

Medical Imaging Workstation: CAF Views

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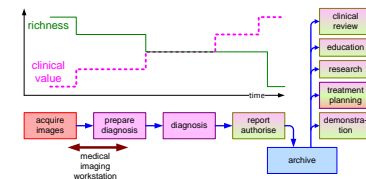
Abstract

The Customer objectives, Application and Functional views are described. The radiology department and the radiologist are the main customer. The clinical and the financial context of the radiology department is shown. The medical imaging workstation is positioned in the field of IT products and in the clinical workflow. The market segmentation is shown. The typical URF examination is explained. Key drivers are linked to application drivers and to product requirements. The functionality development over time is shown and the role of the information model for interoperability is discussed.

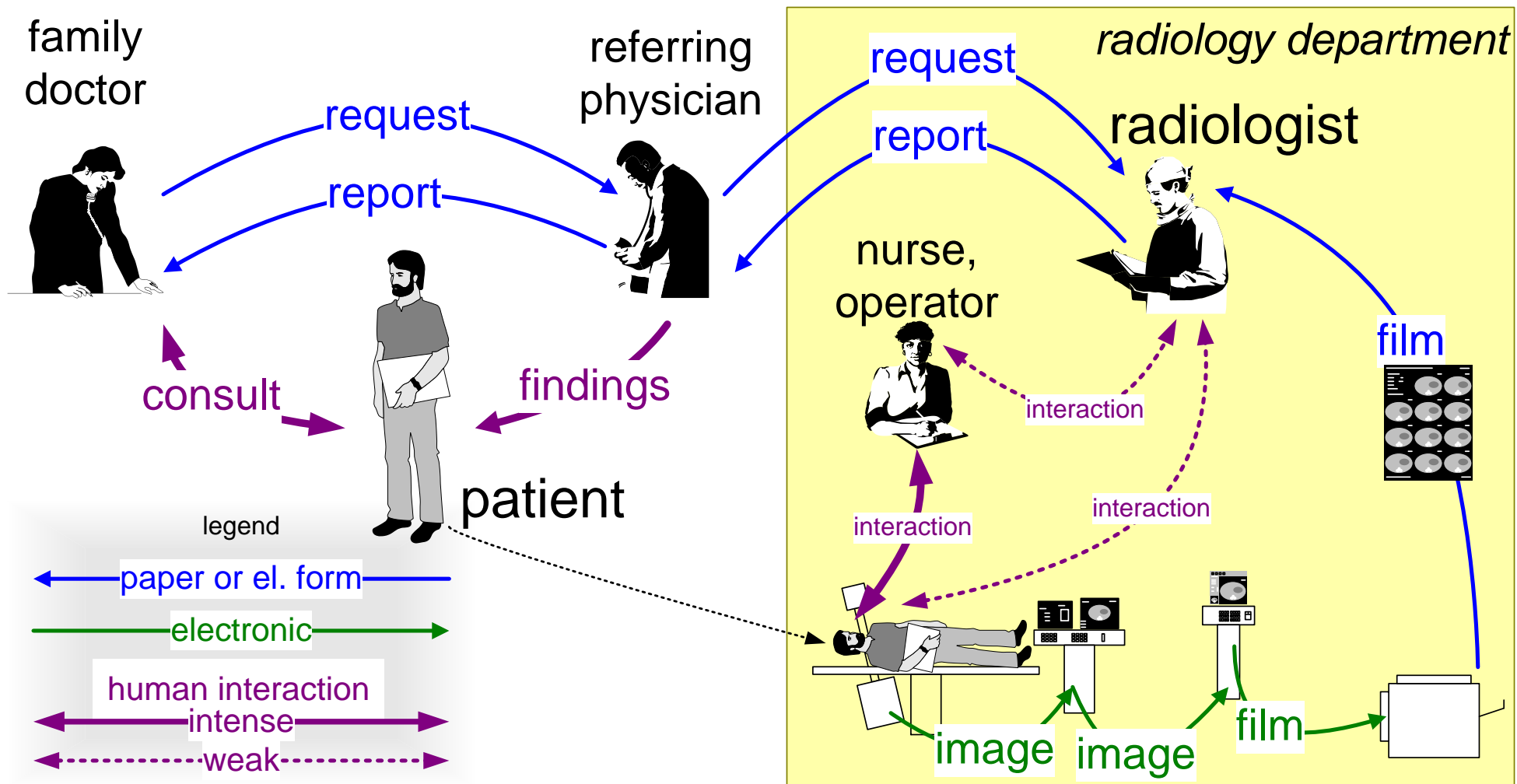
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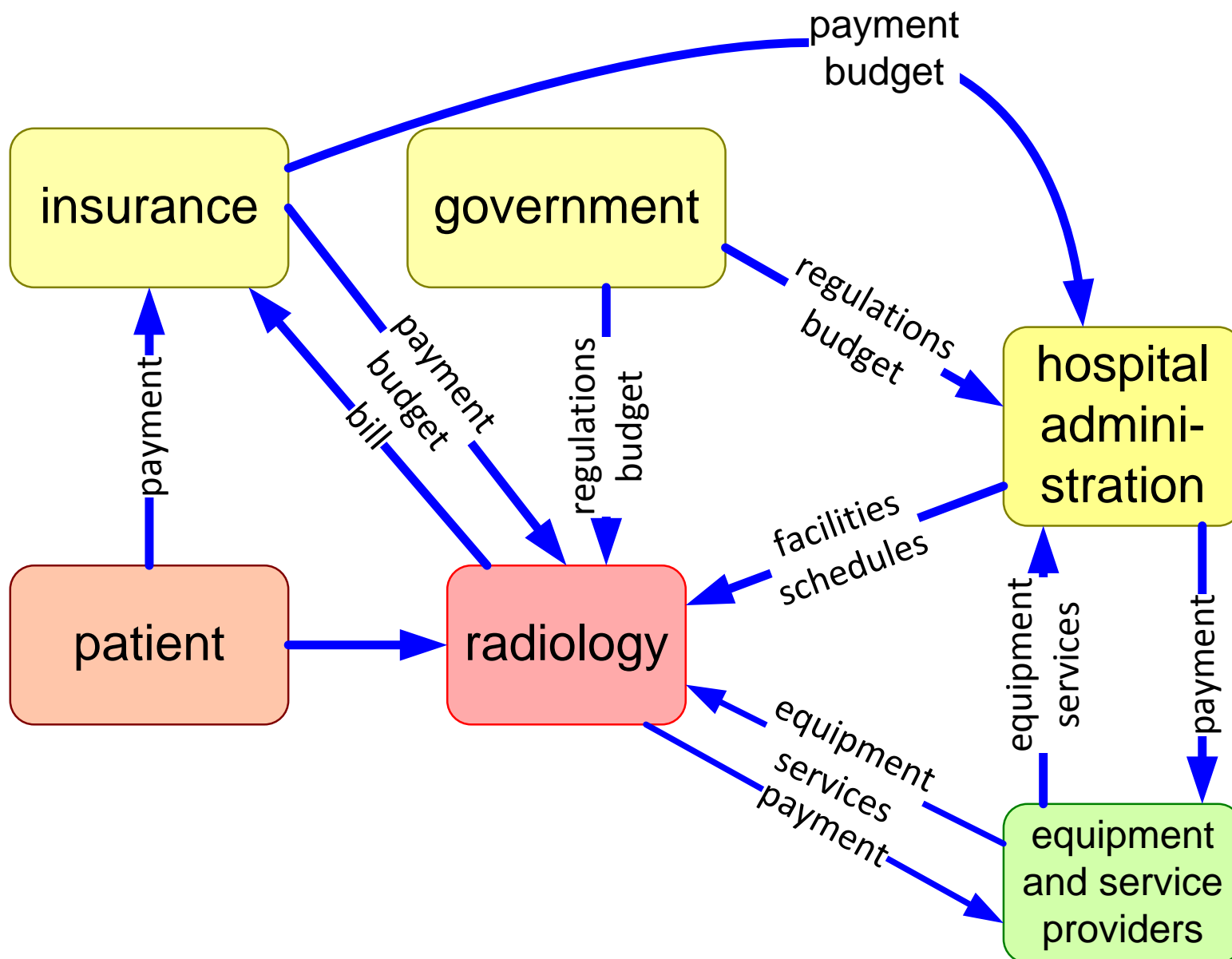
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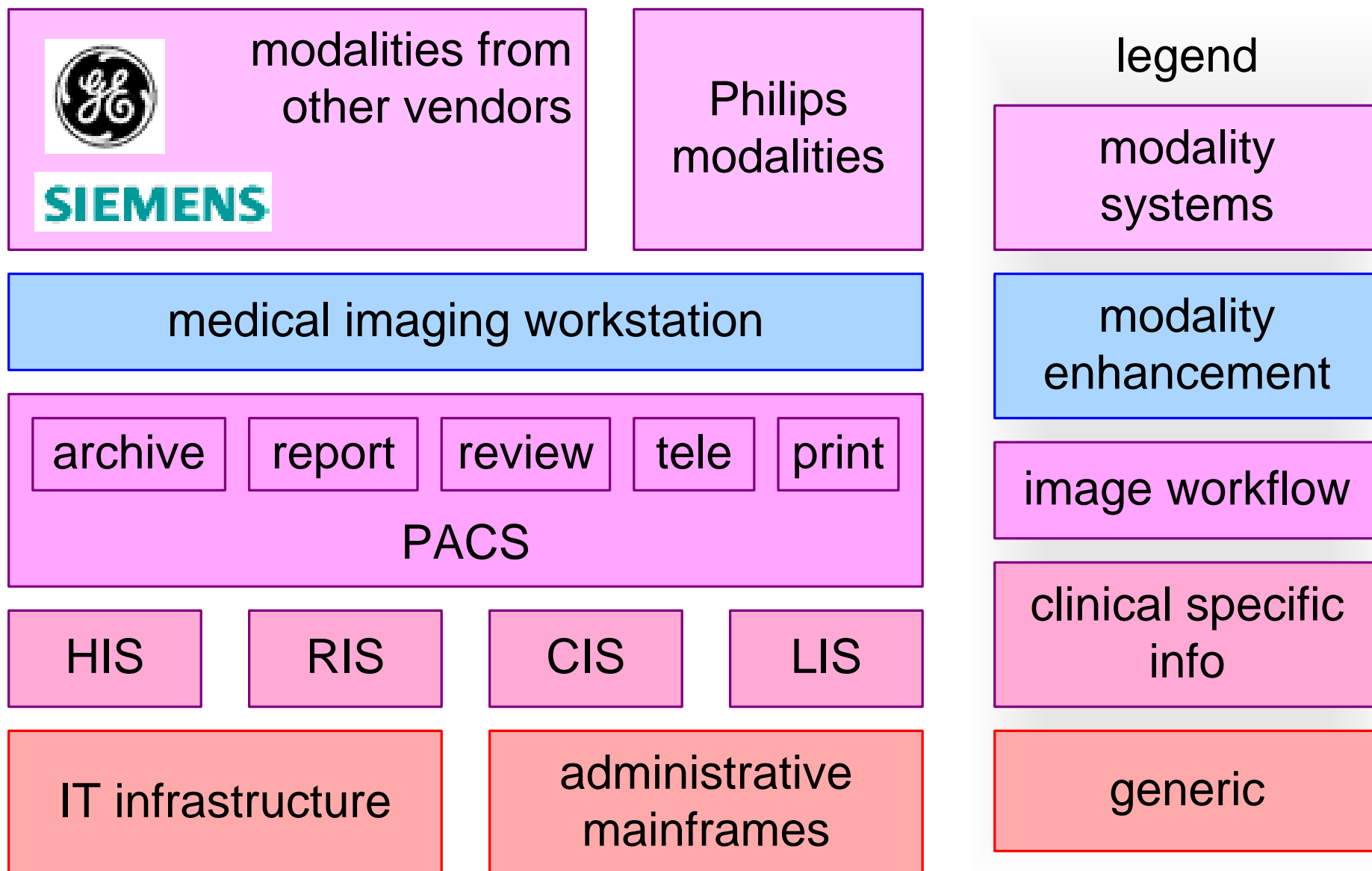
The clinical context of the radiology department



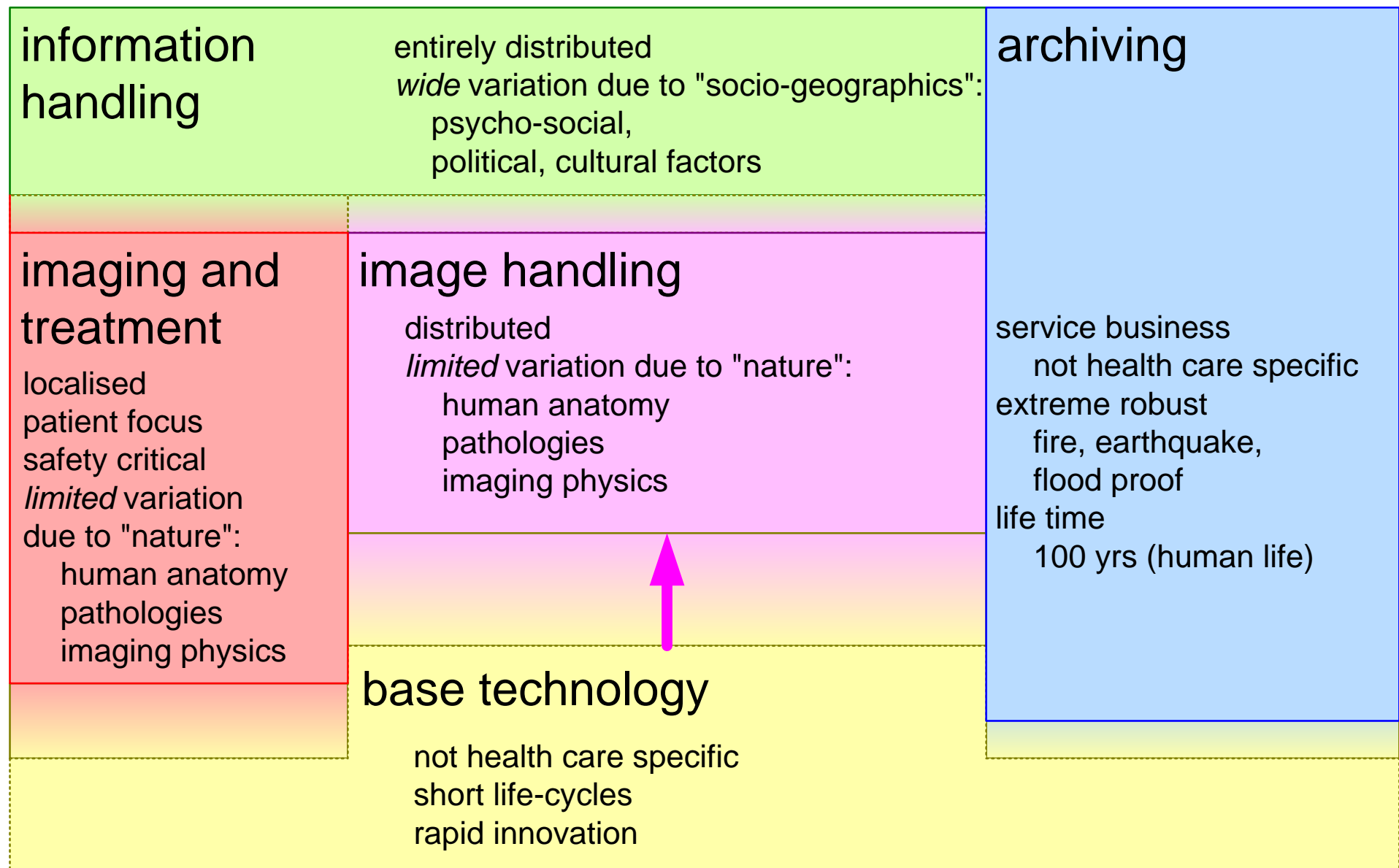
The financial context of the radiology department



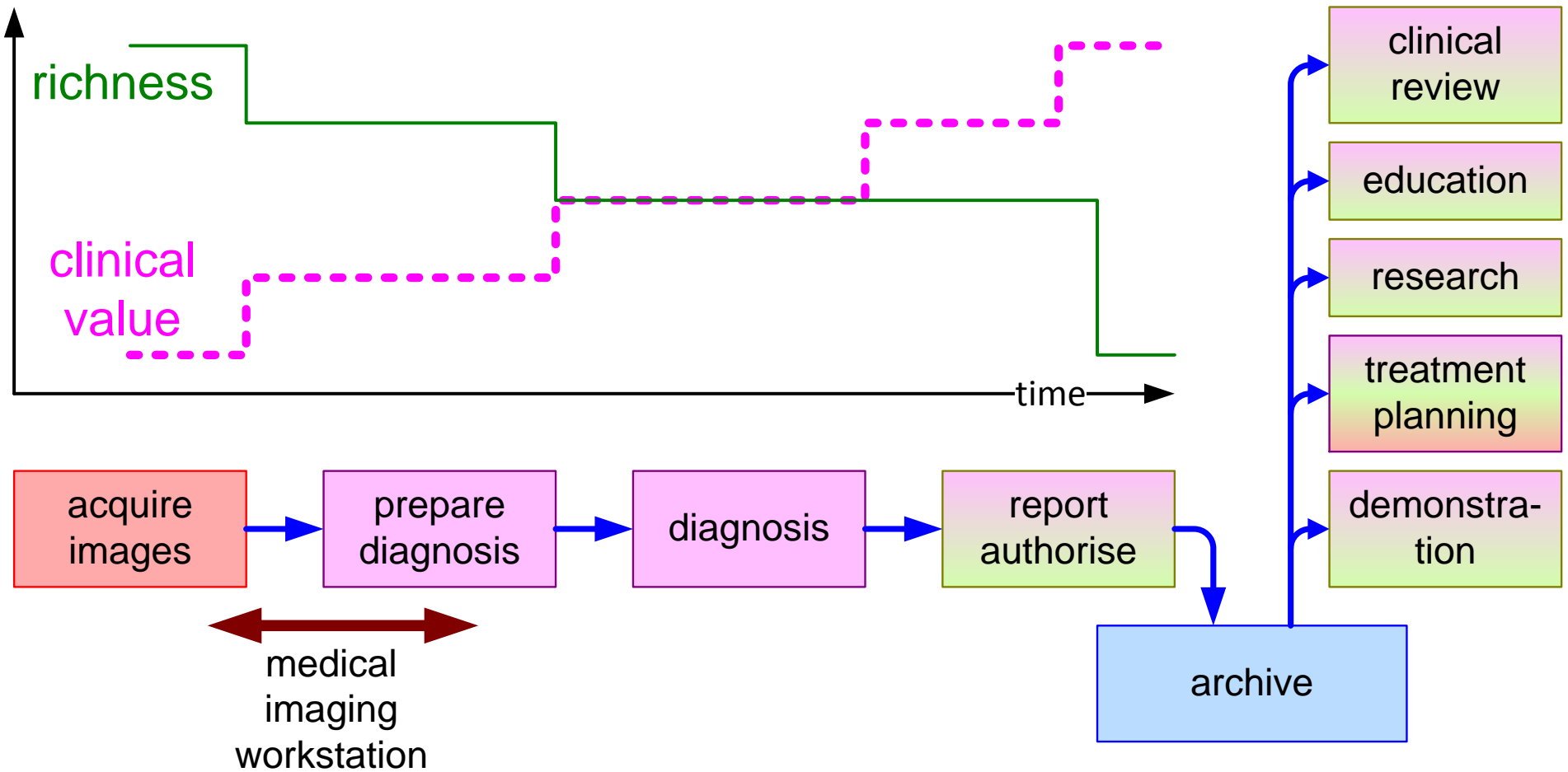
Application layering of IT systems



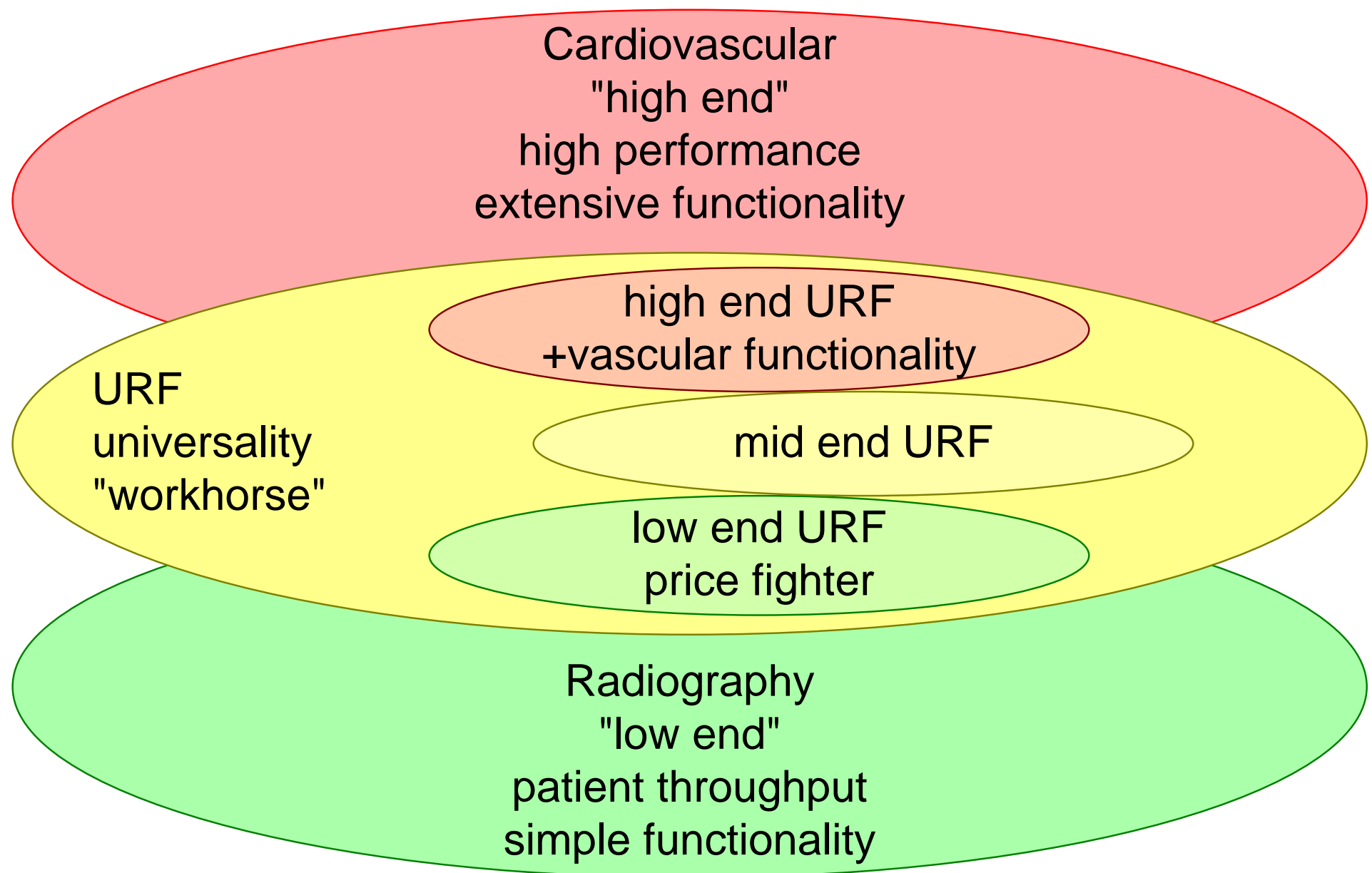
Reference model for healthcare automation



Clinical information flow



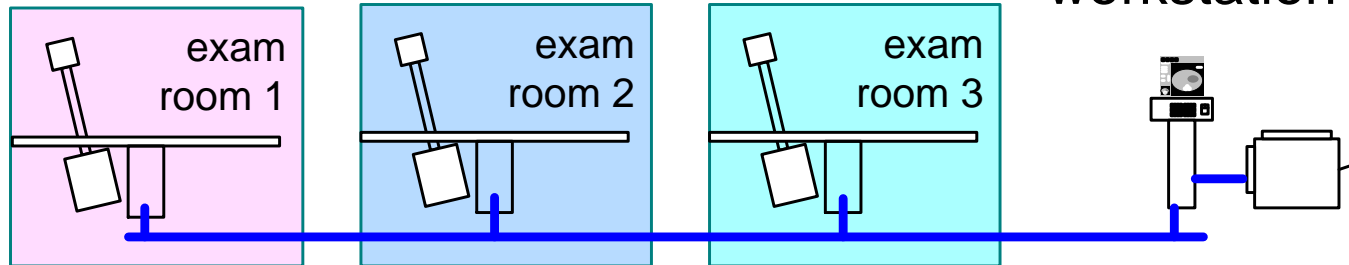
URF market segmentation



Typical case URF examination

3 examination rooms connected to

1 medical imaging workstation + printer

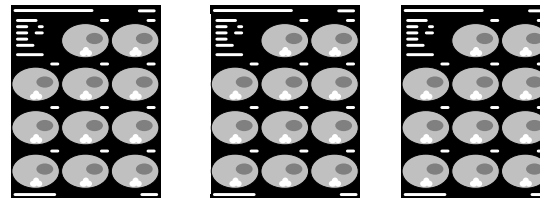


examination room: average 4 interleaved examinations / hour

image production: 20 1024^2 8 bit images per examination

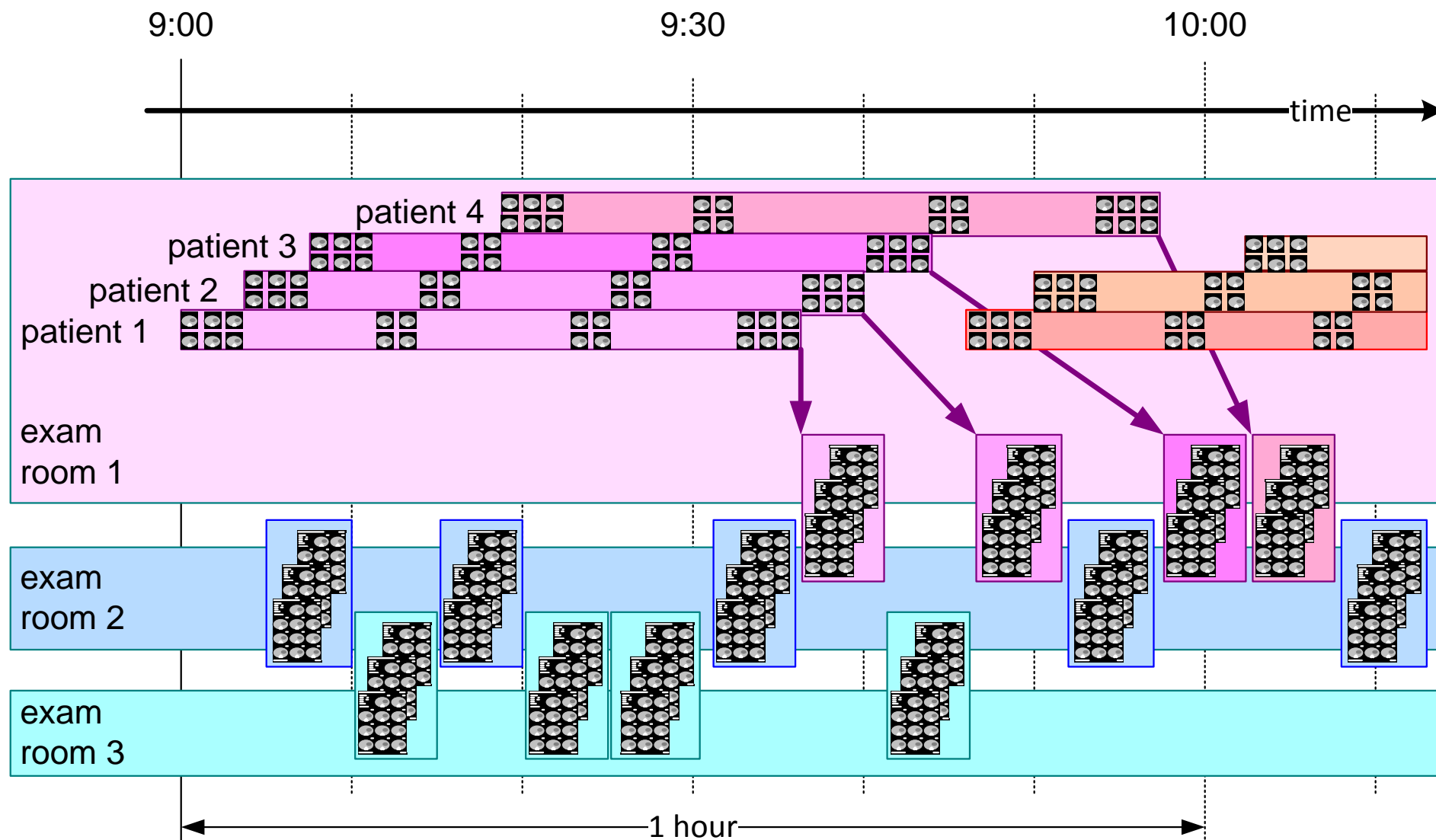


film production: 3 films of 4k*5k pixels each



high quality output
(bi-cubic interpolation)

Timing of typical URF examination rooms



Key drivers, application drivers and requirements

Customer
key drivers

derived
Application drivers

report quality

selection of relevant material
use of standards

diagnostic quality

acquisition and viewing settings
contrast, brightness and resolution of light-box

safety and liability

clear patient identification
left right indicators
follow procedures
freeze diagnostic information

cost per diagnose

interoperability over systems and vendors
multiple images per film
minimise operator handling
multiple applications per system

time per diagnose

diagnose at light-box with films
all preparation in exam room

many
to
many

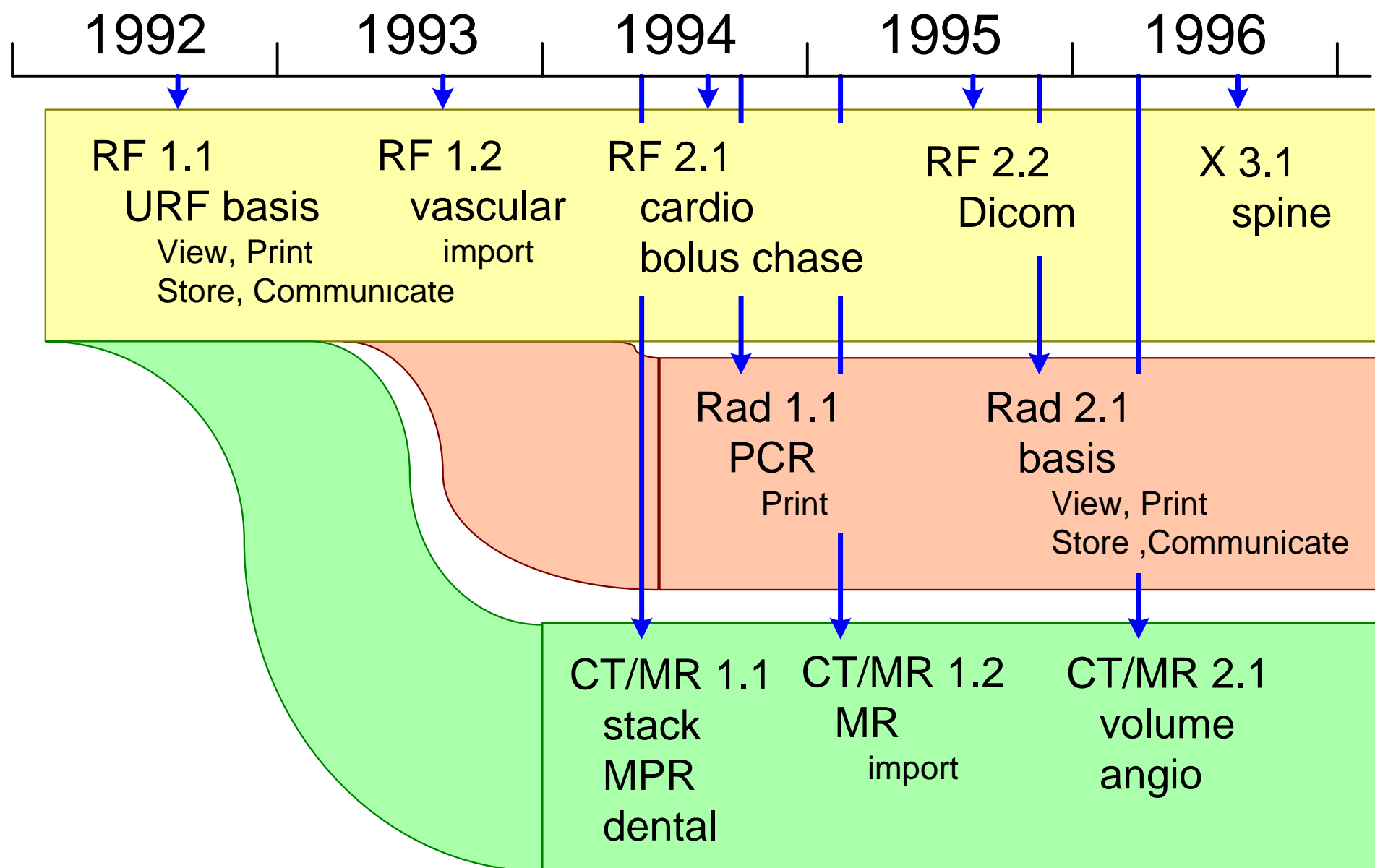
Requirements

import
auto-print
parameterized layout
spooling
storage
navigation / selection
auto-delete
viewing
contrast / brightness
zoom
annotate
export *functionality*

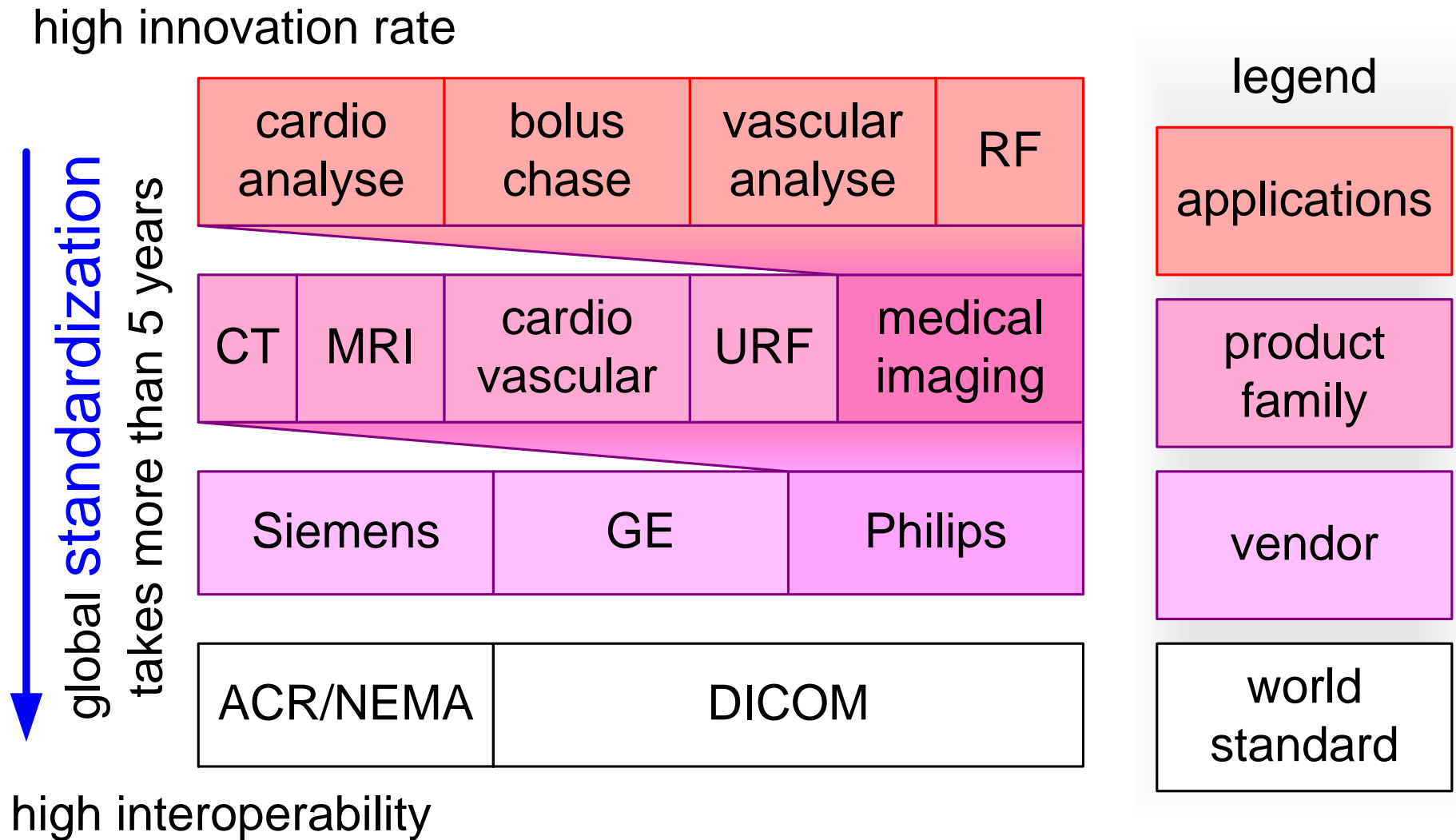
system response
system throughput
image quality
annotation
material cost
operational cost *qualities*

shared information model
viewing settings
patient, exam info
interfaces

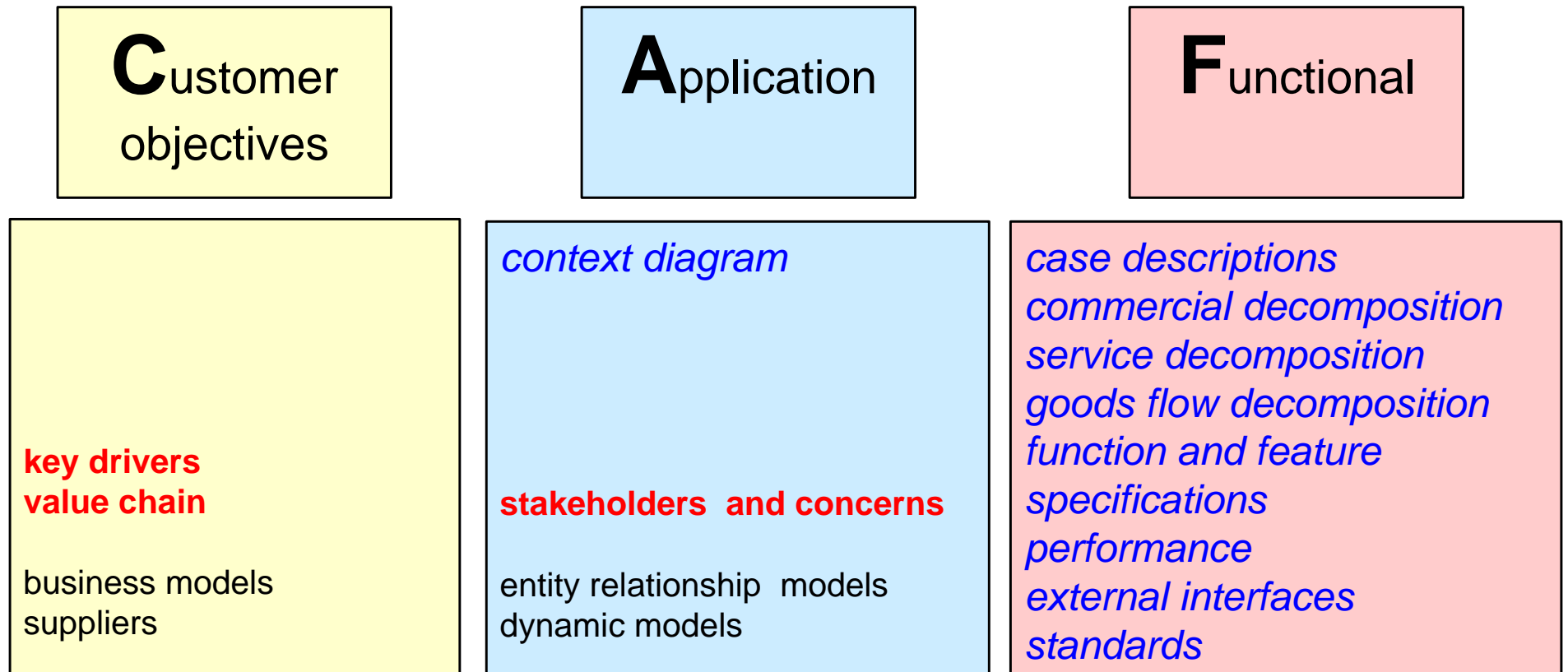
Retrospective functionality roadmap



Information model, standardization for interoperability



Coverage of submethods of the CAF views



legend *explicitly addressed* **addressed only implicitly** not addressed

coverage based on documentation status of first product release