Integrating the Healthcare Enterprise

IHE Radiology
Technical Framework Supplement

Manifest-based Access to DICOM Objects (MADO)

For review and comment only.

DO NOT implement this public comment version.

<For FHIR based profiles, indicate the FHIR release number & the FMM levels of the contents; otherwise, delete the two following lines.>

HL7® FHIR® STU x

Using Resources at FMM Level n-n

Revision 0.4 – Draft in Preparation for Public Comment

Date: August 18, 2025

Author: IHE-HL7 Europe Sub-team on imaging manifest

Email:

Please verify you have the most recent version of this document. See here for Trial Implementation and Final Text versions and here for Public Comment versions.

<Instructions to authors are encapsulated in angled brackets as "< ... >" and denoted with italicized text. These instructions should be deleted entirely prior to publication.>

<Use of capitalization: Please follow standard English grammar rules-only proper nouns and names are upper case. For example, "Modality Actor" is upper case, but "an actor which fulfills the role of a modality" is lower case. Do not use upper case to emphasize a word/topic. Examples:

<Note: Before creating a draft supplement, please review the editing conventions, which include information such as section, table and diagram numbering and how to use Microsoft Word tools, at http://wiki.ihe.net/index.php?title=Writing_Technical_Frameworks_and_Supplements. This guidance is especially useful for first time authors.>

<This supplement template is intended for developing new profiles or making significant changes to profiles, such as adding formal options. Simple changes to existing supplements or profiles should be made using the Change Proposal (CP) process. See the Technical Framework Development section at http://wiki.ihe.net/index.php?title=Process#Technical_Framework_Development for more guidance on supplements vs. CPs.>

<All of the sections in this document are required. Sections may not be deleted. The outline numbering is intended to be consistent across profiles and across domains, so do not adjust the outline numbering. If there is no relevant content for a section, simply state "Section not applicable", but leave the numbering intact. Sub-sections may be added for clarity.>

<This supplement template includes templates for Volumes 1 (Profiles), 2 (Transactions), 3 (Content Modules), and 4 (National Extensions).>

<Volumes 1, 2, and/or 3 are developed together for Public Comment and Trial Implementation submission. Volume 4, National Extensions, is typically developed at a later point in time, usually at Trial Implementation or later. Templates for all four volumes are included in this document for the sake of completeness. If you are beginning a new profile, you are strongly discouraged from using National Extensions and should instead focus on optional data sets or other alternatives. For more information, see http://wiki.ihe.net/index.php?title=National_Extensions_Process.>

Foreword

Note: This document is prepared to become a future supplement to the IHE Radiology Technical Framework. It anticipates the acceptance of a new profile proposal submitted on July 20th 2025 to the IHE Radiology 2025-2026 Cycle. It is developed by the IHE-HL7 Europe Working Group on Imaging with the goal to use this new profile in the context of the EHDS use case on the sharing of imaging studies and related imaging reports.

This is intended to be a supplement to the IHE Radiology Technical Framework V22.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on Month XX, 2025 for Public Comment. Comments are invited and can be submitted at https://www.ihe.net/Radiology_Public_Comments. In order to be considered in development of the Trial Implementation version of the supplement, comments must be received by Month XX, 2025.

This supplement describes changes to the existing technical framework documents.

"Boxed" instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

Amend section X.X by the following:

Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text ~~**bold strikethrough**~~. When entire new sections are added, introduce with editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

General information about IHE can be found at IHE.

Information about the IHE <domain name> domain can be found at IHE Domains.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at Profiles and IHE Process

The current version of the Radiology Technical Framework can be found at Radiology Technical Framework.

<Comments may be submitted on IHE Technical Framework templates any time at http://ihe.net/Templates_Public_Comments. Please enter comments/issues as soon as they are found. Do not wait until a future review cycle is announced.>

Temporary Note: In term of structure of the profile here the skeleton:

1. **The volume 1** is the profile overview in term of Actor/Transactions, the overall use case and associated scenarios. Volume 1 will also state the required and optional transactions, as well as the required/optional grouping. For the Actor/Transactions, I recommend:
    a. create a "document creator Actor" that produces the Imaging Manifest with a "convey manifest content" transaction to a "document consumer Actor". IHE in its profiles that define only content, has a "convey content transactions" (not sure this is the official name, but you should get the concept).
    b. The "convey manifest transaction" should define two options:
        i. A DICOM KOS Based Manifest option that references the Section A of the volume 2 manifest content (see below)
        ii. A FHIR Based Manifest option that references the Section B of the volume 3 manifest content (see below)
    c. The Imaging Document Consumer Actor that will issue the WADO Retrieve Transaction to the Imaging Document Source Actor, will be required to be grouped with the Document Consumer Actor.
2. **Volume 2 Chapter on the WADO-RS Retrieve Transaction**.
3. **A volume 3 Chapter on the Manifest content** that includes a section A on the DICOM KOS based Manifest, and one section B on the FHIR based Manifest. The section C (for information) would include the mapping of A to B and B from A.

CONTENTS

Introduction to this Supplement

<If this is a FHIR based profile, include the following boxed in text and complete the table within; otherwise, delete the text in its entirety.>

Whenever possible, IHE profiles are based on established and stable underlying standards. However, if an IHE domain determines that an emerging standard has high likelihood of industry adoption, and the standard offers significant benefits for the use cases it is attempting to address, the domain may develop IHE profiles based on such a standard. During Trial Implementation, the IHE domain will update and republish the IHE profile as the underlying standard evolves.

Product implementations and site deployments may need to be updated in order for them to remain interoperable and conformant with an updated IHE profile.

This <profile acronym> Profile (or This Technical Framework Supplement) incorporates content from Release 4 of the HL7® FHIR® specification. HL7 describes FHIR Change Management and Versioning at https://www.hl7.org/fhir/versions.html.

HL7 provides a rating of the maturity of FHIR content based on the FHIR Maturity Model (FMM): level 0 (draft) through N (Normative). See http://hl7.org/fhir/versions.html#maturity.

The FMM levels for FHIR content used in this profile are:

FHIR Content (Resources, ValueSets, etc.	FMM Level
<e.g., Communication	*2>*

<Provide a brief overview of the volumes/sections of the Technical Framework that get changed/ added by this supplement. Provide 200 words or less describing this supplement.>

This new work item proposal aims to define a new IHE profile to address the ***access to DICOM Instances based on an imaging study manifest.***

The need for this profile was identified as part of the sharing of imaging studies and related reports as required under the EHDS Regulation (see discussion below).

Such an access was initially introduced by a part of the XDS-I.b profile almost 20 years ago. The XDS-I profile has introduced the concept of a manifest, a document that summarizes the content of an imaging study, its structure with the identification and the location where

various instances that belong to the study may be retrieved. The XDS-I.b profile leverages the XDS profile to support the discovery of such manifest documents through a document registry query and its retrieval from a document repository.

With the introduction of a FHIR based document sharing with the MHDS Profile, there is a demand to combine MHDS along with a profile that covers the access to DICOM Instances leveraging the information contained in shared imaging study manifests.

The need for such a new profile that addresses the ***access to DICOM Instances based on an imaging study manifest*** could be combined either with XDS or MHDS (or MHD), or some proprietary document sharing scheme. Such flexibility ensures a common and more effective way to access the DICOM Objects through a solid profiling of WADO-RS and the use of a more robust Imaging Study Manifest supporting two complementary encodings based on the DICOM KOS IOD or FHIR Imaging Study resource, as well as profiling in a more precise way existing attributes and new attributes, such as those necessary to improve the access to key images.

Open Issues and Questions

#	Issue / Answer
1.	Q: TC: A:

Closed Issues

#	Issue / Answer
1.	Q: TC: A:

IHE Technical Frameworks General Introduction

The IHE Technical Frameworks General Introduction is shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to this document where appropriate.

9 Copyright Licenses

IHE technical documents refer to, and make use of, a number of standards developed and published by several standards development organizations. Please refer to the IHE Technical Frameworks General Introduction, Section 9 - Copyright Licenses for copyright license information for frequently referenced base standards. Information pertaining to the use of IHE International copyrighted materials is also available there.

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IHE Technical Frameworks General Introduction Appendices

The IHE Technical Framework General Introduction Appendices are components shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to these documents where appropriate.

*Update the following appendices to the General Introduction as indicated below. Note that these are **not** appendices to this domain's Technical Framework (TF-1, TF-2, TF-3 or TF-4) but rather, they are appendices to the IHE Technical Frameworks General Introduction located here.*

Appendix A – Actors

*Add the following **new or modified** actors to the IHE Technical Frameworks General Introduction Appendix A:*

New (or modified) Actor Name	Description
	*If this is a modified actor description, add the original description and use **bold underline** to indicate where the amendment adds text and ~~**bold strikethrough**~~ where the amendment removes text*

The table below lists *existing* actors that are utilized in this profile.

Complete List of Existing Actors Utilized in this Profile

Existing Actor Name	Definition
Content Creator	The Content Creator Actor creates content and transmits to a Content Consumer.
Content Consumer	The Content Consumer Actor views, imports, or performs other processing of content created by a Content Creator Actor.
Imaging Document Consumer	A system that makes use of imaging data.
Imaging Document Source	Publishes imaging data and makes it available for retrieval.

Appendix B – Transactions

New (or modified) Transaction Name and Number	Definition
WADO-RS Get Instances [RAD-1xy]	*Get DICOM Instances from the Imaging Document Source at a Study, Series or Instance level.*

Appendix D – Glossary

No new or modified glossary terms.

Volume 1 – Profiles

Domain-specific additions

None.