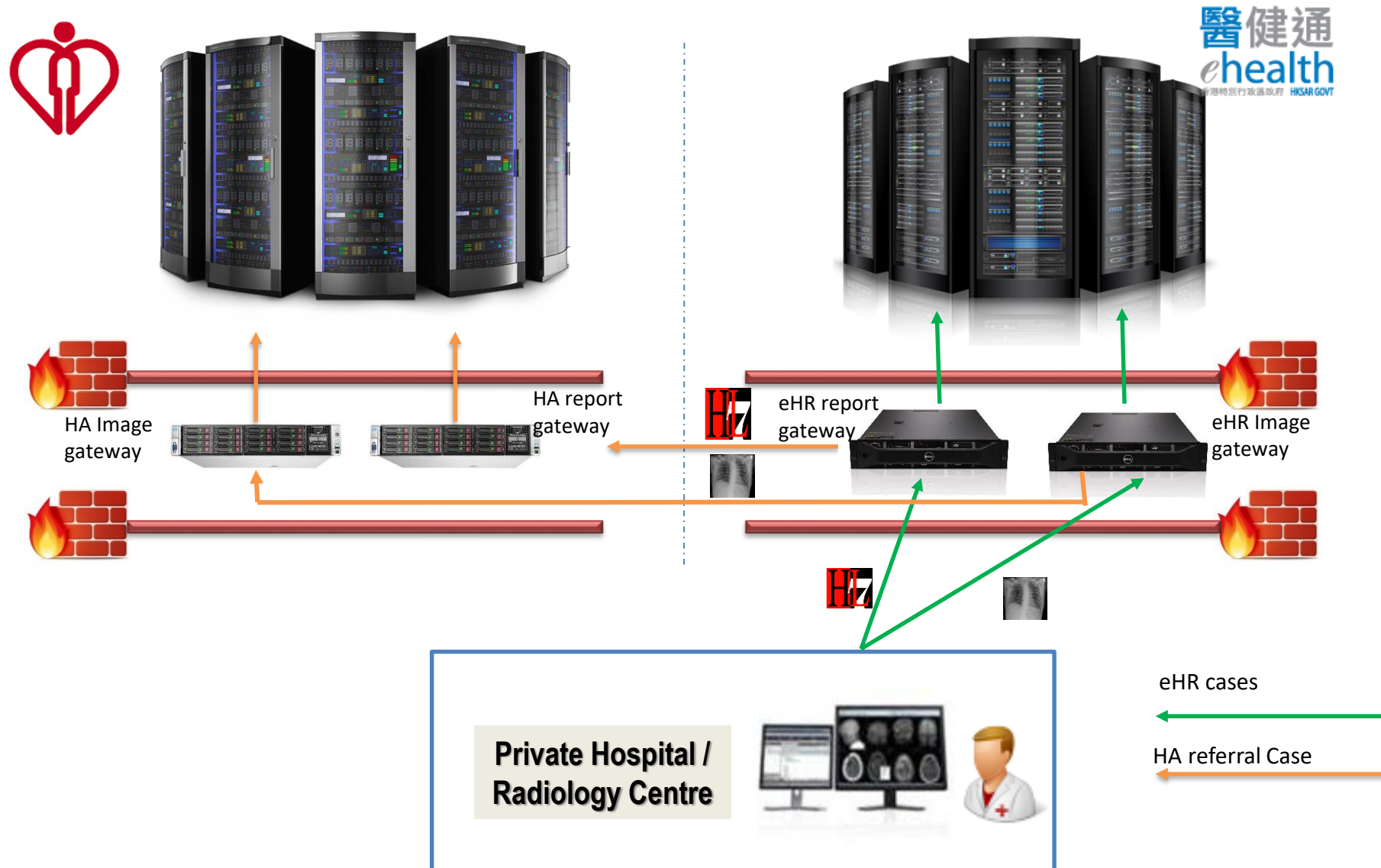


# Technical requirement and work for eHR Radiology Image Sharing

Forum on “Migration of Radiology Image Sharing Pilot to eHRSS  
Radiology Image Sharing”

20 Jun 2019

# New Model of Radiology Exam & Images Sharing



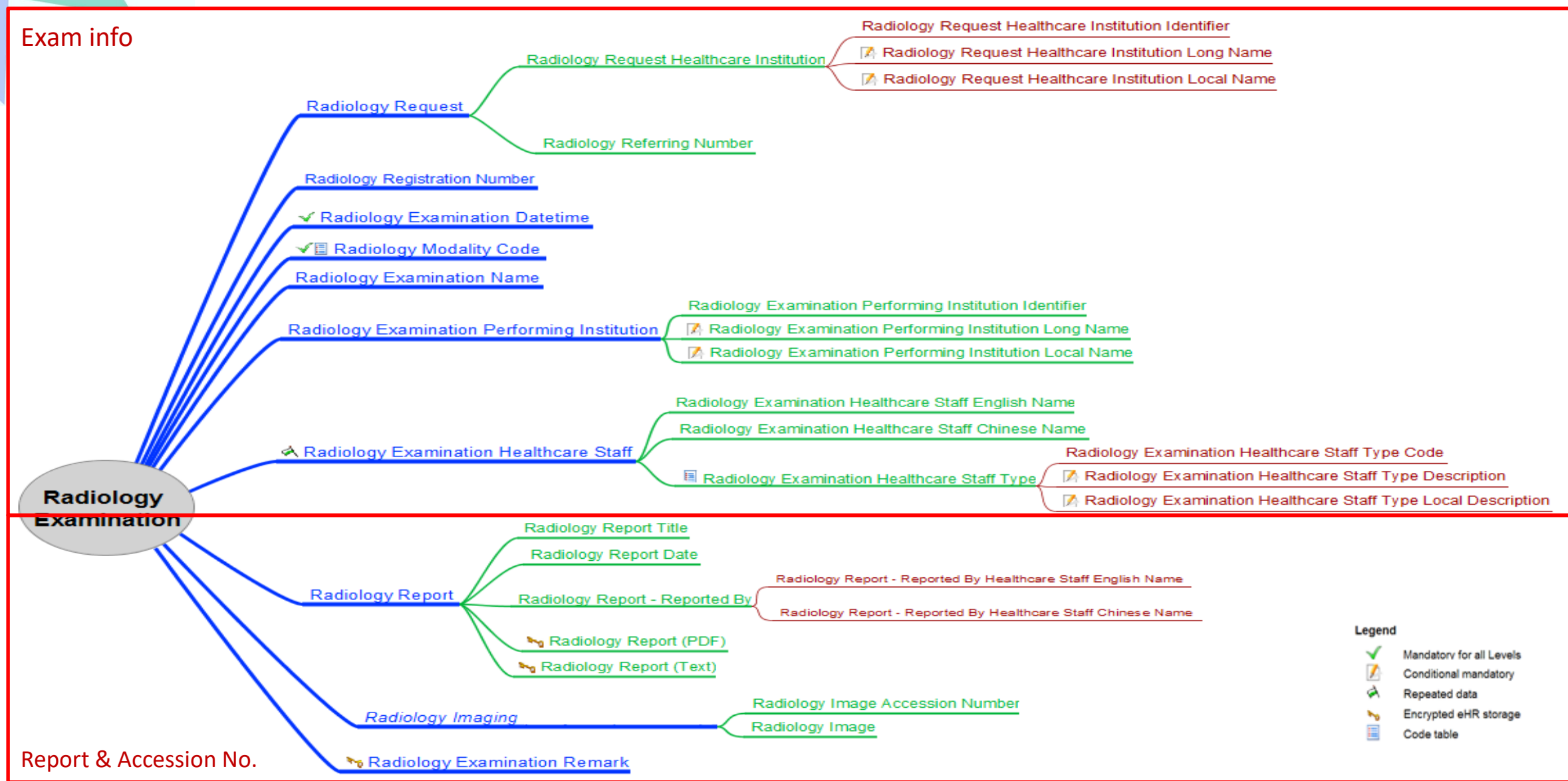


# Requirements for sharing Radiology Exam

## Data Scope

- Similar data requirement
  - Patient Major Key, Report Date, Modality, Accession Number (Same format)
  - Extra fields required:
    - ✓ eHR number
    - ✓ Referring Number (for referral case)
  - ❖ *Reference:*
    - ❖ [https://www.ehealth.gov.hk/filemanager/content/pdf/en/ehris/annex/Appendix\\_XV\\_I\\_eHR\\_Radiology\\_Examination.pdf](https://www.ehealth.gov.hk/filemanager/content/pdf/en/ehris/annex/Appendix_XV_I_eHR_Radiology_Examination.pdf)
- Welcome to upload the historical reports as much as possible for the consented patient (vs 2 years image)

# Mind Map : Radiology Examination Report Dataset

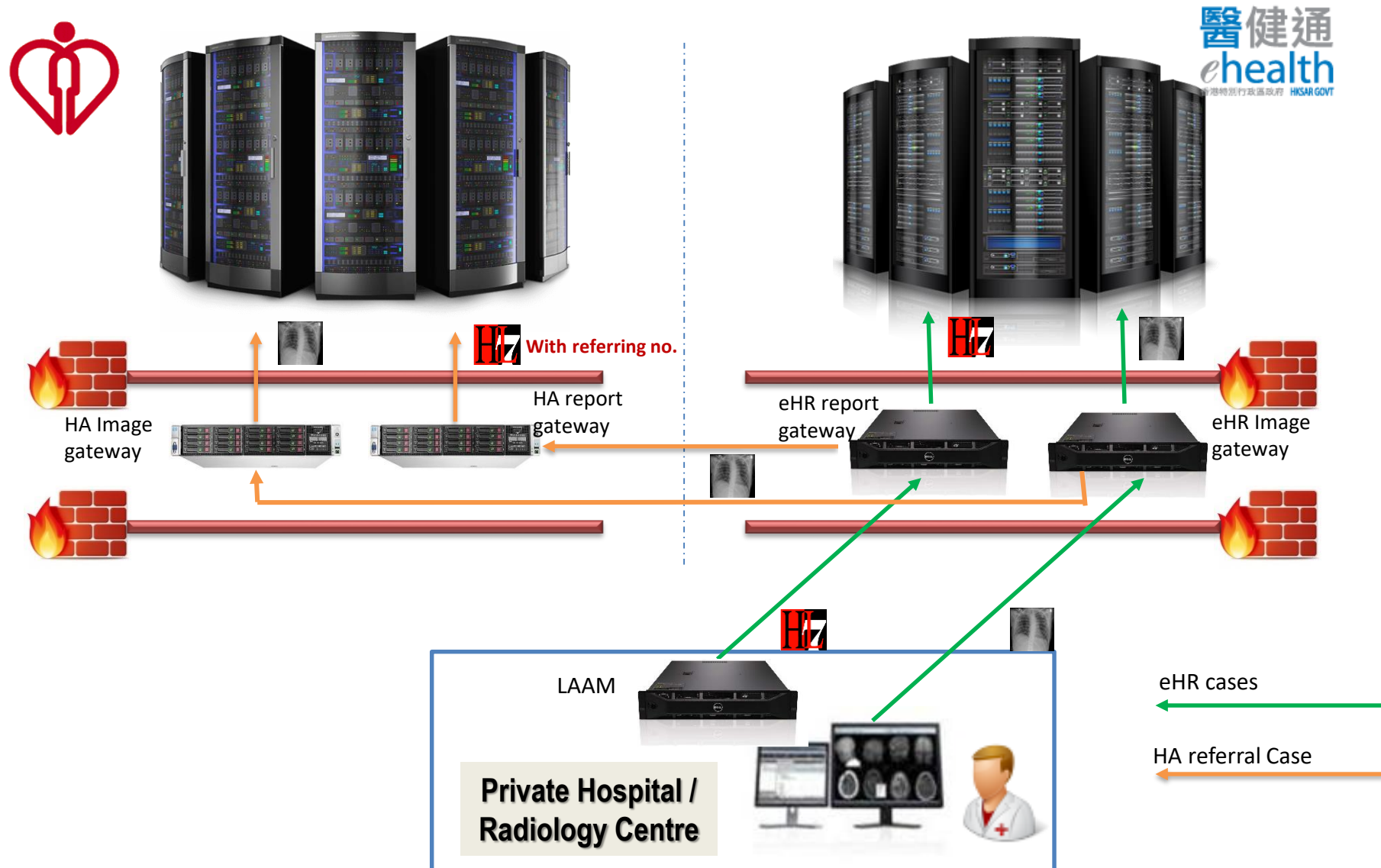




# **CMS extension – Local adaptor adaptation module(LAAM)**

- ✓ Developed by eHRSS
- ✓ Follow EHR standards
- ✓ Over 10 Healthcare Providers in-used
- ✓ Platform independent : Java-based Application Server with database (Windows, Mac, Linux)
- ✓ eHR license required
  - Interface specification can be obtained via eHRSS bulletin

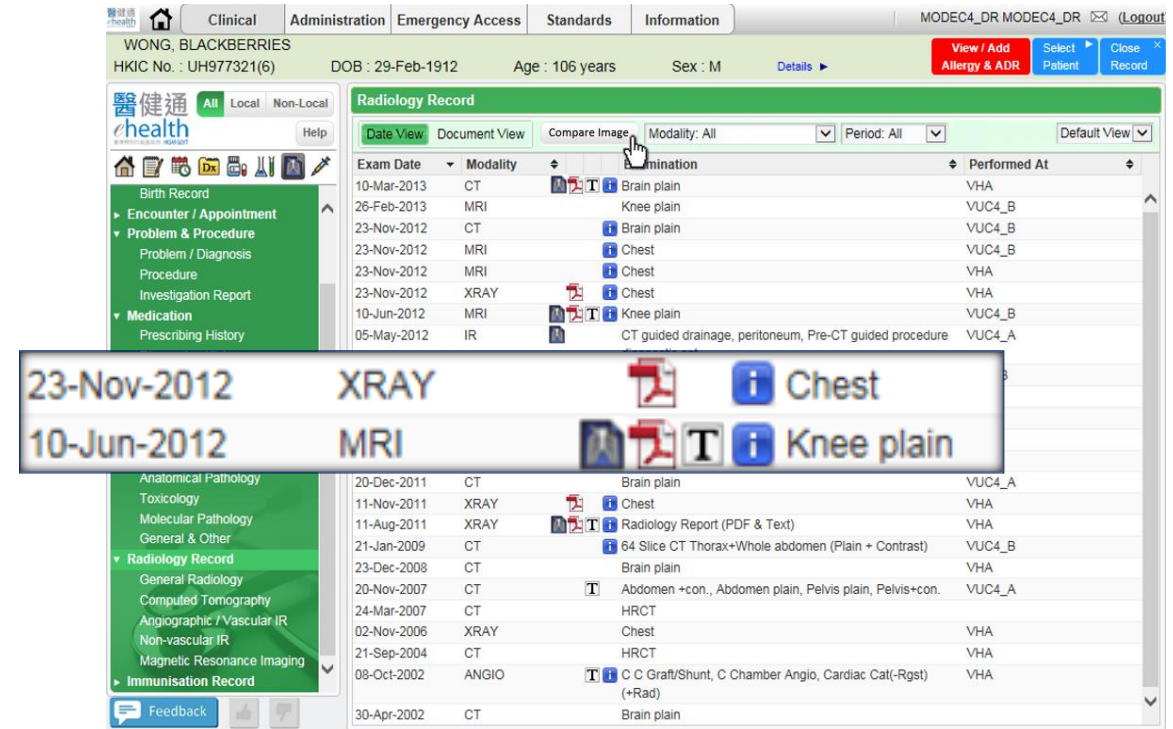
# Upload Flow requirement on sharing Radiology Exam & Images



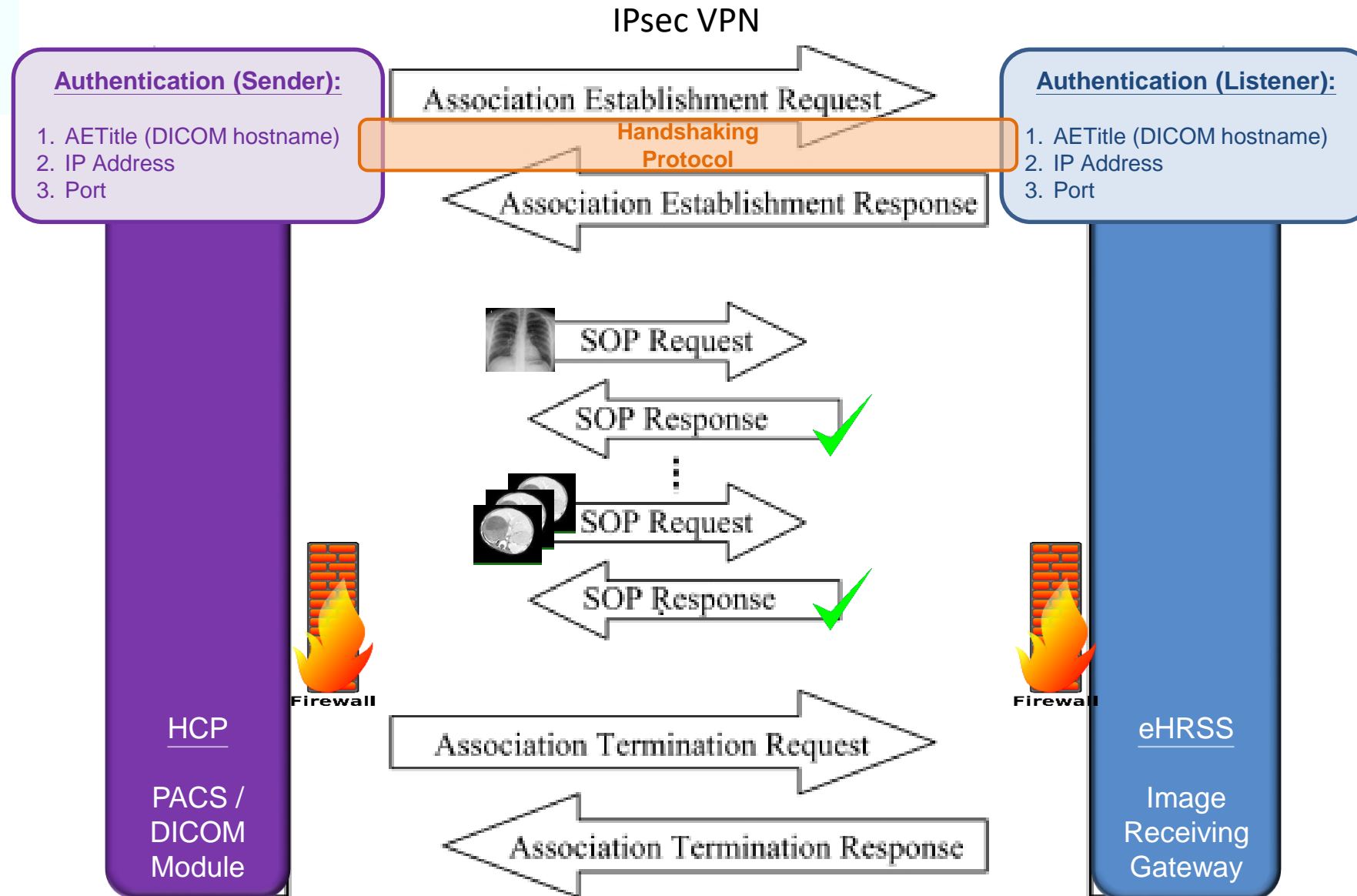


# Requirements for sharing Radiology Image

- DICOM conformance statements
  - DICOM Association
  - Supported SOP classes
  - Accepted Presentation Contexts
  - Supported Transfer Syntax
- Accession no.
  - Conform to standard format
  - Uniqueness within institution
  - Linked with RIS exam
- Radiology Exam record
  - RIS Exam record uploaded to EHR prior to radiology images
- Accept recent 2 year image studies



# DICOM Protocol





# Requirements for sharing Radiology Image

## DICOM Conformance

Data Field	DICOM Attribute Name	DICOM Tag
* eHR number	Other Patient IDs	(0010,1000)
HKIC number / Identity document number	Patient ID	(0010,0020)
Type of identity document	Issuer of Patient ID	(0010,0021)
English name	Patient's Name 64 chars maximum per component group	(0010,0010)
Sex	Patient's Sex Enumerated Values: M=male F=female O=other	(0010,0040)
DOB	Patient's Birth Date YYYYMMDD	(0010,0030)
Accession number	Accession Number 16 chars maximum	(0008,0050)
* Radiology examination performing institution identifier (HCP ID)	Institution Code Sequence	(0008,0082)



# Image upload scenarios

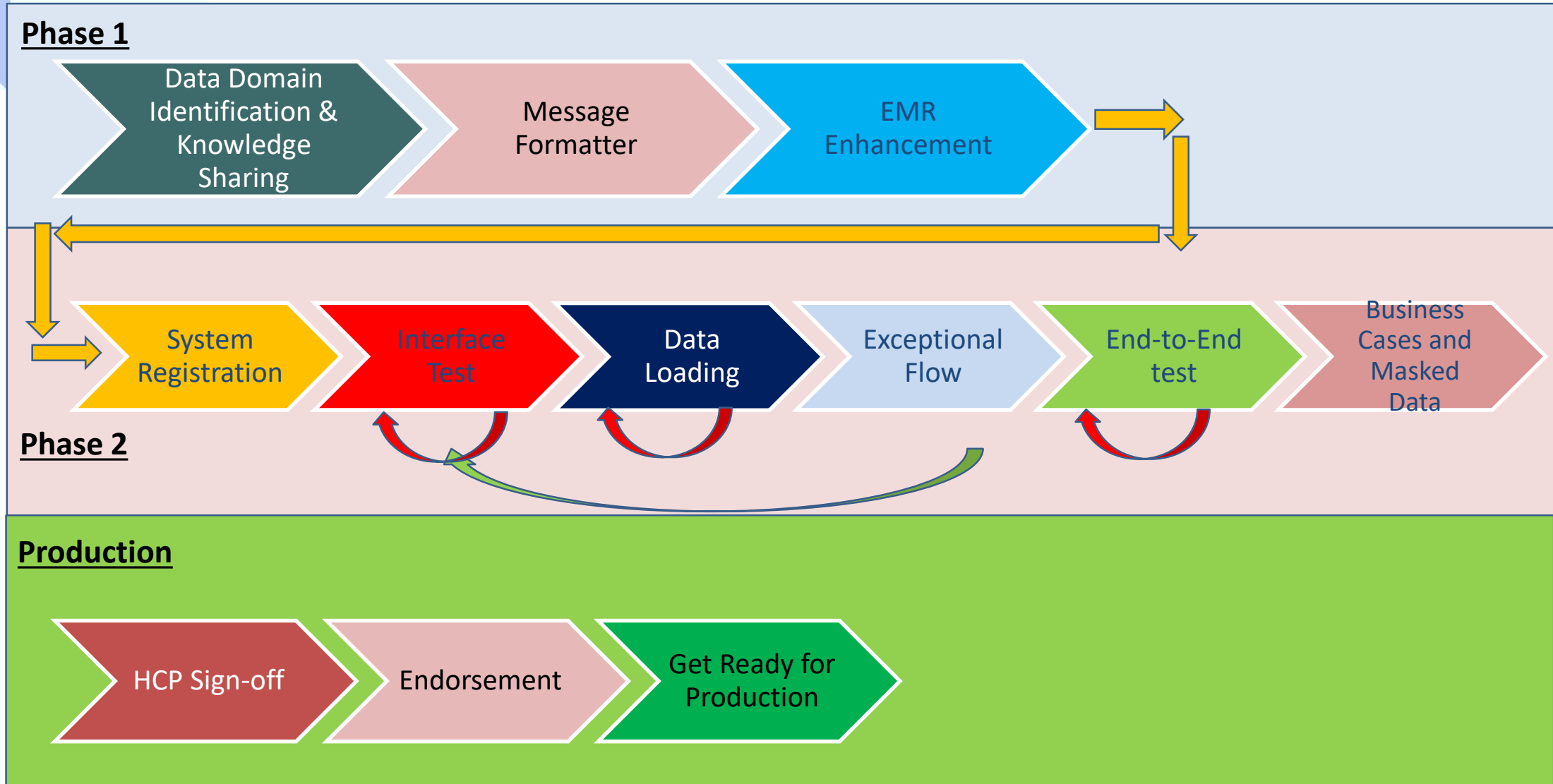
- New image study
  - Images with new and unique study instance UID
- Override existing images
  - Images with the study instance UID of the images to be amended
  - Images in eHR will be overridden by the new study
- Delete existing images
  - IHE Imaging Object Change Management (IOCM) rejection note message that contains HCR's identity information and the study instance UID of the images to be deleted
  - Delete RIS exam record to withdraw report and images



# Connectivity

- DICOM Connectivity
  - Pre-registered AE Title on eHR side
  - Register EHR DICOM gateway as new endpoint in HCP's DICOM gateway / PACS
- Network
  - Encrypted communication (IPsec VPN)
  - Support internet connection
  - Suggested network bandwidth: 50Mbps (upload) + 50Mbps (viewing)

# Overview of Data Compliance Test





# Changeover approaches for image upload

- Parallel operation
  - short period of parallel run
  - then switch to eHR
- Direct cutover
  - HCP stops sending images to HA
  - HCP sends images to EHR

*Thank you*