**Integrating the Healthcare Enterprise**



**IHE <Domain Name> (<Domain Acronym>)**

**Technical Framework**

**Volume 1**

**IHE <Domain Acronym> TF-1**

**Profiles**

**Revision <x.x> - Final Text**

**<Month xx, 20xx>**

**Please verify you have the most recent version of this document,** which is published [here](http://www.ihe.net/Technical_Frameworks/).

CONTENTS

[1 Introduction 4](#_Toc31371597)

[1.1 Introduction to IHE 4](#_Toc31371598)

[1.2 Introduction to IHE <Domain Name> (<Domain Acronym>) 4](#_Toc31371599)

[1.3 Intended Audience 4](#_Toc31371600)

[1.4 Prerequisites and Reference Material 4](#_Toc31371601)

[1.4.1 Actor Descriptions 4](#_Toc31371602)

[1.4.2 Transaction Descriptions 5](#_Toc31371603)

[1.4.3 IHE Integration Statements 5](#_Toc31371604)

[1.5 Overview of Technical Framework Volume 1 5](#_Toc31371605)

[1.6 Comment Process 5](#_Toc31371607)

[1.7 Copyright Licenses 6](#_Toc31371608)

[1.7.1 Copyright of Base Standards 6](#_Toc31371609)

[1.7.1.1 DICOM (Digital Imaging and Communications in Medicine) 6](#_Toc31371610)

[1.7.1.2 HL7 (Health Level Seven) 6](#_Toc31371611)

[1.7.1.3 LOINC (Logical Observation Identifiers Names and Codes) 6](#_Toc31371612)

[1.7.1.4 SNOMED CT (Systematized Nomenclature of Medicine -- Clinical Terms) 6](#_Toc31371613)

[1.8 Trademark 7](#_Toc31371617)

[1.9 Disclaimer Regarding Patent Rights 7](#_Toc31371618)

[1.10 History of Document Changes 8](#_Toc31371619)

[2 <Domain Name> Integration Profiles 9](#_Toc31371620)

[2.1 Required Actor Groupings and Bindings 10](#_Toc31371621)

[2.2 Security Implications 10](#_Toc31371622)

[2.3 Integration Profiles Overview 10](#_Toc31371623)

[2.4 Product Implementations 11](#_Toc31371624)

[X <Profile Name> <(Profile Acronym)> Profile 11](#_Toc31371625)

[Appendices 12](#_Toc31371626)

[Appendix A – <Appendix Title> 13](#_Toc31371627)

[A.1 <Title> 13](#_Toc31371628)

[A.1.1 <Title> 13](#_Toc31371629)

[Appendix B – <Appendix Title> 14](#_Toc31371630)

[B.1 <Title> 14](#_Toc31371631)

[B.1.1 <Title> 14](#_Toc31371632)

[Glossary 15](#_Toc31371633)

<Authors’ instructions:

Authors’ instructions are denoted by brackets <> and italicized text. All authors’ instructions should be deleted prior to publication for Final Text.

All Technical Frameworks must be published by the IHE Documentation Specialist, not by individual domains. Technical Frameworks are scheduled in advance for publication on an annual basis as part of the regular publication scheduling process by the domain co-chair.

To maintain consistency across domains, the format and structure (order) of this document (or any Technical Framework document) must not be changed or altered in any way.

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.>

<Additional guidance is available on the IHE Wiki at <http://wiki.ihe.net/index.php?title=Writing_Technical_Frameworks_and_Supplements>. This guidance is especially useful for first time authors.>

# Introduction

This document, Volume 1 of the IHE <Domain Name> (<Domain Acronym>) Technical Framework, describes the clinical use cases, actors, content module, and transaction requirements for the <Domain Name> profiles.

## Introduction to IHE

Integrating the Healthcare Enterprise (IHE) is an international initiative to promote the use of standards to achieve interoperability among health information technology (HIT) systems and effective use of electronic health records (EHRs). IHE provides a forum for care providers, HIT experts and other stakeholders in several clinical and operational domains to reach consensus on standards-based solutions to critical interoperability issues.

The primary output of IHE is system implementation guides, called IHE profiles. IHE publishes each profile through a well-defined process of public review and Trial Implementation and gathers profiles that have reached Final Text status into an IHE Technical Framework, of which this volume is a part.

For general information regarding IHE, refer to [www.ihe.net](http://www.ihe.net). It is strongly recommended that, prior to reading this volume, the reader familiarizes themselves with the concepts defined in the [*IHE Technical Frameworks General Introduction*](http://ihe.net/Technical_Frameworks/#GenIntro).

## Introduction to IHE <Domain Name> (<Domain Acronym>)

<Add brief one or two paragraph introduction to domain: scope of activities, sponsors, etc.>

## Intended Audience

The intended audience of IHE Technical Frameworks Volume 1 (Profiles) is:

* Those interested in integrating healthcare information systems and workflows
* IT departments of healthcare institutions
* Technical staff of vendors participating in the IHE initiative

## Prerequisites and Reference Material

For more general information regarding IHE, refer to [www.ihe.net](http://www.ihe.net). It is strongly recommended that, prior to reading this volume, the reader familiarizes themselves with the concepts defined in the [*IHE Technical Frameworks General Introduction*](http://ihe.net/Technical_Frameworks/#GenIntro).

Additional reference material available includes:

### Actor Descriptions

Actors are information systems or components of information systems that produce, manage, or act on information associated with operational activities in the enterprise.

A list of actors defined for all domains and their brief descriptions can be found as [Appendix A](http://ihe.net/TF_Intro_Appendices.aspx) to the *IHE Technical Frameworks General Introduction*.

### Transaction Descriptions

Transactions are interactions between actors that transfer the required information through standards-based messages.

A list of transactions defined for all domains, their transactions numbers, and a brief description can be found as [Appendix B](http://ihe.net/Technical_Frameworks/#GenIntro) to the *IHE Technical Frameworks General Introduction*.

### IHE Integration Statements

IHE Integration Statements provide a consistent way to document high level IHE implementation status in products between vendors and users.

The instructions and template for IHE Integration Statements can be found as [Appendix F](http://ihe.net/Technical_Frameworks/#GenIntro) to the *IHE Technical Frameworks General Introduction*.

IHE also provides the IHE Product Registry ([http://www.ihe.net/IHE\_Product\_Registry](http://www.ihe.net/IHE_Product_Registry/)) as a resource for vendors and purchasers of HIT systems to communicate about the IHE compliance of such systems. Vendors can use the Product Registry to generate and register Integration Statements.

## Overview of Technical Framework Volume 1

Volume 1 is comprised of several distinct sections:

* Section 1 provides background and reference material.
* Section 2 presents the conventions used in this volume to define the profiles.
* Sections 3 and beyond define <Domain Name> profiles, actors, and requirements in detail.

The appendices in Volume 1 provide clarification of uses cases or other details. A glossary of terms and acronyms used in the IHE Technical Framework is provided in [Appendix D](http://ihe.net/Technical_Frameworks/#GenIntro) to the *IHE Technical Frameworks General Introduction*.

## Comment Process

IHE International welcomes comments on this document and the IHE initiative. Comments on the IHE initiative can be submitted by sending an email to the co-chairs and secretary of the <Domain Name> domain committees at <Domain Acronym>@ihe.net. Comments on this document can be submitted at <http://ihe.net/Domain_acronym_Public_Comments>.

## Copyright Licenses

IHE International hereby grants to each Member Organization, and to any other user of these documents, an irrevocable, worldwide, perpetual, royalty-free, nontransferable, nonexclusive, non-sublicensable license under its copyrights in any IHE profiles and Technical Framework documents, as well as any additional copyrighted materials that will be owned by IHE International and will be made available for use by Member Organizations, to reproduce and distribute (in any and all print, electronic or other means of reproduction, storage or transmission) such IHE Technical Documents.

The licenses covered by this Copyright License are only to those copyrights owned or controlled by IHE International itself. If parts of the Technical Framework are included in products that also include materials owned or controlled by other parties, licenses to use those products are beyond the scope of this IHE document and would have to be obtained from that other party.

### Copyright of Base Standards

IHE technical documents refer to and make use of a number of standards developed and published by several standards development organizations. All rights for their respective base standards are reserved by these organizations. This agreement does not supersede any copyright provisions applicable to such base standards. Copyright license information for frequently referenced base standards is provided below.

#### DICOM (Digital Imaging and Communications in Medicine)

DICOM® is the registered trademark of the National Electrical Manufacturers Association for its standards publications relating to digital communications of medical information.

#### HL7 (Health Level Seven)

*<Please refer to the Fast Healthcare Interoperability Resources as the "HL7® FHIR® standard".>*

HL7®, Health Level Seven®, CDA®, FHIR®, and the FHIR [FLAME DESIGN] ® are registered trademarks of Health Level Seven International.

Health Level Seven, Inc. has granted permission to IHE to reproduce tables from the HL7 standard. The HL7 tables in this document are copyrighted by Health Level Seven, Inc. All rights reserved. Material drawn from these documents is credited where used.

#### LOINC (Logical Observation Identifiers Names and Codes)

LOINC® is registered United States trademarks of Regenstrief Institute, Inc.

#### SNOMED CT (Systematized Nomenclature of Medicine -- Clinical Terms)

Some IHE Profiles incorporate SNOMED® CT, which is used by permission of the International Health Terminology Standards Development Organisation. SNOMED CT© was originally created by the College of American Pathologists. SNOMED CT is a registered trademark of the International Health Terminology Standards Development Organisation, all rights reserved.

## Trademark

IHE® and the IHE logo are trademarks of the Healthcare Information Management Systems Society in the United States and trademarks of IHE Europe in the European Community. They may only be used with the written consent of the IHE International Board Operations Committee, which may be given to a Member Organization in broad terms for any use that is consistent with the IHE mission and operating principles.

## Disclaimer Regarding Patent Rights

*<Use the following language when no patent claims have been asserted against any of the content of the domain’s Technical Frameworks. Use the table at* [*http://www.ihe.net/Patent\_Disclosure\_Process*](http://www.ihe.net/Patent_Disclosure_Process/) *to determine this.>*

Attention is called to the possibility that implementation of the specifications in this document may require use of subject matter covered by patent rights. By publication of this document, no position is taken with respect to the existence or validity of any patent rights in connection therewith. IHE International is not responsible for identifying Necessary Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of the specifications in this document are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information about the IHE International patent disclosure process including links to forms for making disclosures is available at [http://www.ihe.net/Patent\_Disclosure\_Process](http://www.ihe.net/Patent_Disclosure_Process/). Please address questions about the patent disclosure process to the secretary of the IHE International Board: [secretary@ihe.net](mailto:secretary@ihe.net).

*<Or, use the following language when any patent claims have been asserted against any of the content of the domain’s Technical Frameworks. Again, use the table at* [*http://www.ihe.net/Patent\_Disclosure\_Process*](http://www.ihe.net/Patent_Disclosure_Process/) *to determine this.>*

Attention is called to the possibility that implementation of the specifications in this document may require use of subject matter covered by patent rights. By publication of this document, no position is taken with respect to the existence or validity of any patent rights in connection therewith. A patent holder or patent applicant has filed a statement of assurance that it will grant licenses under these rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses. Other Necessary Patent Claims may exist for which a statement of assurance has not been received. IHE International is not responsible for identifying Necessary Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of the specifications in this document are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information about the IHE International patent disclosure process including links to forms for making disclosures is available at [http://www.ihe.net/Patent\_Disclosure\_Process](http://www.ihe.net/Patent_Disclosure_Process/). Please address questions about the patent disclosure process to the secretary of the IHE International Board: [secretary@ihe.net](mailto:secretary@ihe.net).

## History of Document Changes

This section provides a brief summary of changes and additions to this document.

*<The author/technical committee will complete the Change Summary column each time that the document is republished as Final Text. The IHE Documentation Specialist will complete the Date and Document Revision columns.>*

| Date | Document Revision | Change Summary |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# <Domain Name> Integration Profiles

IHE Integration Profiles offer a common language that healthcare professionals and vendors can use to discuss integration needs of healthcare enterprises and the integration capabilities of information systems in precise terms. Integration Profiles specify implementations of standards that are designed to meet identified clinical needs. They enable users and vendors to state which IHE capabilities they require or provide, by reference to the detailed specifications of the IHE <Domain Name> Technical Framework.

IHE Integration Profiles are defined in terms of IHE actors (defined in Volume 1), transactions (defined in Volume 2), and content modules (defined in Volume 3). Actors are information systems or components of information systems that produce, manage, or act on information associated with clinical and operational activities in healthcare. Transactions are interactions between actors that communicate the required information through standards-based messages. Content modules define how the content used in a transaction is structured. A content module is specified so as to be independent of the transaction in which it appears.

Vendor products support an Integration Profile by implementing the appropriate actor(s) and transactions. A given product may implement more than one actor and more than one integration profile.

IHE profiles which have reached the status of *Final Text* are published as part of the domain’s Technical Framework Volumes 1-4. Prior to Final Text status, IHE profiles are published independently as *Profile Supplements* with the status of *Public Comment* or *Trial Implementation*.

For a list and short description of <Domain Name> profiles, see [www.ihe.net/<Domain](http://www.ihe.net/%3cDomain) Name>. The list includes all of the profiles in this document (Final Text) and may include profiles in the Trial Implementation stage.

<*If no figure is added, remove the following sentence and the Figure 2-1 title*.>

The <Domain Name> profiles are shown here in graphical format. *<Insert additional comments explaining the figure, as appropriate.>*

<*Editors may add a diagram here that represents the current profiles published by their domain. This is often useful to show types/categories of profiles>*

Figure 2-1: IHE <Domain Name> Integration Profiles

## Required Actor Groupings and Bindings

*<Important note to editors: when an existing domain is migrating to this new format of the IHE Technical Framework Volume 1, Section 2 from the previous version, entitled “Profile Dependencies”, is deleted. It is absolutely critical that this information is migrated inside* ***each*** *profile in the Required Groupings table. See the Supplement Template Section X.3 for a more detailed explanation of how this is done. If this is a new Technical Framework, this is not an issue.>*

The IHE Technical Framework relies on the concepts of *required actor groupings* and *bindings*.

Required actor groupings may be defined between two or more IHE actors. Actors are grouped to combine the features of existing actors. This allows reuse of features of an existing actor and does not recreate those same features in another actor. Internal communication between grouped actors is not specified by IHE. An example of grouped actors in the IHE Radiology Scheduled Workflow Profile is the grouping between the Image Manager and Image Archive.

Additionally, required actor groupings may cross profile boundaries. For example, an XDS Document Registry Actor is required to be grouped with an ATNA Secure Node Actor. Required actor groupings are defined in each profile definition in Volume 1. To comply with an actor in an IHE profile, a system must perform all transactions required for that actor in that profile. Actors supporting multiple Integration Profiles must support all of the transactions of each profile. (Note: In previous versions of IHE Technical Framework documents, the concept of profile dependencies existed. For simplification, profile dependencies have been combined with required actor groupings and are enumerated/repeated within each profile in Volume 1.)

Bindings refer to content modules. Bindings map data from a content module to the metadata of a specific transport profile. Bindings for content modules, and the associated concepts, are defined in Volume 3.

## Security Implications

IHE transactions often contain information that must be protected in conformance with privacy laws, regulations and best practices. This protection is documented in the Security Considerations section of each profile, which communicates security/privacy concerns that the implementers need to be aware of, assumptions made about security/privacy pre-conditions and, where appropriate, key elements of a risk mitigation strategy to be applied.

## Integration Profiles Overview

An overview of the profiles is listed at [http://www.ihe.net/Profiles](http://www.ihe.net/Profiles/).

## Product Implementations

As described in detail in the [*IHE Technical Frameworks General Introduction*](http://ihe.net/Technical_Frameworks/#GenIntro), an implementer chooses specific profiles, actors, and options to implement for their product. To comply with an actor in an IHE profile, a system must perform all the required transactions required for that actor in that profile.

To communicate the conformance of a product offering with IHE profiles, implementers provide an IHE Integration Statement describing which IHE integration profiles, IHE actors and options are incorporated.

Further discussion about integration statements and a sample form can be found in [Appendix F](http://ihe.net/Technical_Frameworks/#GenIntro) to the *IHE Technical Frameworks General Introduction*. To make consumers aware of the product integration statement, enter it in the IHE Product Registry (<http://product-registry.ihe.net/>).

# X <Profile Name> <(Profile Acronym)> Profile

*<Insert profiles from a supplement here as they become Final Text. For profile document structure, the first profile starts with Section 3, the second profile is Section 4, etc.>*

*<See the most current IHE TF Supplement Template at* [*ftp://ftp.ihe.net/DocumentPublication/DocumentTemplates/Technical\_Framework\_Supplement\_Template/*](ftp://ftp.ihe.net/DocumentPublication/DocumentTemplates/Technical_Framework_Supplement_Template/) *for the content/outline of this section.>*

Appendices

*<This appendices section is used for appendices specific to Volume 1.>*

*<Use appendices to include large amounts of material which would disrupt the flow or readability of the general text.>*

*<****Each appendix should very explicitly state at the beginning whether the appendix is normative or informative.****>*

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.

# Glossary

IHE Glossary terms are maintained via the [*Standards Knowledge Management Tool*](http://www.skmtglossary.org/) (SKMT).

SKMT contains IHE Glossary Terms from Final Text and Trial Implementation IHE profiles. Terms from Public Comment profiles are added once the profile is published for Trial Implementation.

The current published version of the IHE Glossary ([Appendix D](https://www.ihe.net/resources/technical_frameworks/#GenIntro) to the *IHE Technical Frameworks General Introduction*) contains IHE Glossary terms as of the publication date of the document. Always refer to the [SKMT](http://www.skmtglossary.org/) for the most up-to-date list of IHE Glossary terms.

Further information about SKMT can be found on the IHE Wiki [here](https://wiki.ihe.net/index.php/Standards_Knowledge_Management_Tool_(SKMT)).