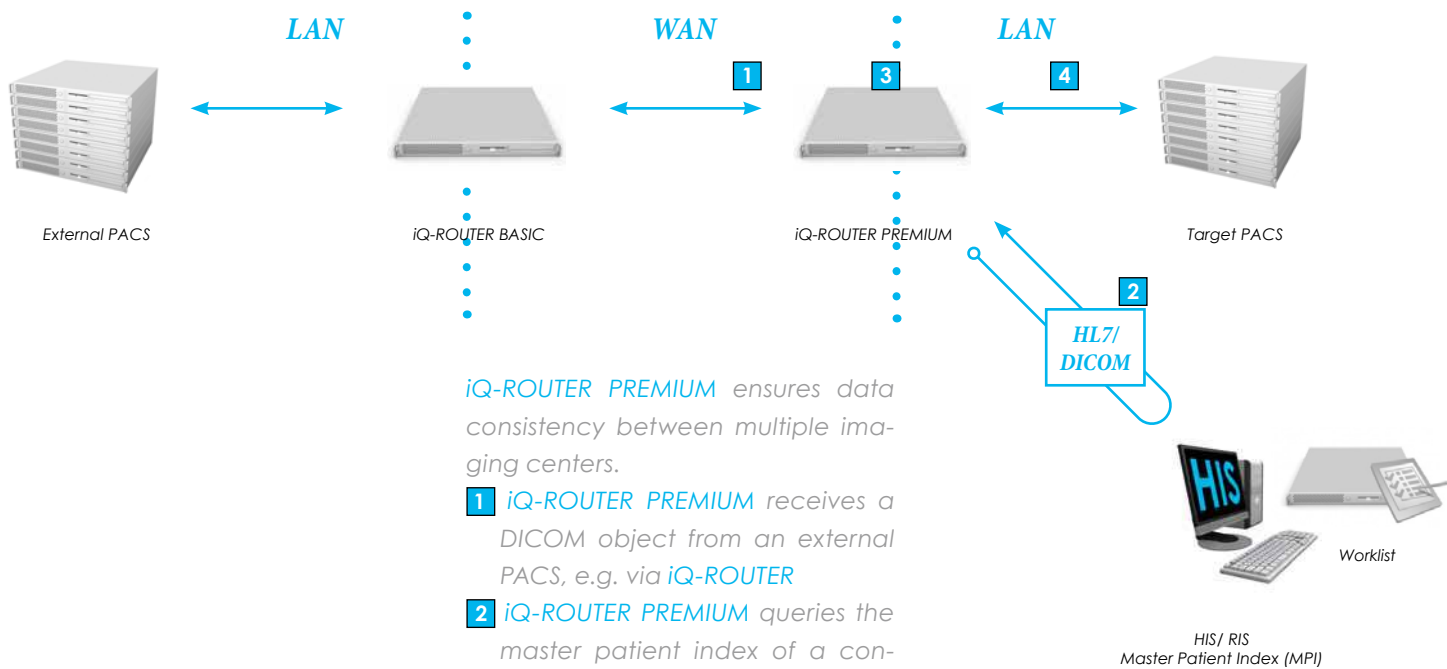
THE SOLUTION CAN BE SO SIMPLE



iQ-ROUTER WORKFLOW (BASIC & PRO)

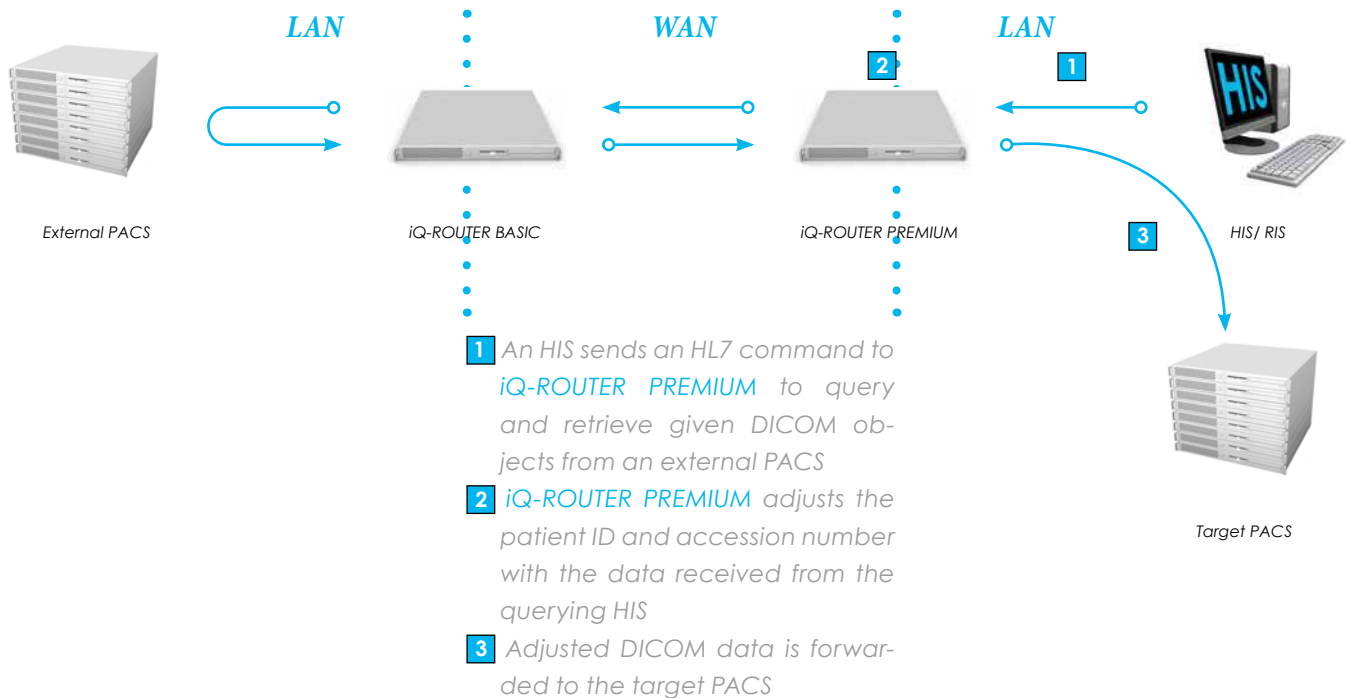


iQ-ROUTER WORKFLOW (PREMIUM)



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) or DICOM 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



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
- 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/SSL) support
- 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
- 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

- **New rule set for enhanced DICOM attribute manipulation (NEW!)**
- Automatic correction of forwarded objects compliant to the DICOM standard
- Automatic changes of AE titles (AE mapping)

OPERATING SYSTEMS

- Windows 7, 2008 Server

LANGUAGES

- Unicode support

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

TELERADIOLOGY

- Regular Expressions for fully automatic correction of any image and data errors or DICOM inconsistencies (NEW!)

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
- New rule set for enhanced DICOM attribute manipulation (NEW!)
- 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
- Patient data validation for consistency consulting local databases
- HL7 triggered routing of DICOM data sets

DATA CONSISTENCY

- Import Workflow Patient Reconciliation using HL7 and Master Patient Index (MPI) or DICOM (NEW!)
- Extraction of measurements from DICOM data in Structured Reports (NEW!)

LICENSING

- On request

SYSTEM REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

| | MINIMUM | RECOMMENDED |
|------------------|--------------------------------|---|
| OS: | Windows 2008 Server | Windows 7 Professional, Windows Server 2008 R2 |
| CPU: | Pentium, 500 MHz | Pentium, 2 GHz |
| RAM: | 2 GB RAM | 4 GB RAM |
| HDD: | 10 GB of empty hard disk space | 20 GB of empty hard disk space |
| Network: | 64 kbit/s | 100 Mbit/s |
| Hardware: | | Dell |



OUR PRODUCTS FOR YOUR IMAGING NEEDS



iQ-SYSTEM PACS

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MED-TAB™

Full featured, reliable and affordable PACS

Smooth radiology information system

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IMAGE INFORMATION SYSTEMS LTD.

3RD FLOOR | 207 REGENT STREET | LONDON W1B 3HH | UNITED KINGDOM

TEL. UK: +44 20 3289 1500

TEL. GER: +49 381 496 5820 | FAX GER: +49 381 496 582 99

TEL. US: +1 704 323 6663

INFO@IMAGE-SYSTEMS.BIZ | WWW.IMAGE-SYSTEMS.BIZ