



The DRIM-M Project

Data Radiologie Imagerie Médicale & Médecine Nucléaire

Mathieu Bajat – eHealth Interoperability Expert

Sponsored by



Summary

1. Discover ANS
2. What is CI-SIS?
3. The SEGUR program
4. The DRIM-M Project
5. Use Cases
6. General Workflow of the DRIM-M Project
7. Introduction on the DRIMbox Trusted Space
8. Securing flows between DRIMboxes
9. Two use cases of the DRIM-M Project
10. KIN Images

1. Discover ANS

Agence du Numérique en Santé (ANS)
The French eHealth Agency



Created in 2009, ANS has the responsibility of **promoting the development of shared information systems** and digital technologies in the health field in the national-wide.

ANS contributes to the **reinforcement of the efficiency of health policies** and to the **improvement of coordination, efficiency and quality of care.**

The Agency is a member of IHE int., HL7 int. and IHE France

Our 3 main roles:

- We regulate eHealth in France, improving digital performance through common regulatory and information-sharing standards.
- We operate major national e-programmes to make the public health service more efficient and cohesive.
- We promote and valorize all eHealth initiatives through stimulation, evaluation and support.

2. What is CI-SIS?

Interoperability Framework of Health Information Systems.

CI-SIS includes interoperability specifications with a nation-wide scope. These specifications set constitute a standard in order to exchange information in France

The CI-SIS is a set of specifications structured around a series of specific use cases.

CI-SIS : <https://esante.gouv.fr/offres-services/ci-sis/espace-publication>

CI-SIS has 3 layers :

- **Professional layer**, specifies exchangeable Health professional content and concepts.
- **Service layer**, specifies the data exchanges of the Professional Layer
- **Transport layer**, specifies the transport of information in support of the Service Layer

The CI-SIS contains for each layer :

- **Functional spec** : Study of the need, business concepts of the use case. They are not constrained by the standards & profiles selection.
- **Study of profiles and standards** : study and selection of the most suitable standards
- **Technical Spec**: Explains how the technical spec uses selected standards for the identified use case

The program « Digital SEGUR » was created with the objective to **generalize a smooth and secure transfer of Health Data between health professionals and patients** in order to better prevent and better cure.

This program supports **Mon espace santé**, which allows **each citizen to oversee his health history** and be the main actor of his health

Mon Espace Santé, is a digital health record.

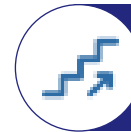


Historic funding

Historic Investment of 2 billions euros

- **1,4 billion** dedicated to the transfer of Health Data (across 3 years)
- **600 millions** dedicated to the medico-social sector (across 5 years)

100% financed by the European resiliency and stimulus package.



A giant leap

From 10 millions to... 250 millions documents exchanged every year via the « DMP » (Shared Medical Record) and « MSSanté » (Secure Health e-mail) was reached at the end of 2023.

4. The DRIM-M Project (Medical Imaging Distribution)

The **DRIM-M Project** objective is achieve the sharing of Medical Images produced by over 1000 PACS in France
The DRIM-M Project is supported all the main professional actors in Radiology and Nuclear Medicine in France.



Sponsors du projet Diffusion d'Imagerie Médicales

Focus on the DRIM-M Project:

This project focusses on the centralized access to image pointers (XDS-I and DICOM KOS) in order to **locate and view imaging exams from Source PACS** by Medical Professional's health records software through a standized interface.

This gateway fonctionnality called « **DRIMBox** »: **may be implemented by an independant software in front of the PACS or directly by the PACS**. Each vendor choose the best way to implement a compliant « DRIMbox interface » on its product,
but sellers must meet all requirements made.

Such a DRIMbox has several functions :

- Feed the DMP (national shared repository and registry) with a DICOM Manifest (KOS) built from information coming from the PACS and the RIS (triggerred by Report approval)
- Provide access to the PACS source imaging data by supporting image retrieve (DICOM WADO-RS) from the Consuming DRIMbox
- Provide a viewer DICOM (hosted on the Source DRIMbox) to be accessed by any remote with an URL positioned on the Radiology Report

Two Main Use Cases :

For patients:

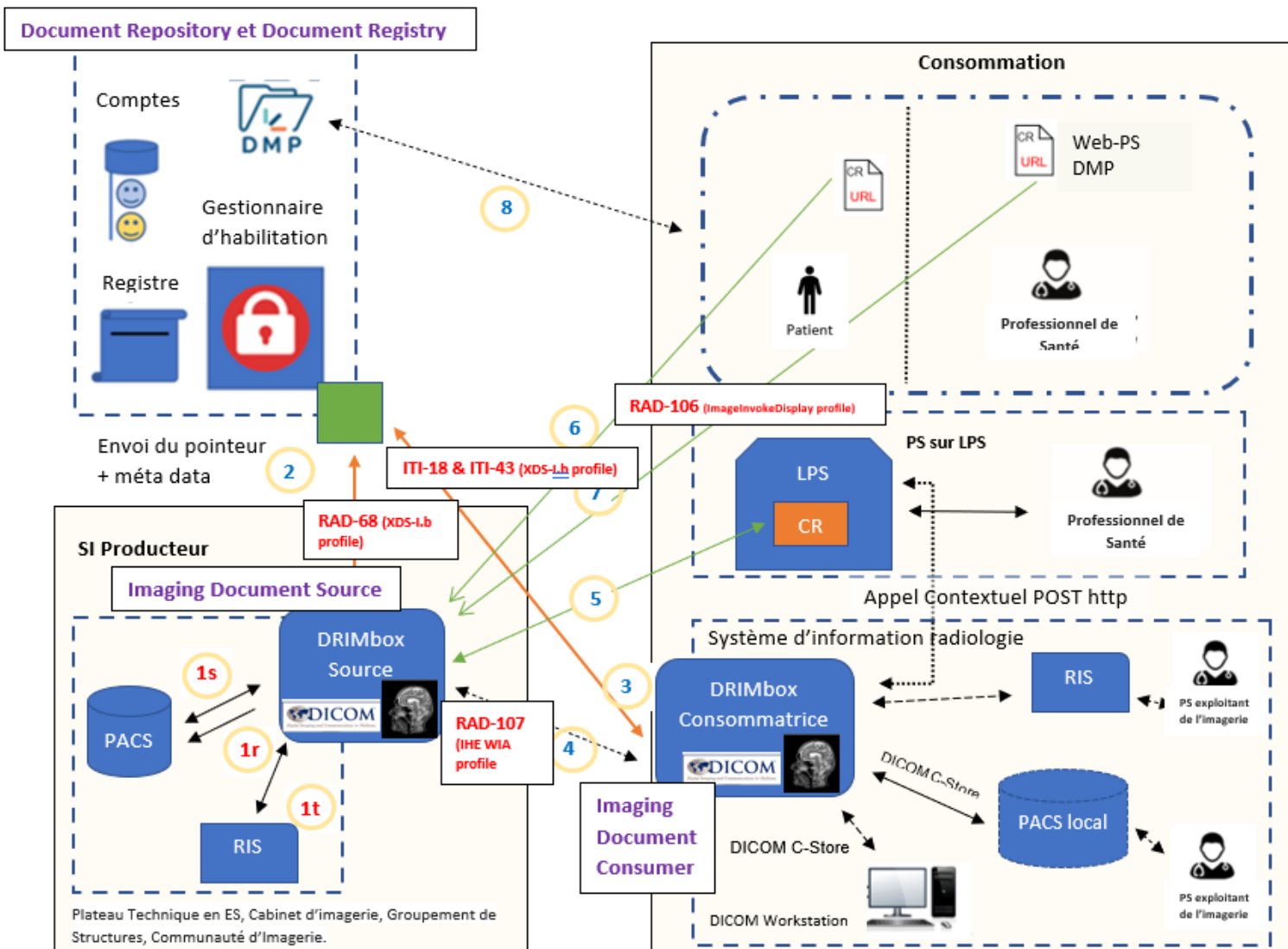
- Be able to consult images through the national platform « Mon Espace Santé », anytime, anywhere from a URL link placed on the Radiology Report

For Health Professionals:

- Enable Professionals to consult past exams for a patient with a specific use case : :
- For the radiologist, nuclear doctors and imaging specialists: import the exam in his DICOM environnement and make comparaisons and post-treatment
- For the General Practitioner: visualise an exam linked to an imaging medical report from a link integrated within the report.

6. General Workflow of the DRIM-M Project

Slide 8



Légende :

1r, 1s, 1t: Transactions internes au système d'informations radiologie afin de construire le pointeur

2 : Alimentation du DMP

3 : Consultation du DMP via la DRIMbox Conso

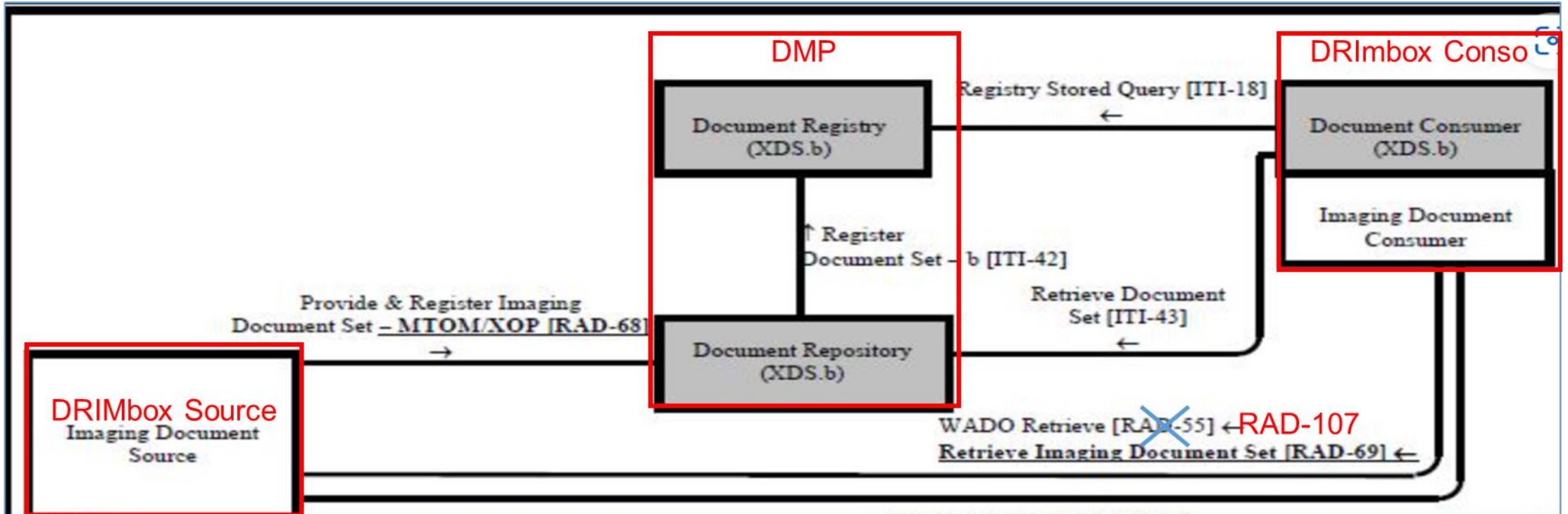
4 : Flux inter-DRIMbox

5 : Consultation des images par le professionnel de santé exploitant de l'imagerie

6 : Consultation des images par le Patient via un lien URL présent sur le CR d'Imagerie

7 : Consultation des images par le PS via un lien URL présent sur le CR d'Imagerie

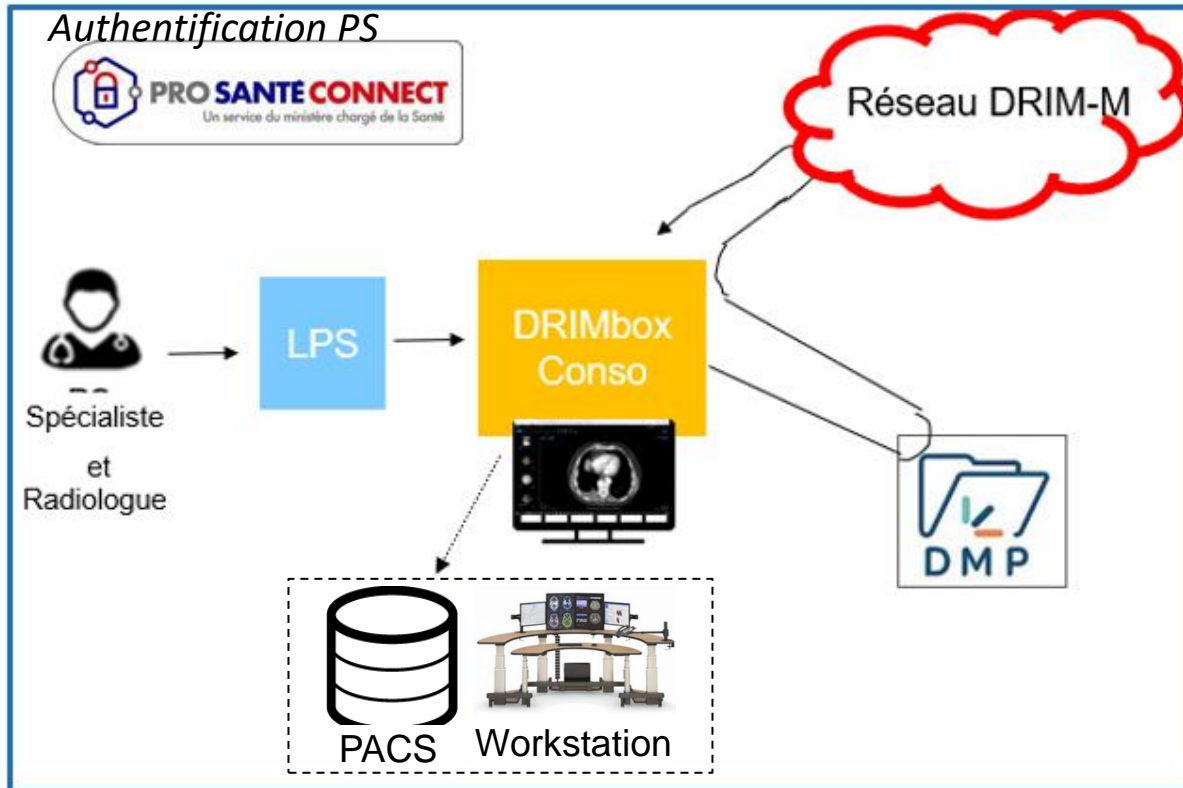
8 : Echanges entre les SI internes à la CNAM (DMP, le Web-PS DMP et MES)



The RESTFUL RAD-55 transaction, called "WADO Retrieve" for accessing images that relies on DICOM WADO-URI has been replaced by a "DICOM WADO-RS" transaction RAD-107. These two variants of DICOM Web Access to DICOM Objects are functionally similar. WADO-RS was preferred because it was more flexible and promised wider adoption than WADO-URI. This deviation has been submitted to the IHE Radiology Committee

For Imaging Specialists

Visualisation and/or importation one or many examinations in its imaging environment in order to carry out **comparisons and post-treatment**

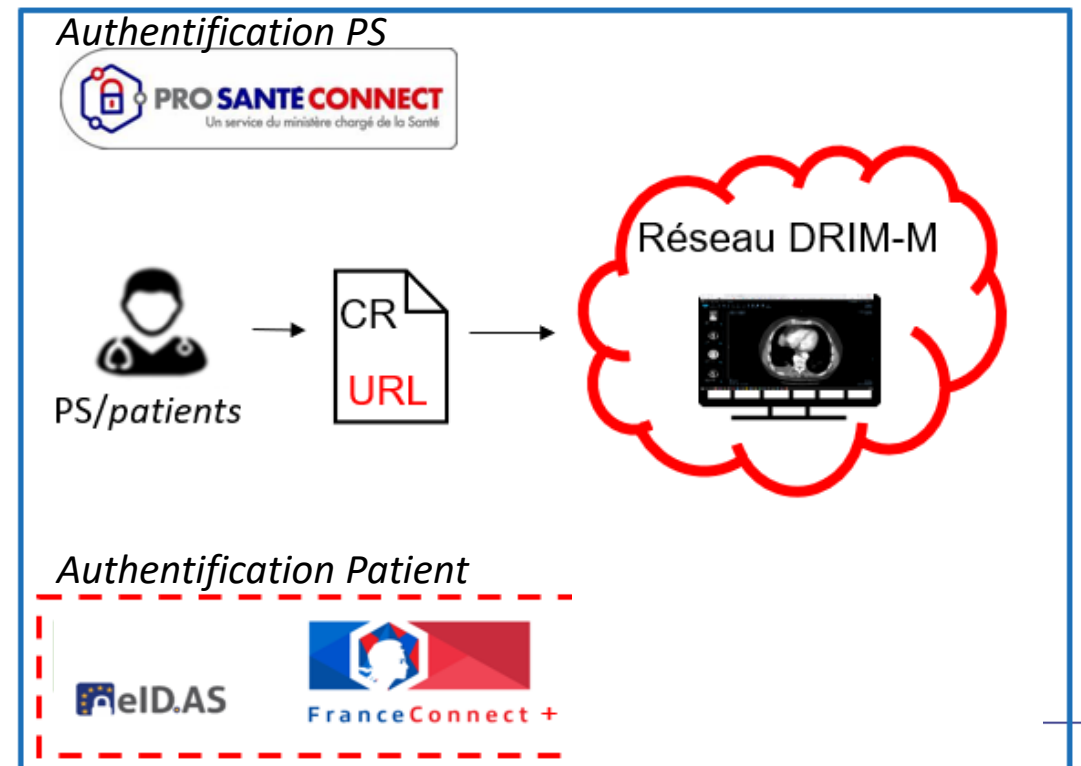


LPS: Logiciel des Prof. de Santé

For GPS/patients consulting the examination report

Visualisation of an examination from a link in the imaging medical report.

**No need of a DRIMbox on the Consumption side*



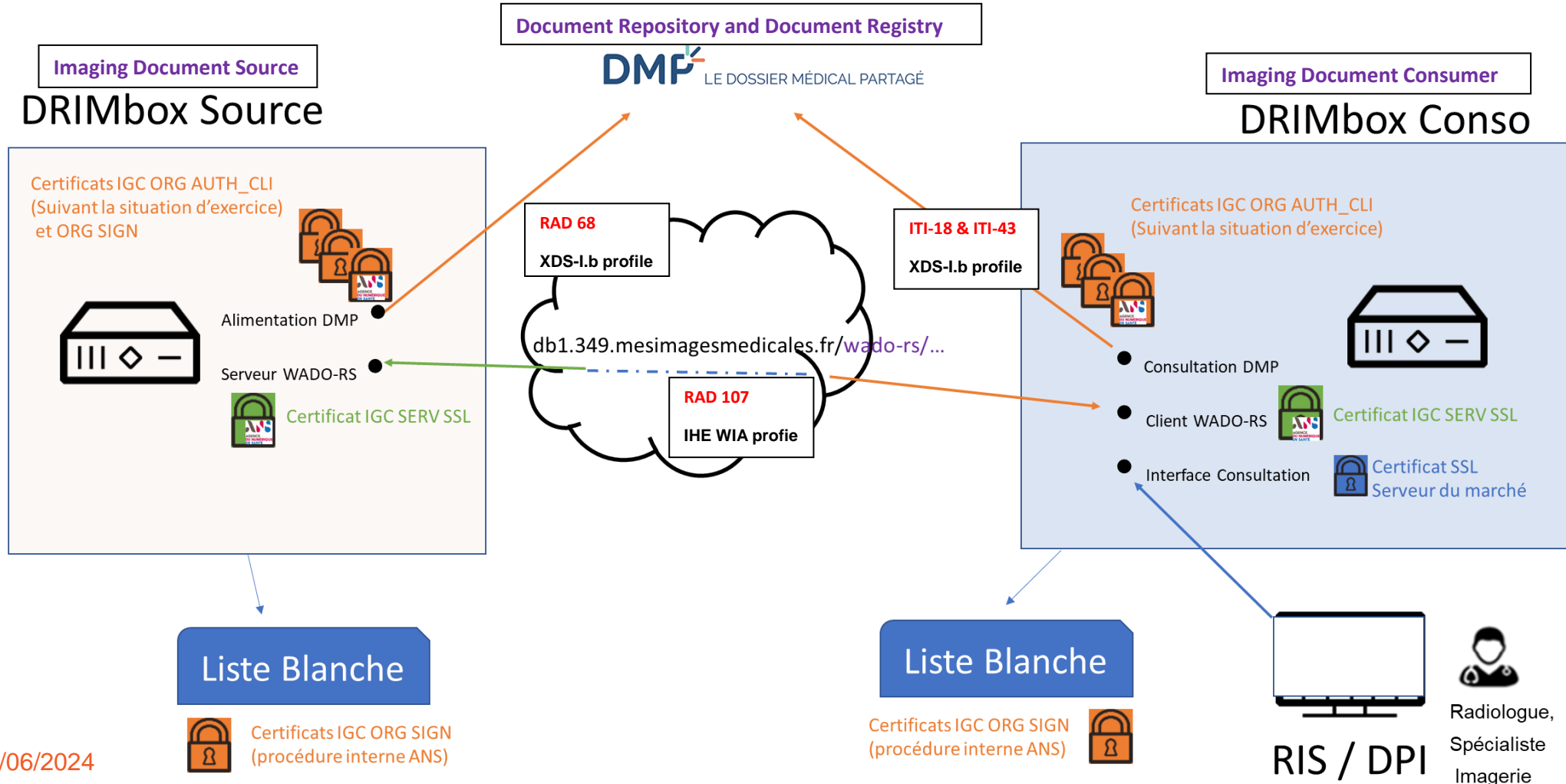
In order to secure the sharing of images between the Source and Consumer DRIMboxes, the DRIM-M project proposes the creation of a **Trusted Space**. It contains:

- a National Identification '**Registry of Source DRIMboxes**' whose role is to assign FQDNs to deployed DRIMboxes. Unique, perennial, trusted URLs distributed by the ANS are therefore assigned to each DRIMbox.
- a '**Whitelist**' signed by the ANS and listing the trusted DRIMboxes
- a '**DRIMbox Services Weather Report**' that will inform the ecosystem of the operational status of the DRIMboxes.

The **DRIMbox Trusted Space** allows you to :

- Secure the exchange of imaging examinations between DRIMboxes
- Identify DRIMboxes and Operators
- Guarantee a minimum operational level in the exchange of imaging examinations
- Guarantee the confidentiality of data exchanged within a closed space
- Guarantee the compliance of DRIMboxes with the clauses of the contract of integration into the Trusted Space

For Doctors using images: Radiologists, Nuclear Doctors



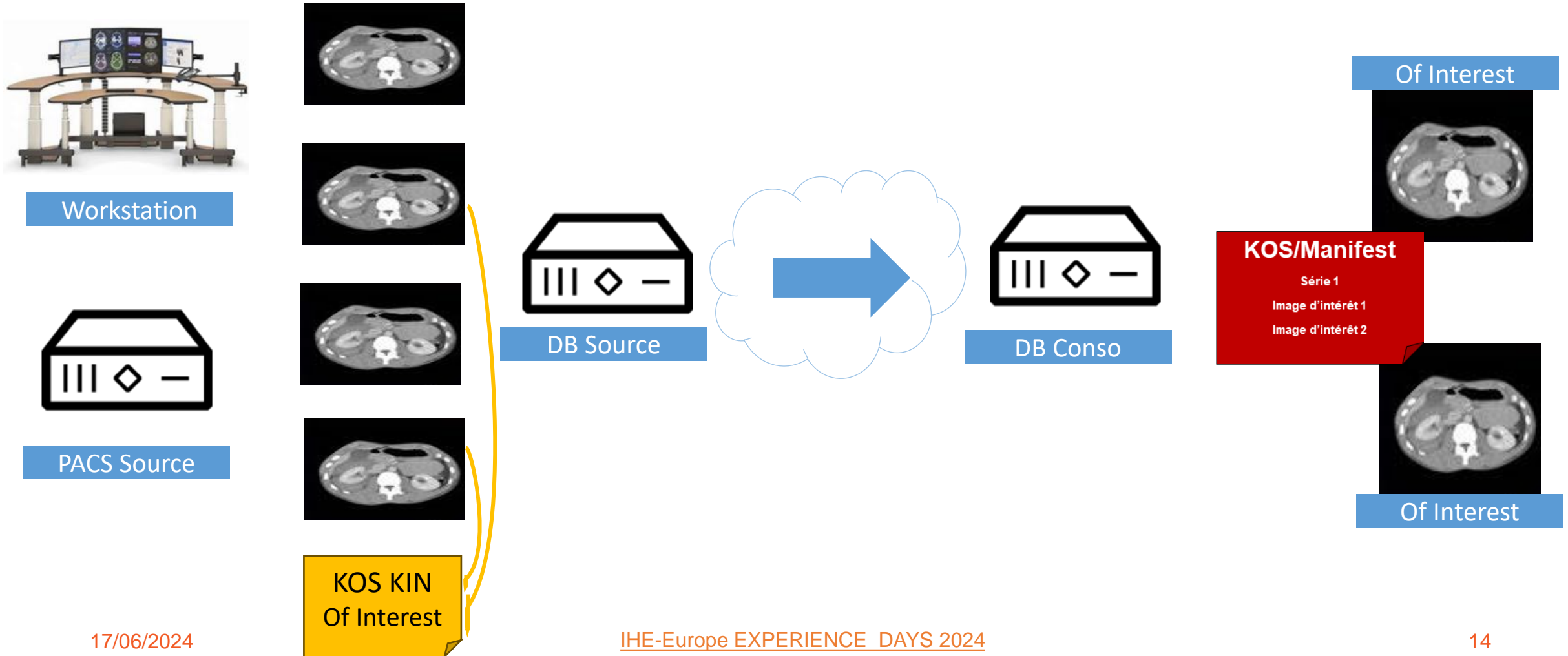
Following discussions with radiologists and software editors, **the need for DRIMboxes to take Key Images into account was confirmed.**

it is **important for a Source DRIMbox to implement Key Images** since the audience accessing images via an URL in report is most likely interested to focus first on key images.

This implementation is **essential for a Conso DRIMbox** as much more professionals

KIN = Specialization of a KOS object defined by the IHE Key Image Note integration profile

The KIN is a DICOM KOS object inserted within a specific series (Modality: KO) present in an imaging examination. It should not be confused with the KOS/Manifest generated by the Source DRIMbox which acts as a description of a shared exam in the DMP. Unlike KOS/KIN, KOS/Manifest remains external to the imaging examination.



Thank you for your attention

Should you have any question, you may contact us

DRIM-M@esante.gouv.fr