

Practical Integration Challenges

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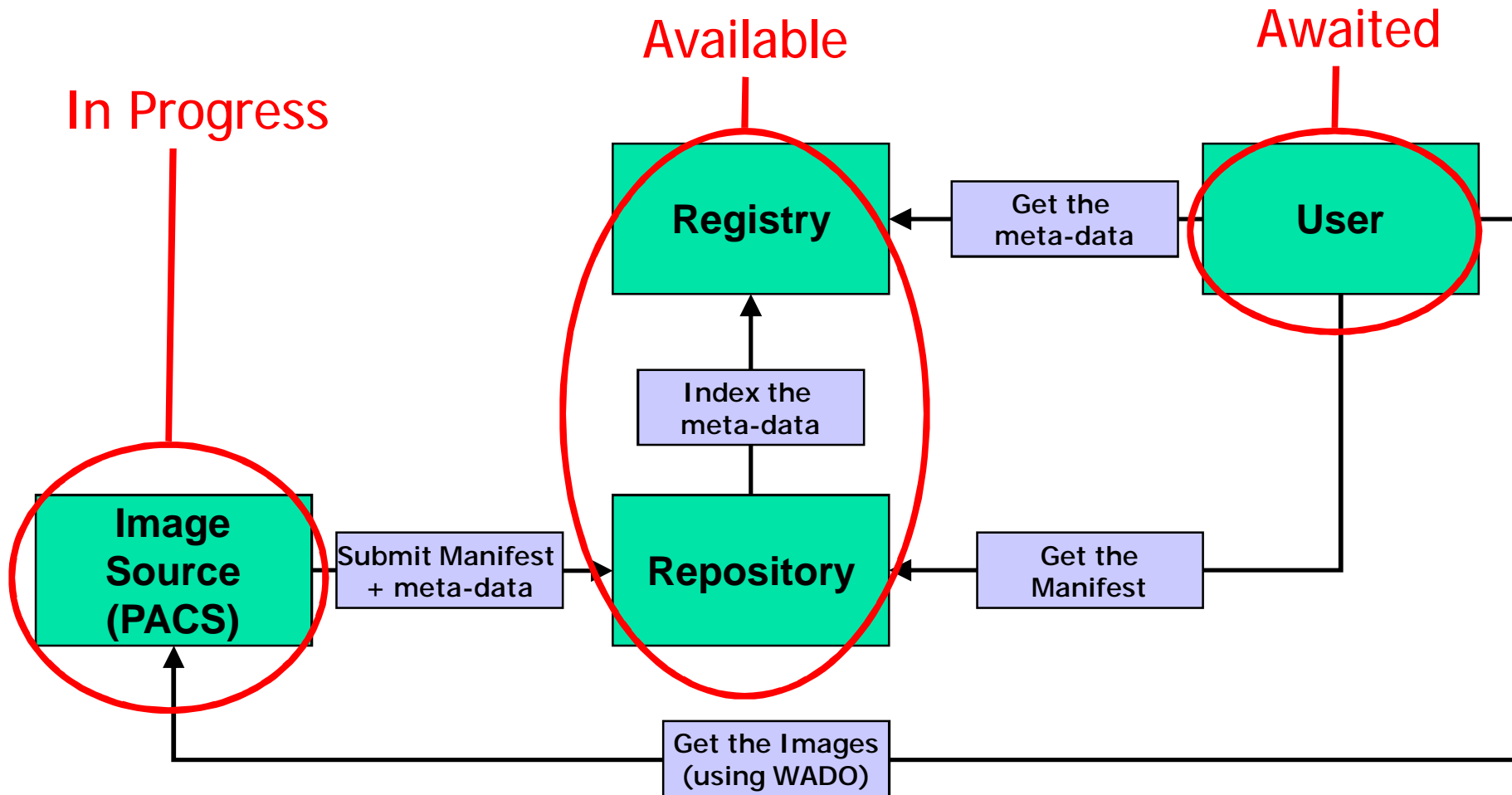
Requirements for PACS Integration

- n There must be a means to:
 - n Find what data is available
 - n Retrieve and view that data
- n "Data" is:
 - n Images
 - n Reports
 - n ? Other Data ? (requests etc.)
- n Integration should be "seamless"

XDS / XDS-I

- n In global terms, “the only show in town”
- n Increasing international utilization
- n Supported by > 100 vendors, including
 - n Accenture
 - n HSS
 - n etc. etc.
- n Will replace local proprietary solutions

XDS-I Overview



XDS Issues

- n Patient ID
- n Security
- n Scalability
- n End-User Integration

Patient ID Issues

- n XDS is based on the premise that all data contains a unique Patient ID
 - n This can be merged/updated
- n This is the same issue for **any** cross-institution data sharing
- n IHE provides a possible “stop-gap” using Patient Identity Cross-referencing (PIX), provided that a local lookup table is available
- n Ultimately, it is a political, not a technical, problem.

Security Issues

- n XDS uses encryption via https – like banking etc.
- n Can prove identity of “requester”
 - n User
OR
 - n Client System
- n Data can be “controlled” at servers or client
- n Logging is intrinsic and well-supported
- n Any access control can be used – someone just needs to define it!

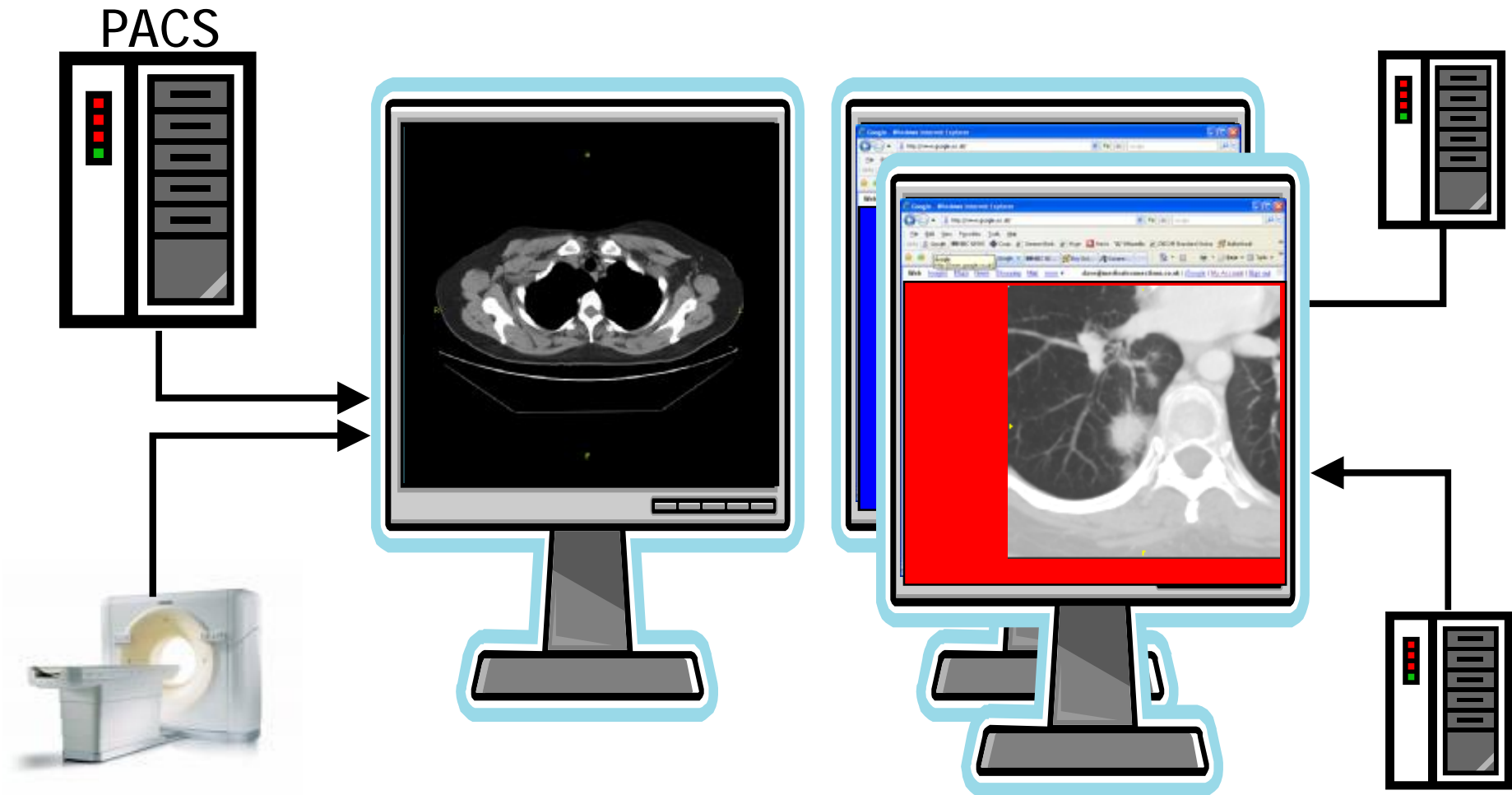
Scalability Issues

- n Repositories can be distributed
 - n Therefore easy to scale and add as necessary
- n Registry is logically single
 - n Needs replication to multiple copies
 - n That's what IT experts & clustered databases are for.....
 - n It will be a lot smaller than Google!
- n Caching can be handled automatically
 - n As it is all based on web protocols

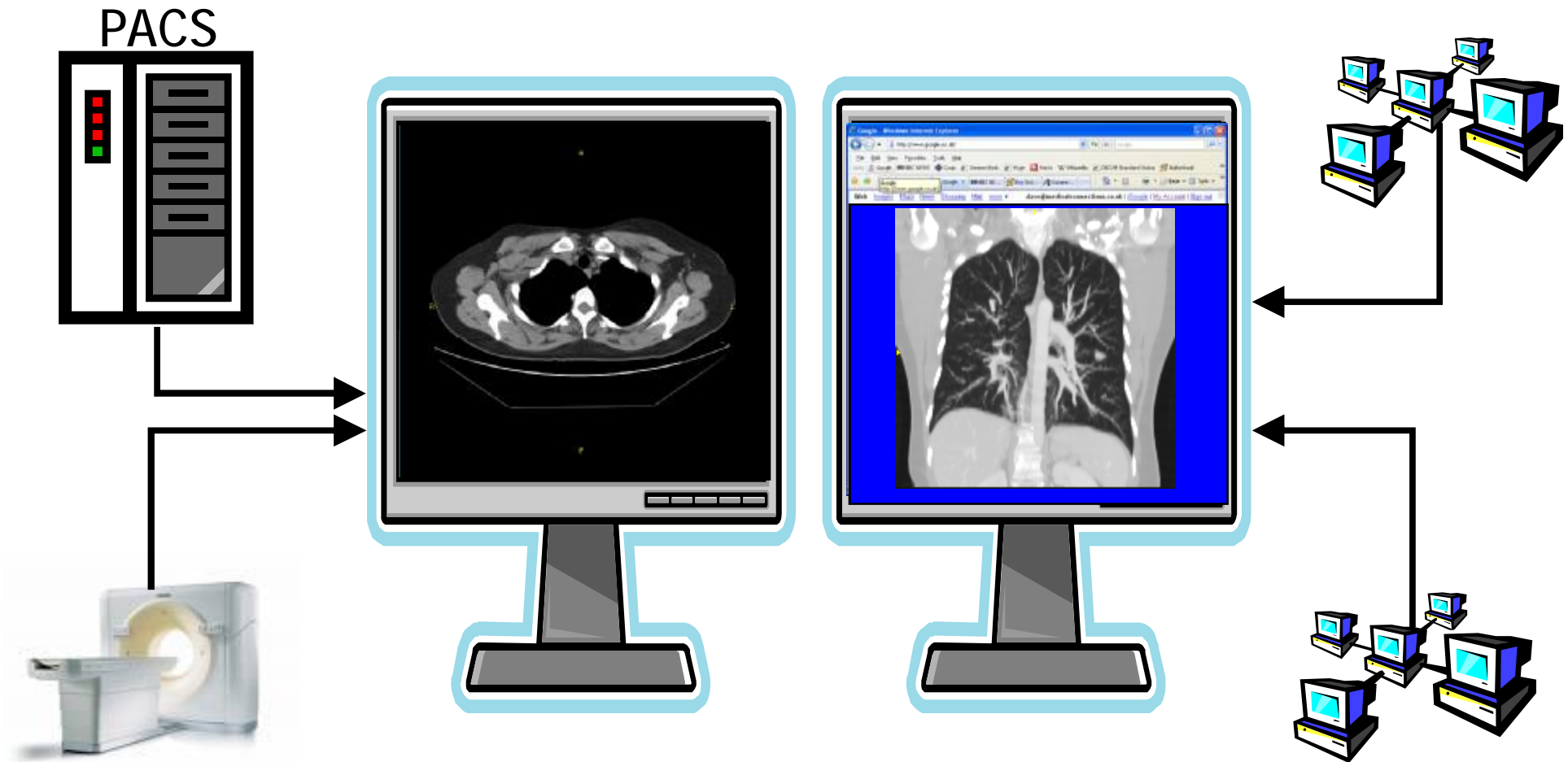
End-User Integration

- n Users need images (and other data including report) on a single, high-quality workstation
 - n Single System / Single Sign-on
 - n Common tools
 - n Side by side comparison
- n PACS Managers don't want other hospitals' data in their PACS
 - n Capacity / Cost
 - n Integrity
- n Need to use/make "folders" for MDT Meetings
- n How do these requirements fit with XDS-I?

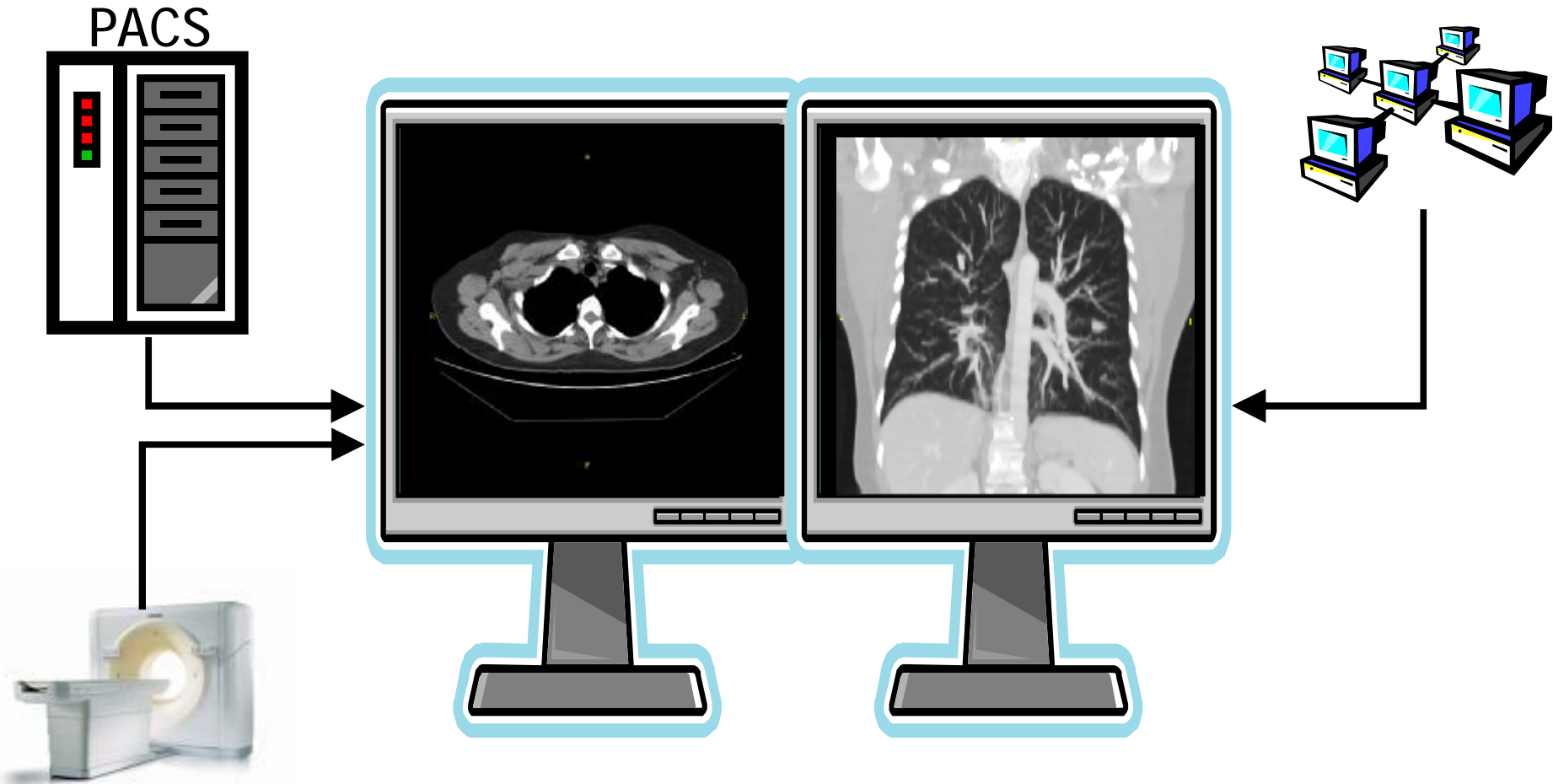
The Web Viewer Approach



XDS-I Current Situation



XDS-I Ideal Situation



XDS-I 2 years ago (RSNA 2006)

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Conclusions

- n Wide-Area clinical integration solutions will, in the medium term, use XDS/XDS-I
- n Scalability & Security need good project management and planning, but are no harder for XDS than for other solutions
- n Common Patient IDs (NHS Number) needs good leadership and direction
- n End-user integration for radiology **should** be very easy – just needs appropriate use of existing skills by the PACS vendors