50 shades of

Bringing technological independence to hospitals

@OrthancServer

1. What is the Orthanc project?
2. Orthanc use cases
3. Open source model

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The problem

33 Million medical imaging exams are carried out in Belgium every year

20 Million of those were burnt onto a CD

the full cost of burning and shipping a CD amounts to **+-6,5€**

That's a **waste** of **130 Million €**

14% of all medical imaging exams are not required, mainly because the doctor doesn't have access to the patient's study

That's an additional **waste** of **100 Million €**

What's the issue?

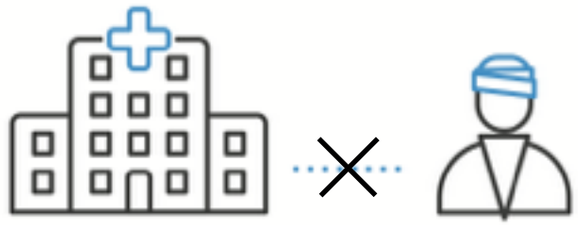
INTER-OPER-ABILITY

STAND-ARDS

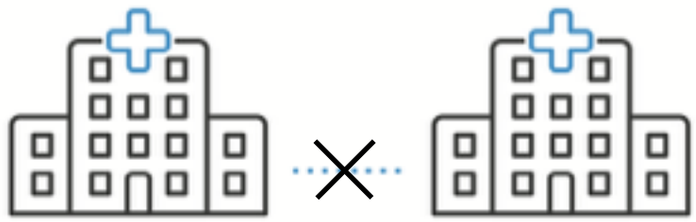
Pains

inside hospitals

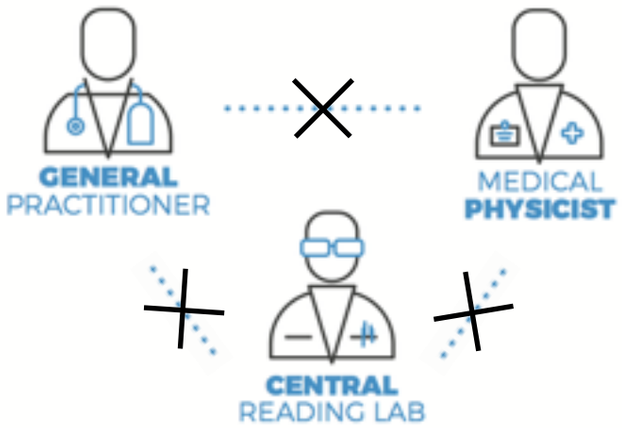
hospital to patient



between hospitals



among physicians



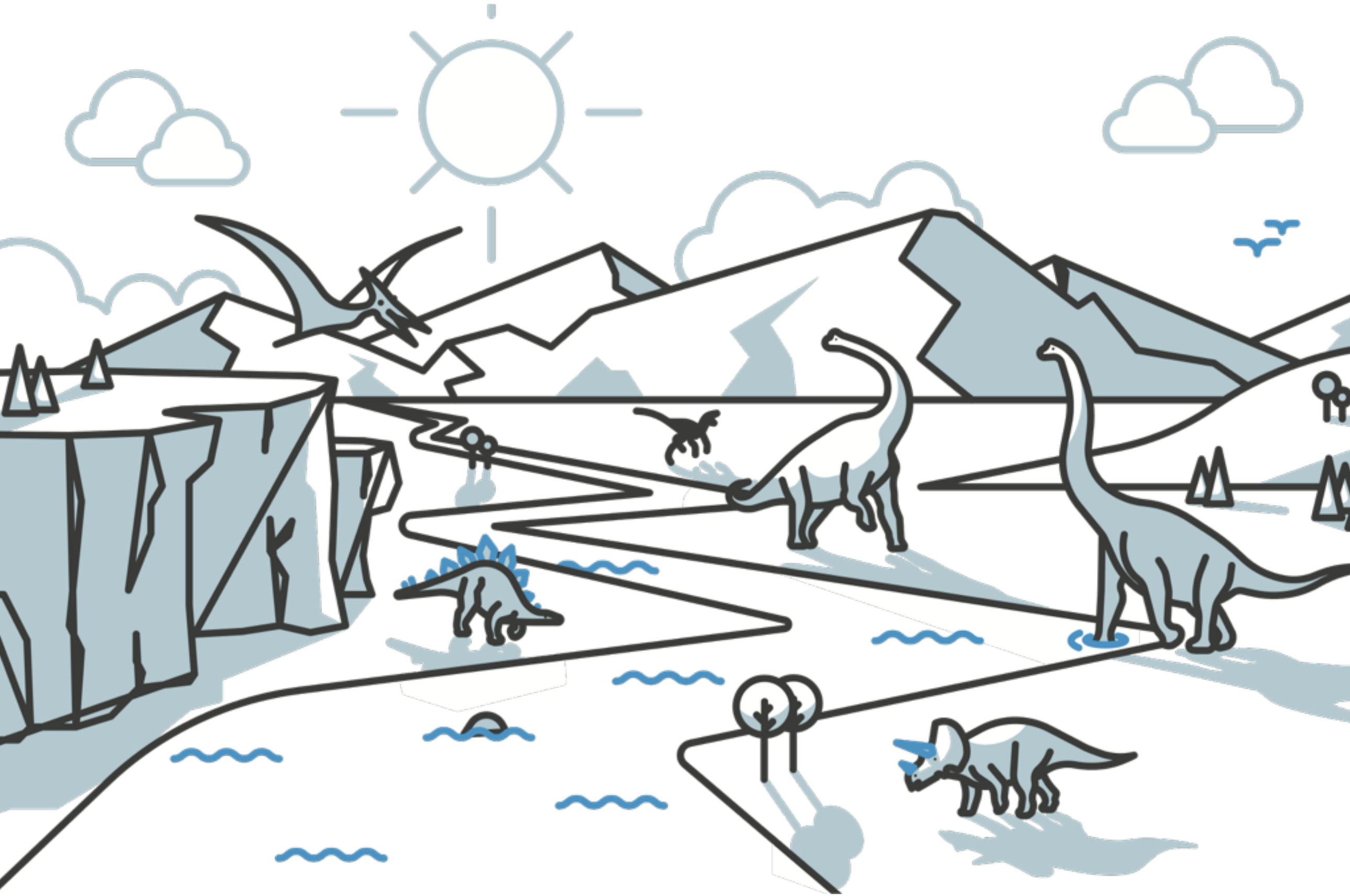
Current “solutions”

CDs

VPN
Tunnels

custom
proprietary
code

It’s still Jurassic Park out there



FREEDOM

In 2011, Sébastien Jodogne, a member of the Liège University Hospital staff, started creating a medical imaging server named Orthanc to serve the needs of their radiotherapy department.

As the research for these developments had been sponsored by government funds, it was decided to open up the source code. It has been downloaded over 25.000 times ever since.

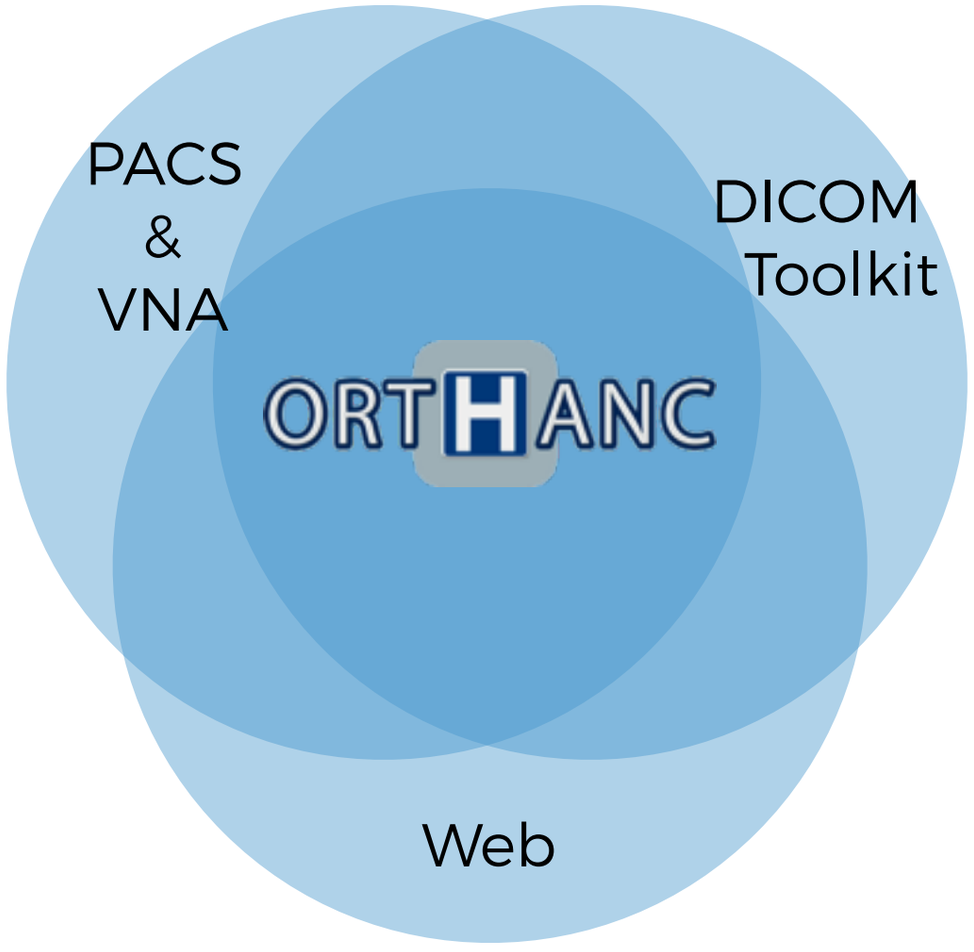
Among other awards, Orthanc was granted the 2015 Award for Advancement in Free and Open Source Software by the Free Software Foundation at the MIT in Boston.

Osimis was created alongside Orthanc to help it reach a wider market. Our services and products help medical specialists and industrials the world over to innovate in the medical imaging space.

Business philosophy	source type							
	interoperability	proprietary formats single platform, rarely web			DICOM + REST API multi platform, web first			
Feature scope	collect	★★☆☆☆	€€€€ €€€€ €€€€ licence €fees€ €€€€ €€€€ €€€€ €€€€ €con€ sulting €€€€ €€€€ €€€€ €€€€	our consultants are happy to assist your	★★★★★	Free if you implement it yourself €€€ if you use an implementation partner	throw anything at us
	store	★★☆☆☆		your data is so locked in, you'll never get it out	★★★★★		you choose how you store your data
	workflows	★★★☆☆		with our RIS only	★★★★★		HL7
	view	★★★★☆		you want excellent? we have good	★★★★★		work with partners / specialist software
	share	☆☆☆☆☆		nope...	★★★★★		API
	integrate	☆☆☆☆☆		beg you pardon?	★★★★★		API
Bottom line		No money, no innovation!			Open innovation			

Orthanc

The Swiss Knife



Orthanc
The benefits

Why people  ORTHANC

- Open source (the community = warrant of quality)
- Interoperability & Vendor Neutrality & DICOM standard
- Standalone (app & storage all in 1)
- Cross-platform (Linux & Windows & OSX)
- Extensible (RESTful API, Lua scripts, plugins)
- Webinterface (connect from everywhere in the hospital)
- Industrial grade
- Free

Orthanc in figures

1 core + 5 plugins

DOWNLOADS: 50.000

CODE STATISTICS (ACCORDING TO CLOC)

- Orthanc core : ~280 files / 100,000 lines (GPLv3+).
- Plugin - Web viewer: 12,000 lines (AGPL).
- Plugin - PostgreSQL: 10,000 lines (AGPL).
- Plugin - DICOM Web: 4,000 lines (AGPL).
- Plugin - Anapath: 10,000 lines (AGPL).
- ImageJ: 4,000 lines (GPLv3+).

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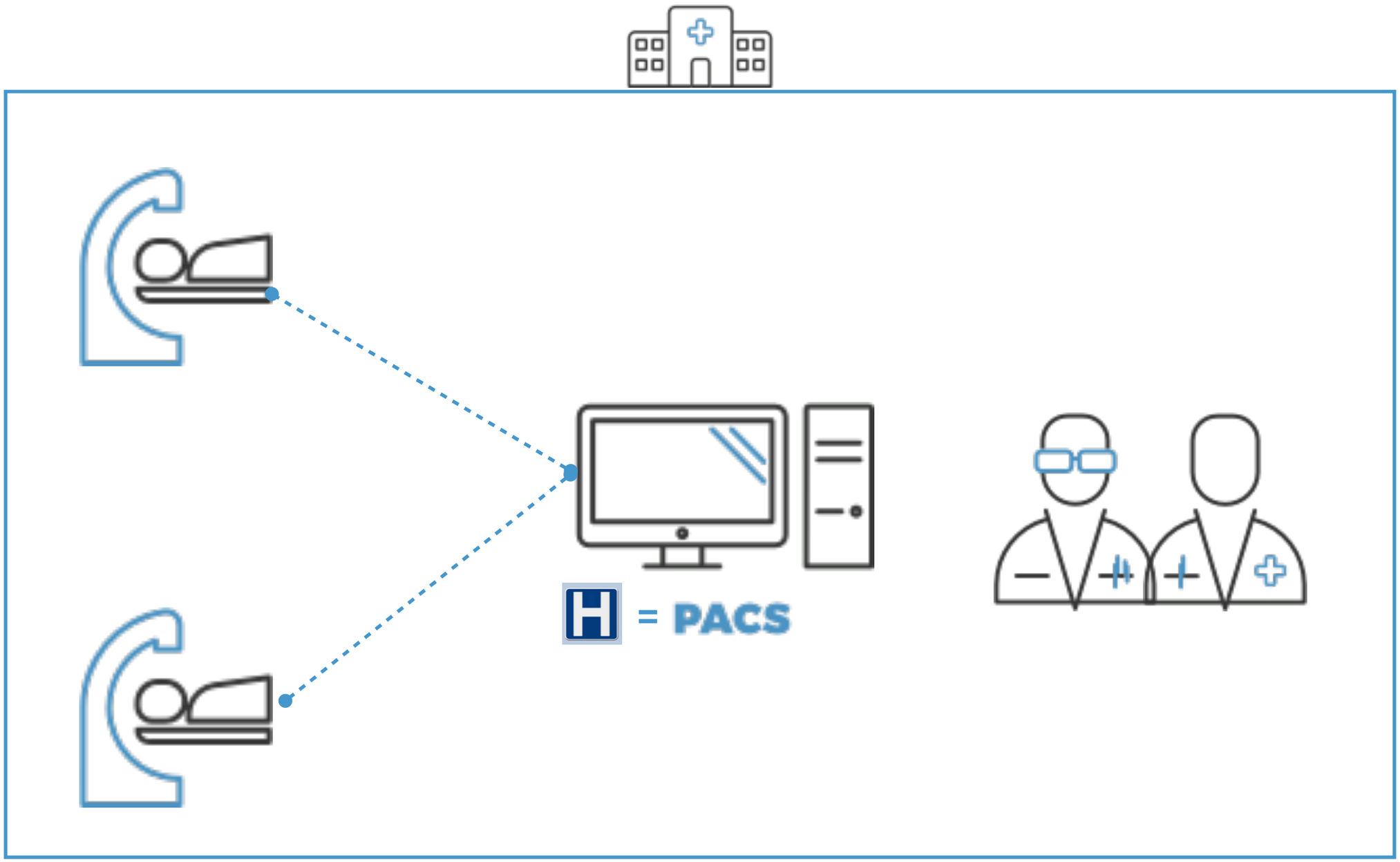
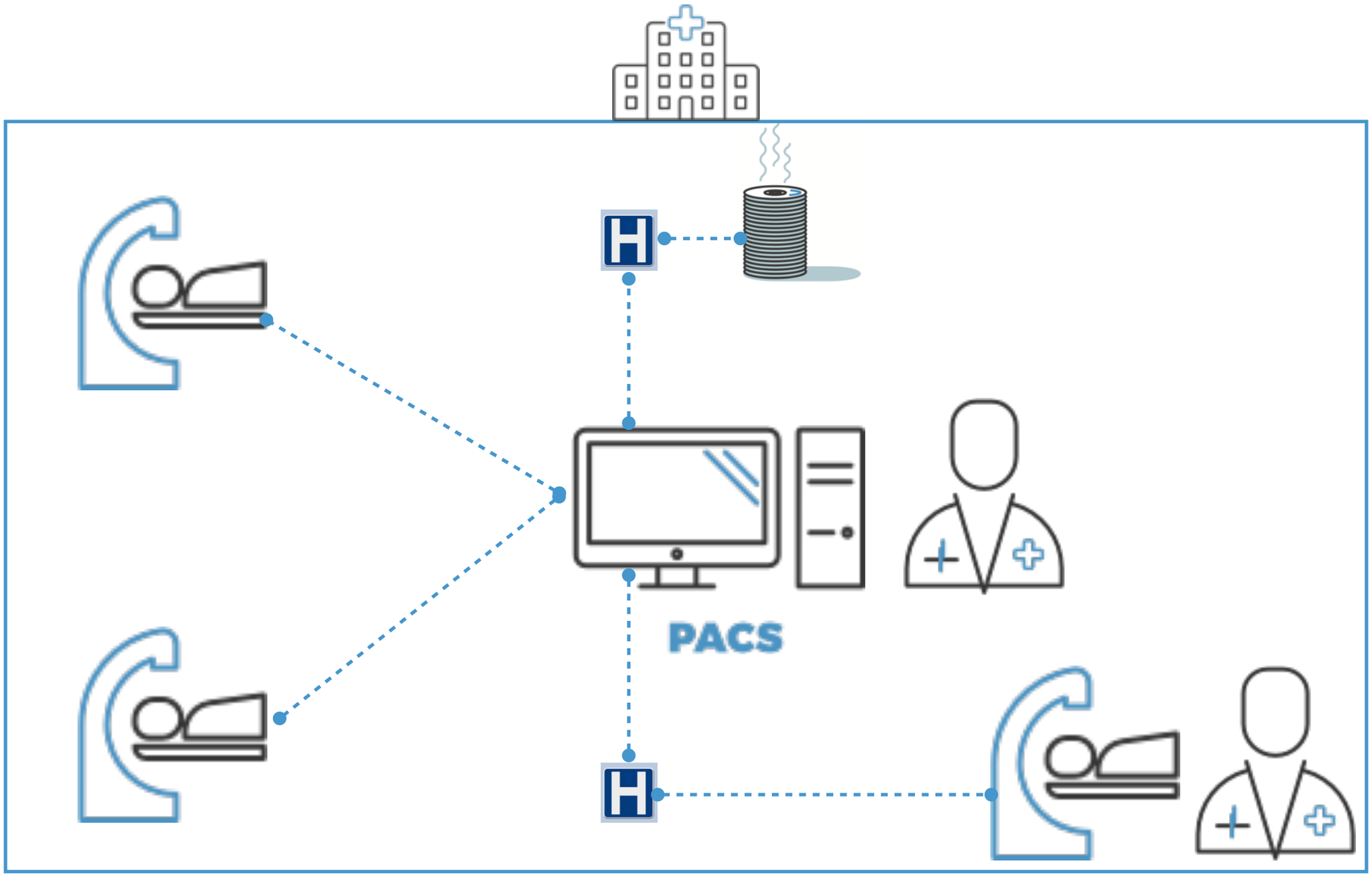
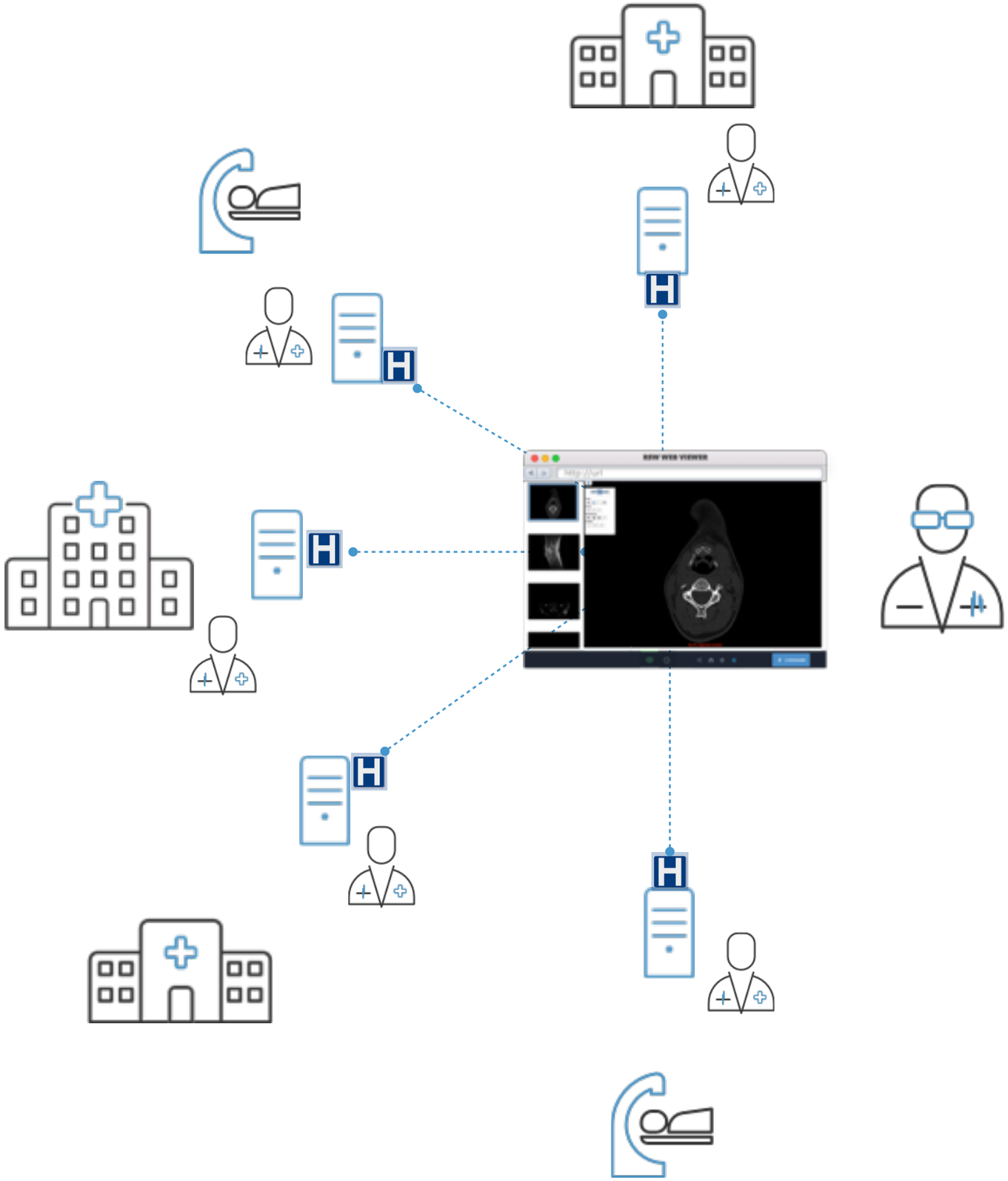
Basic clinic implementation



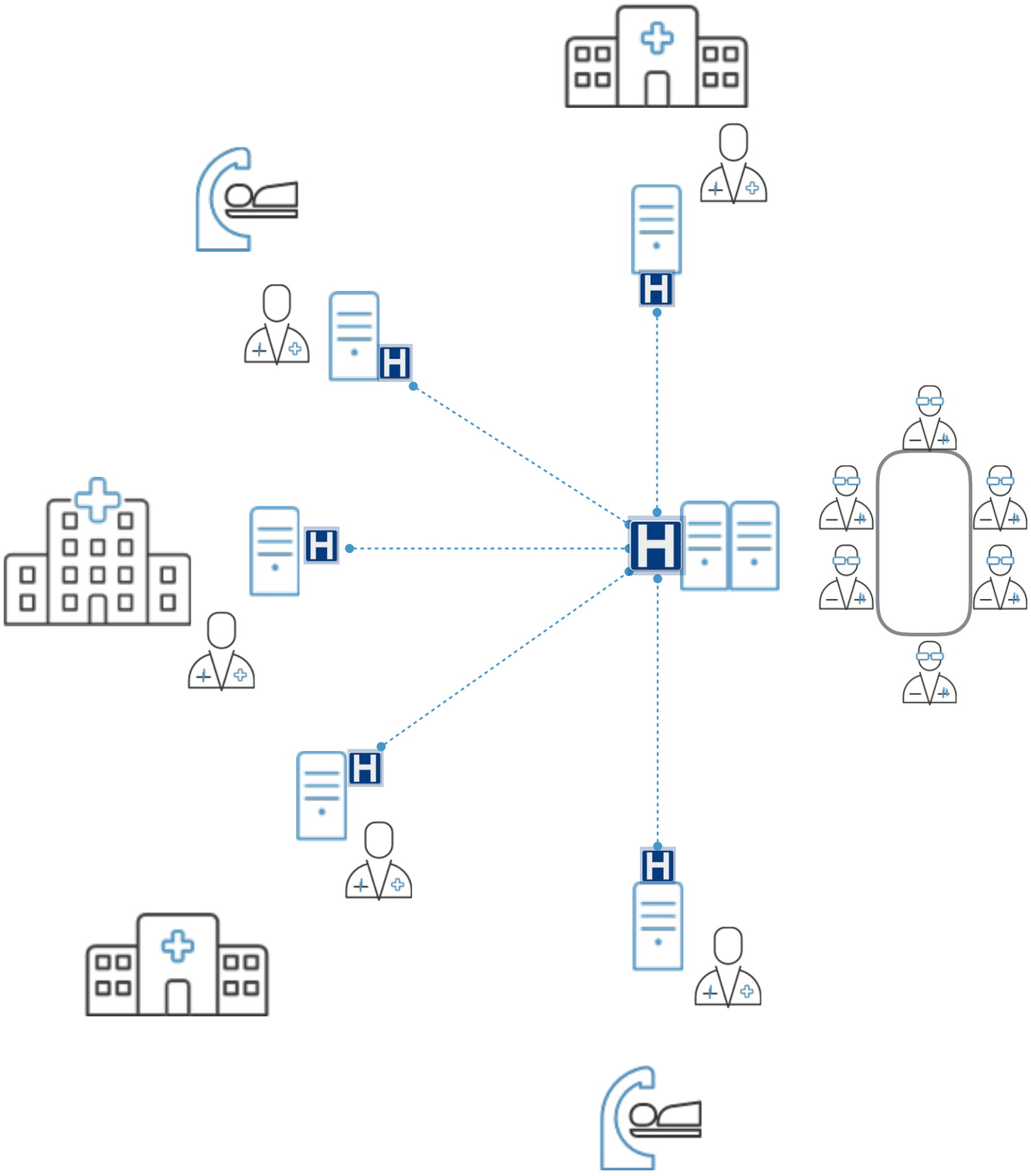
Advanced hospital implementation



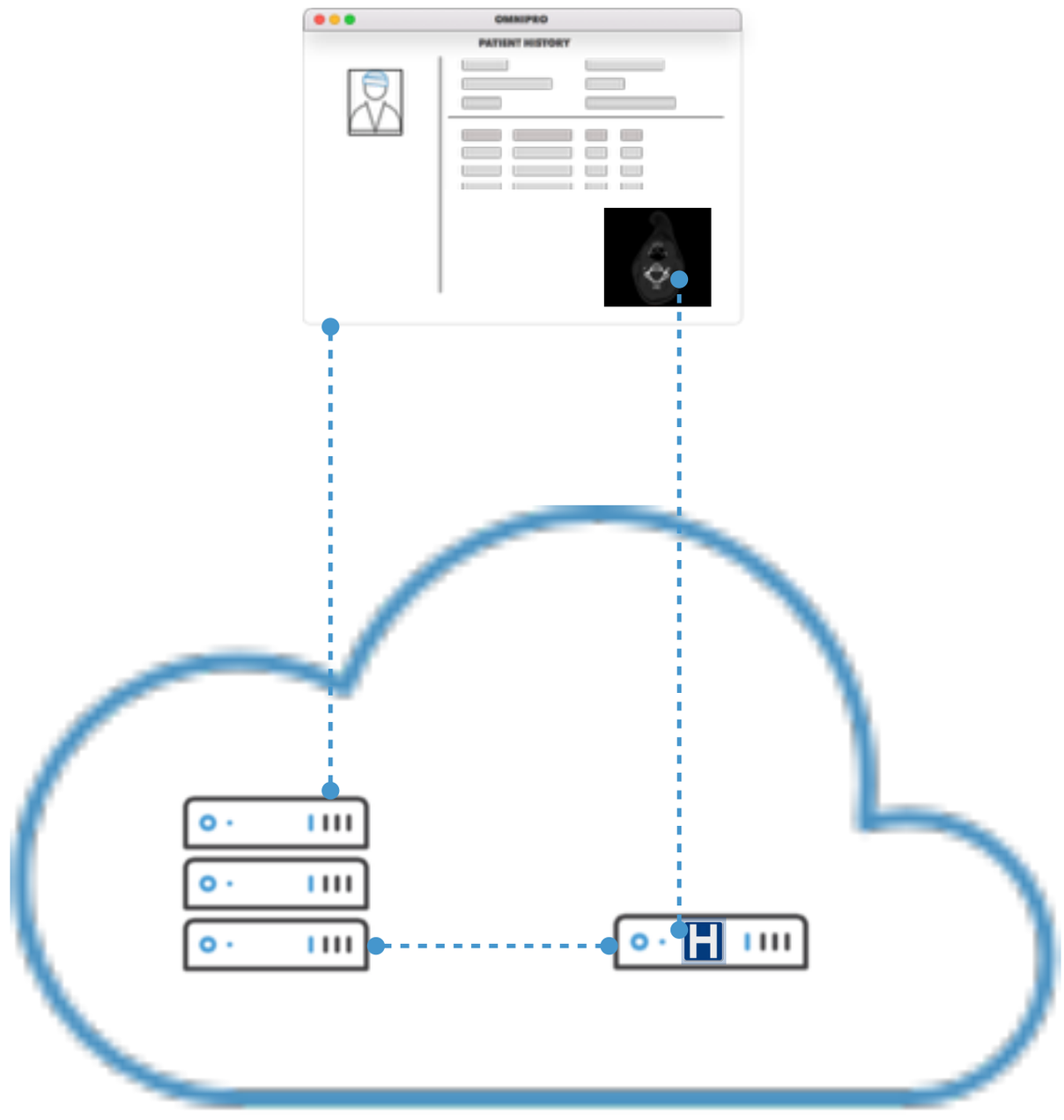
Emergency tele radiology network



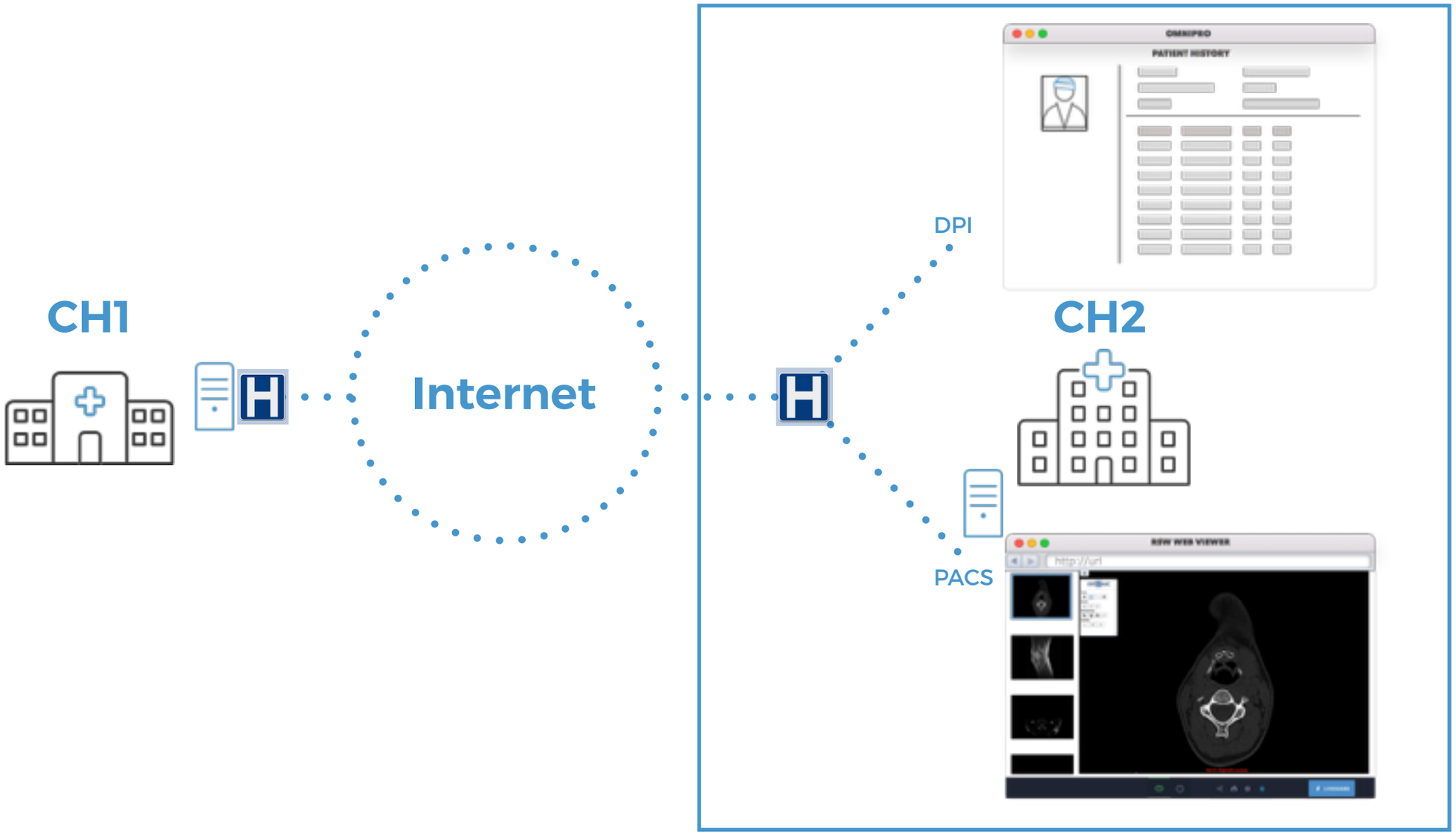
“Réunions de concertation pluri-disciplinaires”



Third party web applications use Orthanc as a library & viewer

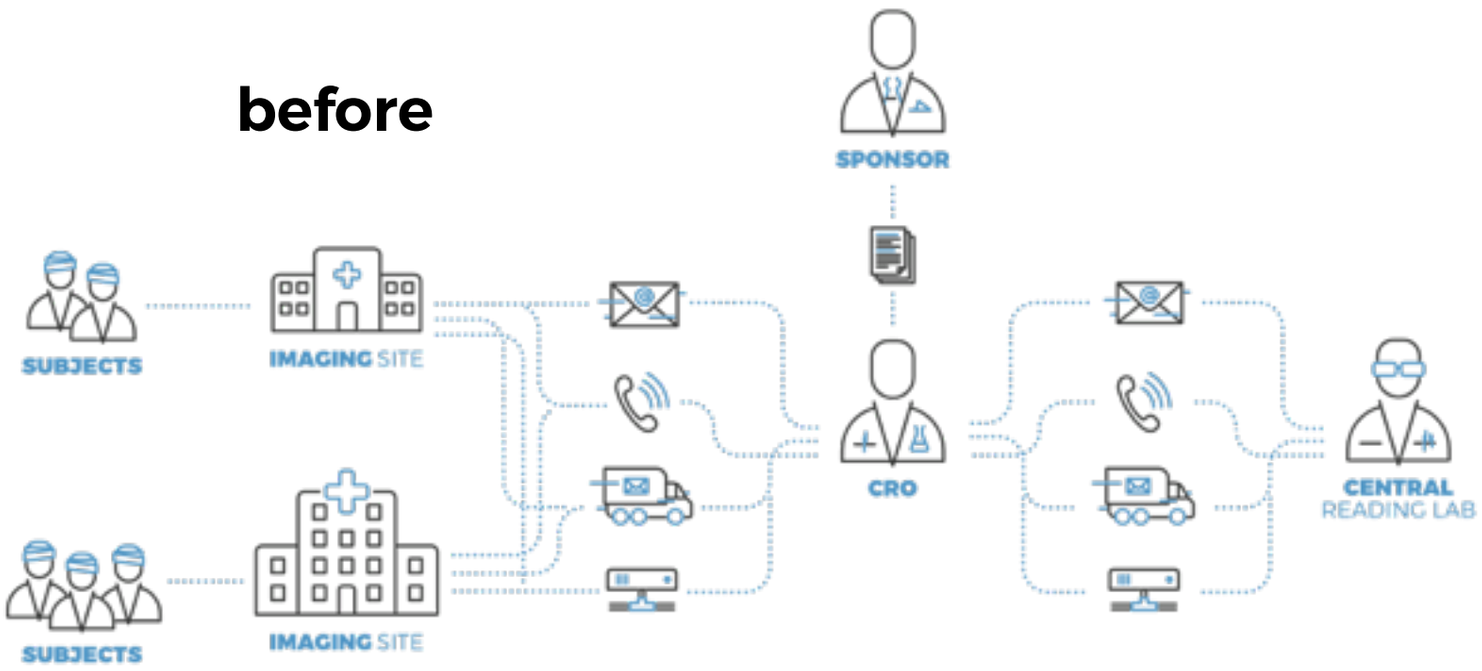


Inter-PACS exchange & reconciliation

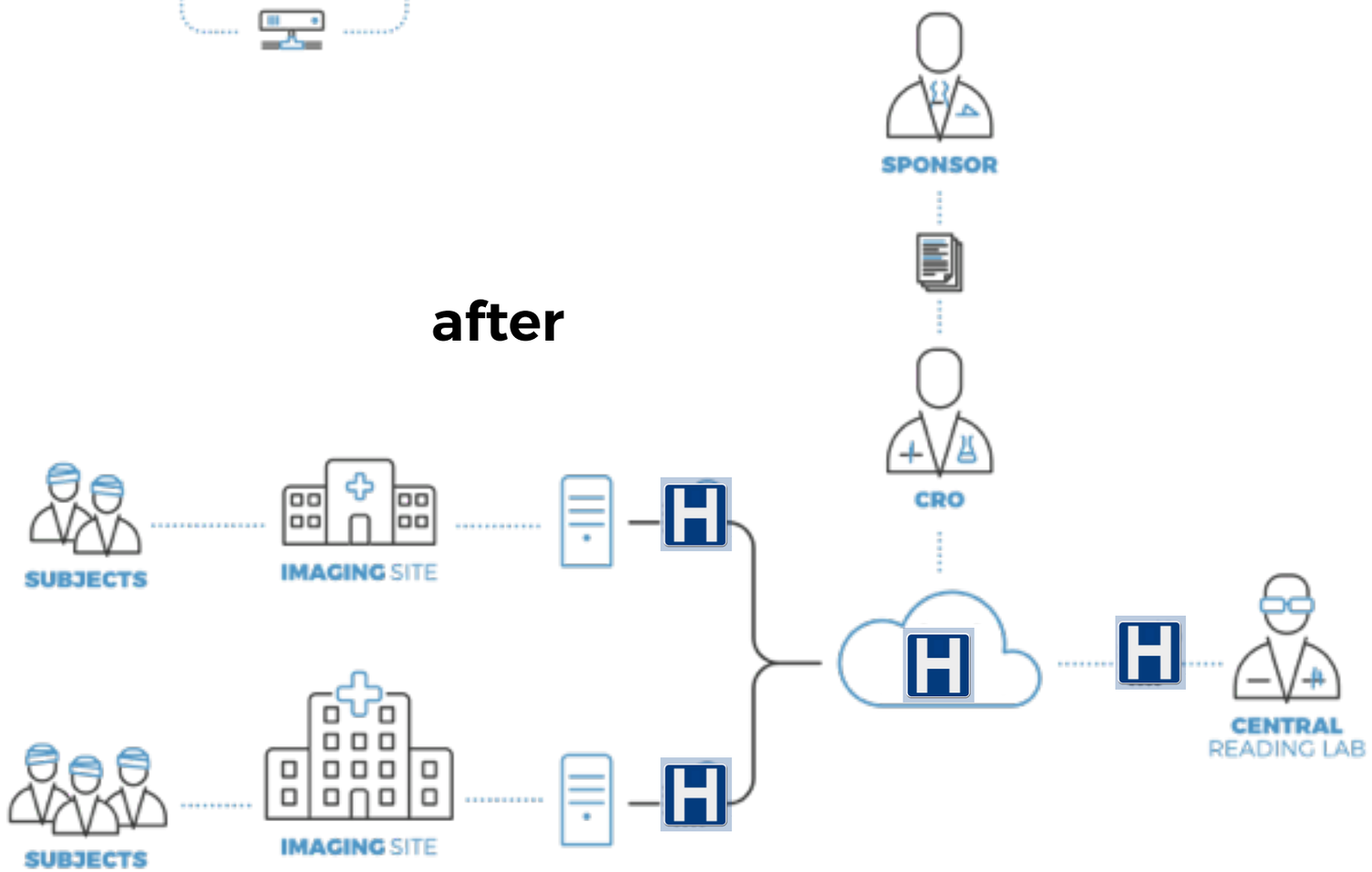


Multi-centric clinical trials

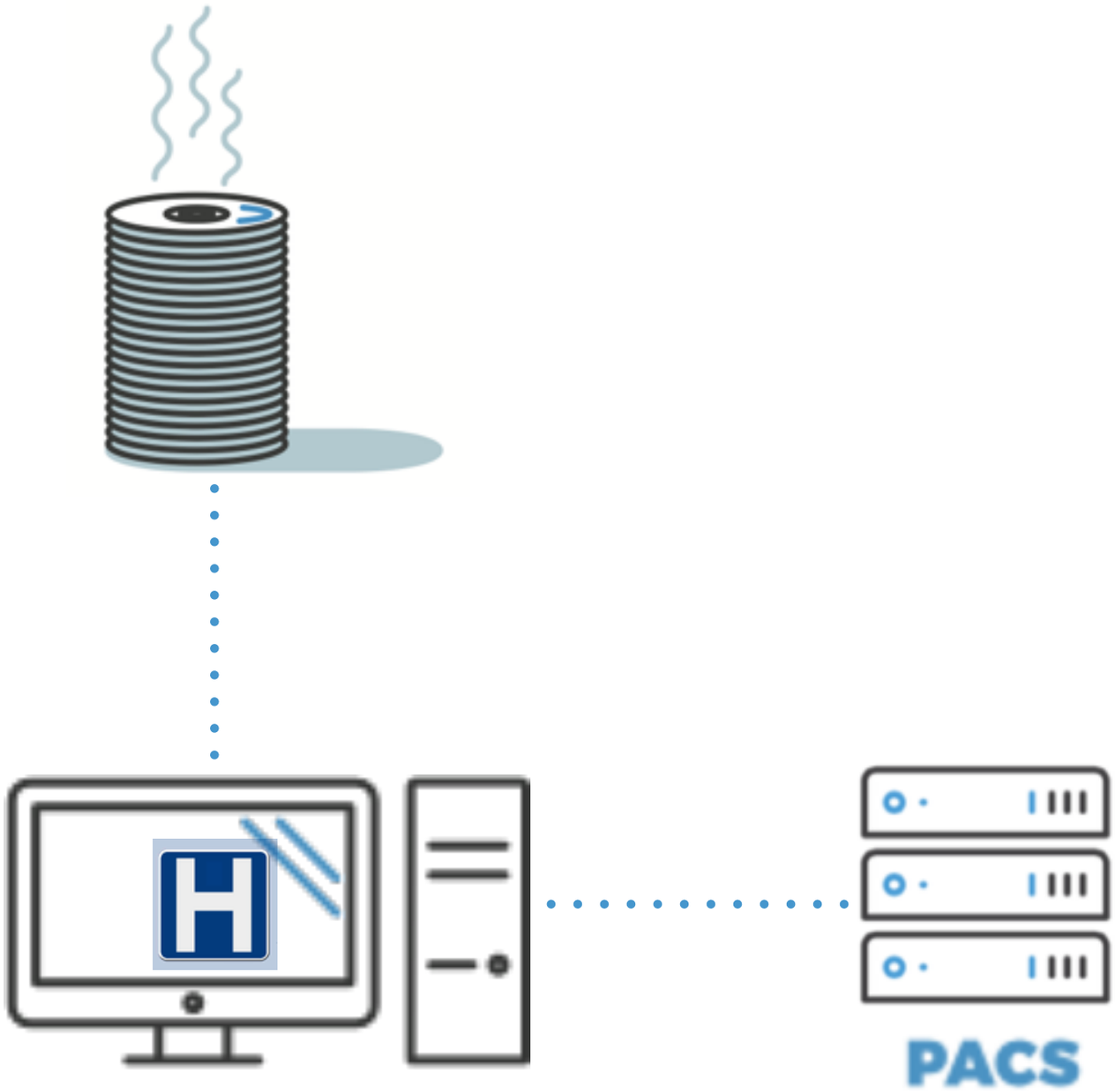
before



after



CD ingestor



CD viewer

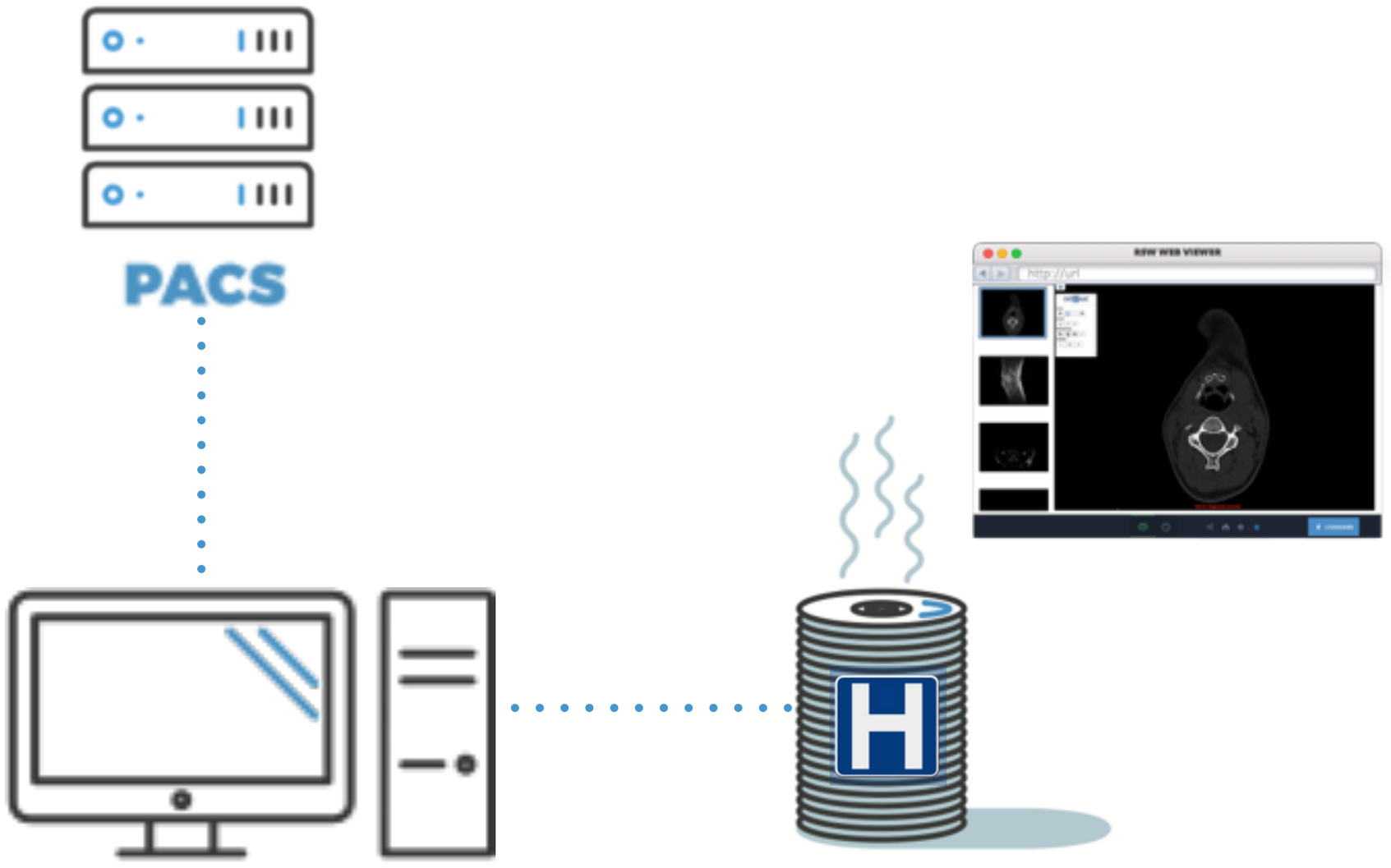
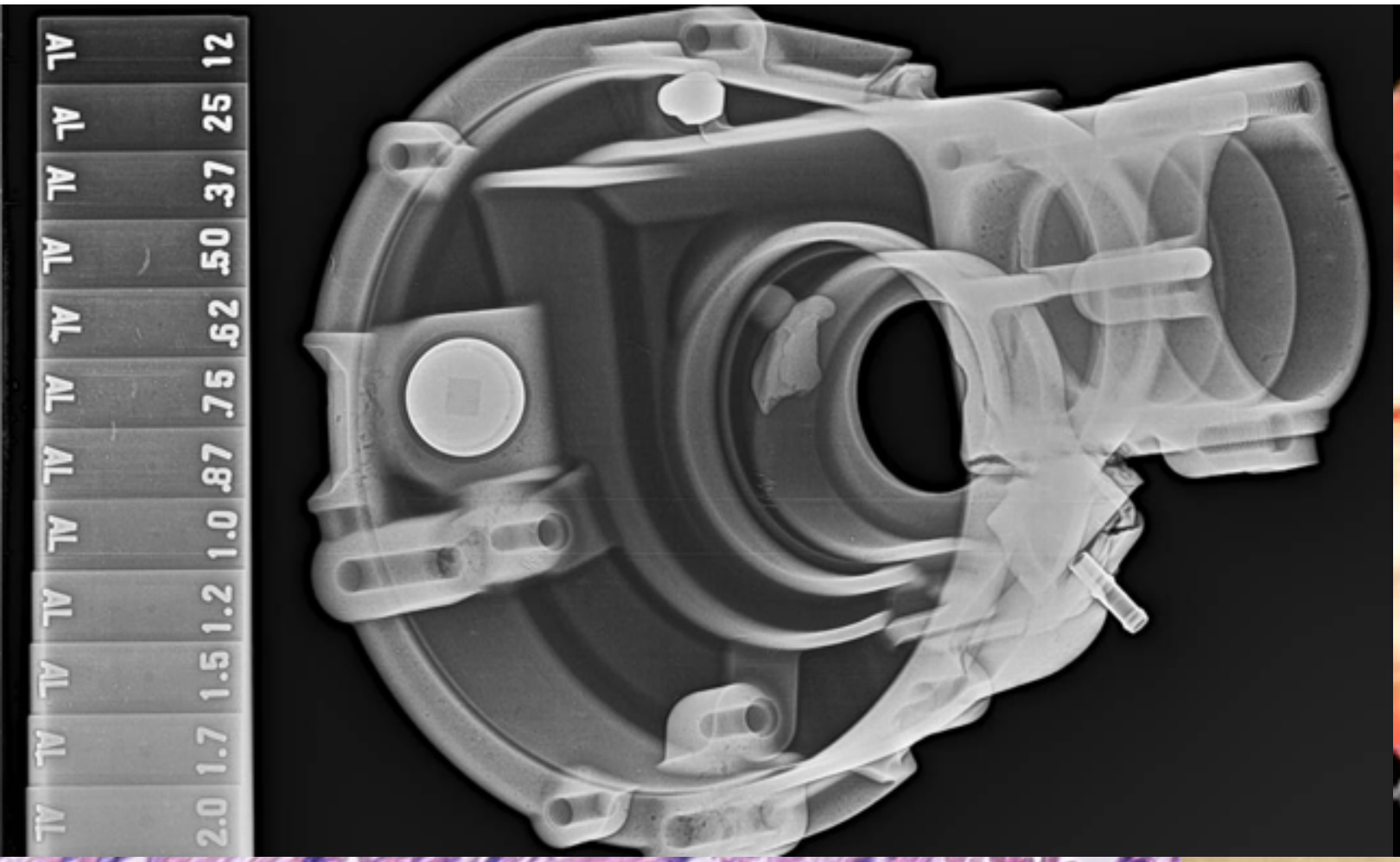
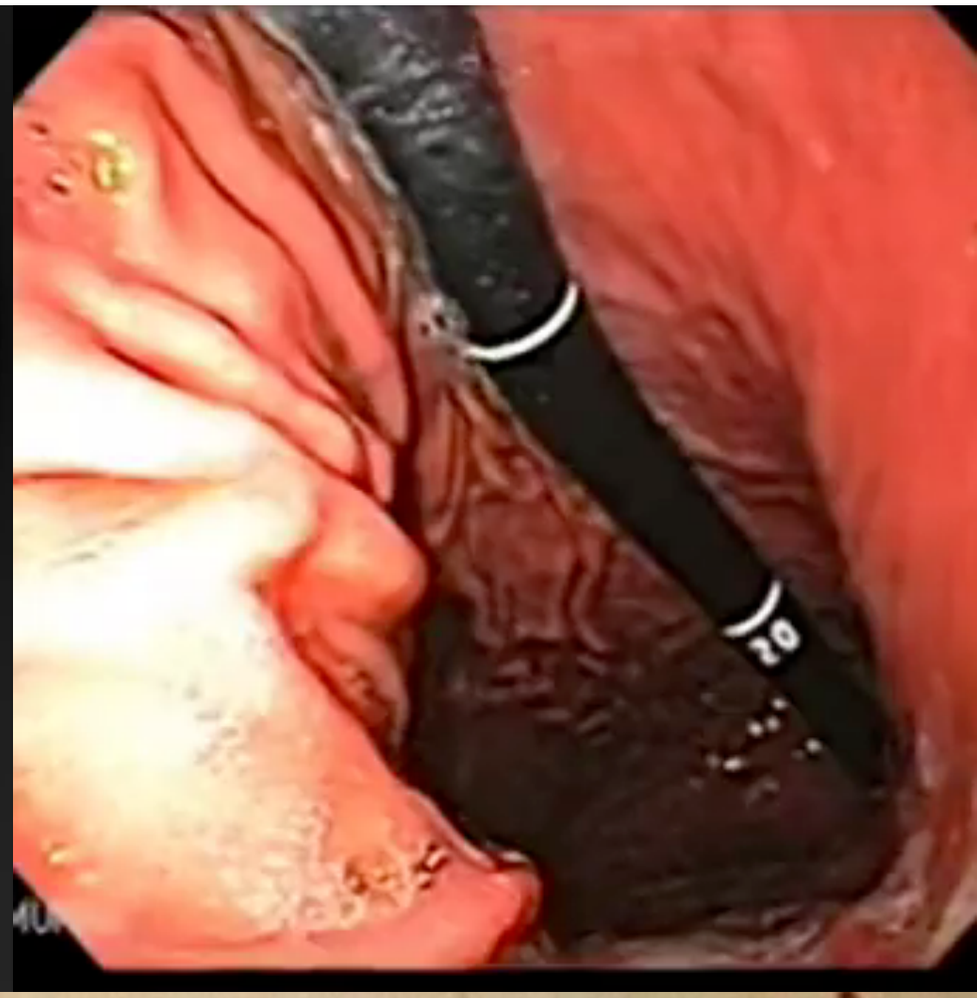
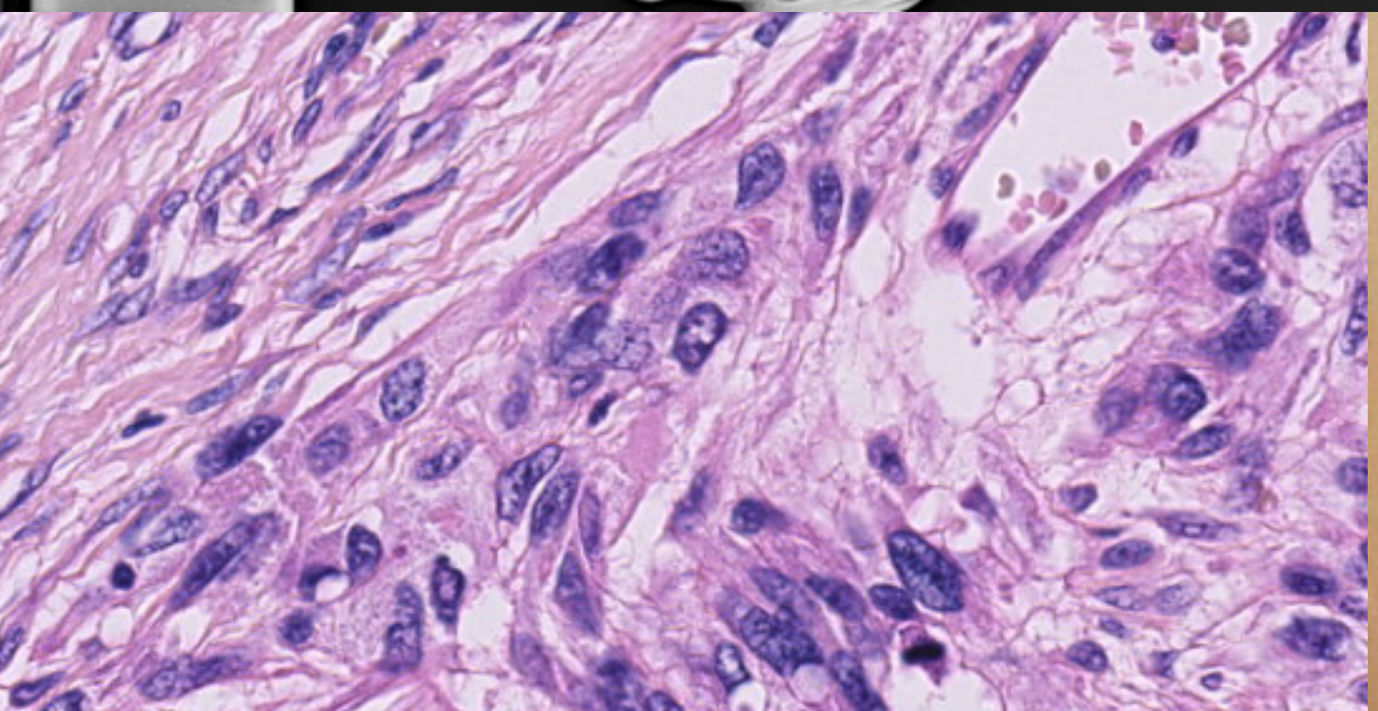
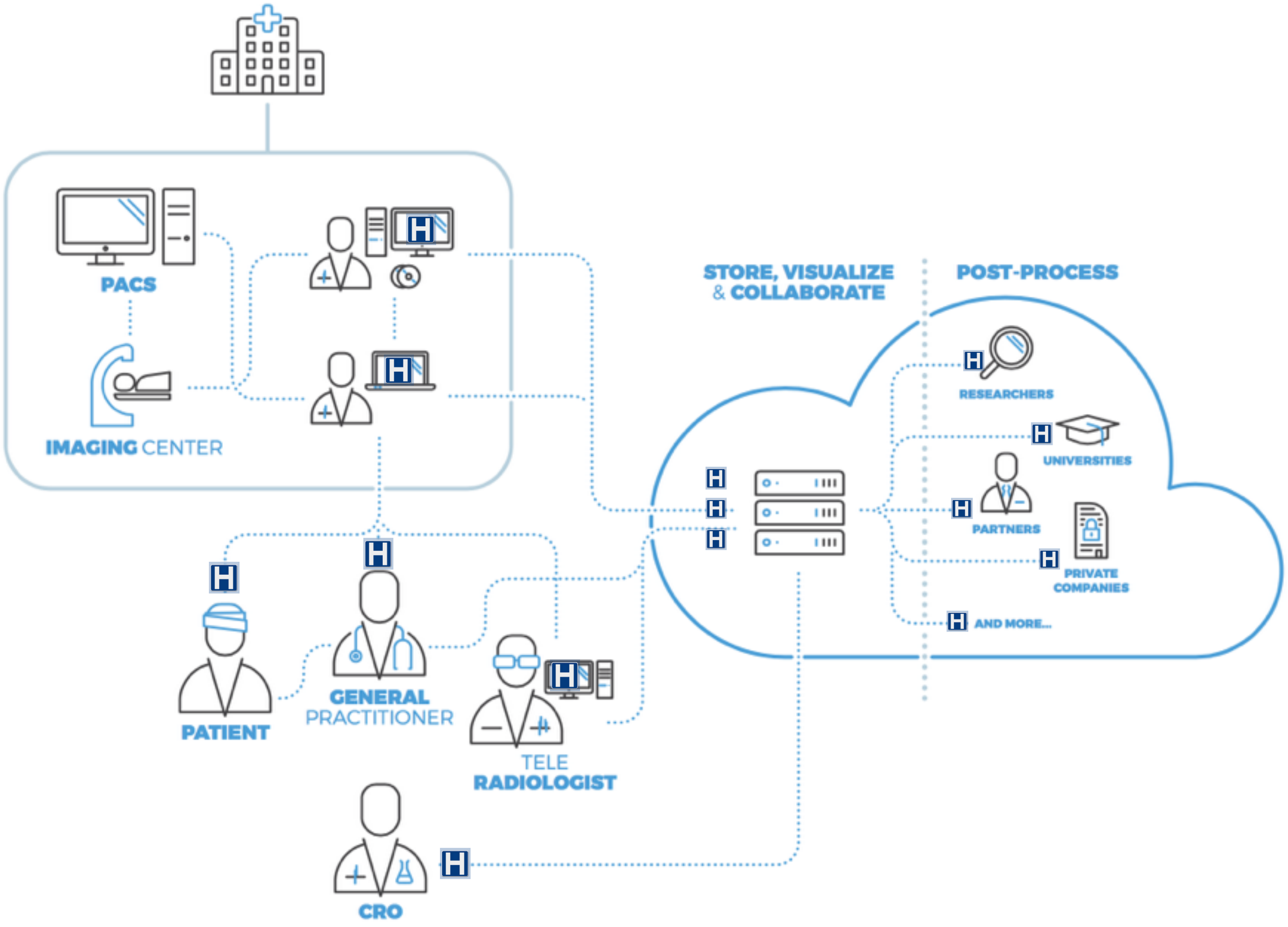


Image types —> 100% of medical imaging scope








PACS
IMAGING CENTER
STORE, VISUALIZE & COLLABORATE
POST-PROCESS
RESEARCHERS
UNIVERSITIES
PARTNERS
PRIVATE COMPANIES
AND MORE...
PATIENT
GENERAL PRACTITIONER
TELE RADIOLOGIST
CRO

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The open source model

ORTHANC

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IMAGING · RE-WIRED

The open source model

ORTHANC	OSIMIS IMAGING · RE-WIRED			
	COMMUNITY	PARTNER	ON DEMAND	Lify
Orthanc core + Basic web viewer plugin, PostgreSQL plugin, Dicomweb plugin, ImageJ interface, ...	Advanced web viewer plugin & more to come	Certified advanced web viewer plugin, DICON-DE plugin, ...	Custom code, support, specific integrations, training	DICOM toolchain for clinical teams that runs locally and in the cloud, enabling access to post-processing algorithms
Free Open Source		**Commercial Open Source**		**SaaS**
REST API, DICOM standard, multiplatform, lightweight				

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