**Integrating the Healthcare Enterprise**



**IHE Patient Care Device Domain**

**Technical Framework Supplement**

**Point-of-Care Identity Management   
(PCIM)**

**Draft in preparation for Public Comment**

Date:

Author: IHE PCD Technical Committee, PCIM Work Group

Email: pcd@ihe.net

**Foreword**

This is a supplement to the IHE Patient Care Device Domain Technical Framework <V5.0>. 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 for Public Comment. Comments are invited and may be submitted at [http://www.ihe.net/<domain>/<domain>comments.cfm](http://www.ihe.net/Technical_Framework/public_comment.cfm). In order to be considered in development of the Trial Implementation version of the supplement, comments must be received by <Month XX, 201X>.

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: [www.ihe.net](http://www.ihe.net).

Information about the IHE Patient Care Device Domain domain can be found at: <http://www.ihe.net/Domains/index.cfm>.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at: <http://www.ihe.net/About/process.cfm> and <http://www.ihe.net/profiles/index.cfm>.

The current version of the IHE Patient Care Device DomainTechnical Framework can be found at: <http://www.ihe.net/Technical_Framework/index.cfm>.

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

CONTENTS

[Introduction to this Supplement 5](#_Toc454456679)

[Open Issues and Questions 5](#_Toc454456680)

[Closed Issues 5](#_Toc454456681)

[General Introduction 6](#_Toc454456682)

[Appendix A - Actor Summary Definitions 6](#_Toc454456683)

[Appendix B - Transaction Summary Definitions 6](#_Toc454456684)

[Glossary 7](#_Toc454456685)

[Volume 1 – Profiles 10](#_Toc454456686)

[<*Copyright Licenses>* 10](#_Toc454456687)

[<*Domain-specific additions>* 10](#_Toc454456688)

[X Point-of-Care Identity Management (PCIM)> Profile 11](#_Toc454456689)

[X.1 PCIM Actors, Transactions, and Content Modules 11](#_Toc454456690)

[X.1.1 Actor Descriptions and Actor Profile Requirements 14](#_Toc454456691)

[X.1.1.1 <Actor A> 15](#_Toc454456692)

[X.1.1.2 <Actor B> 15](#_Toc454456693)

[X.2 Actor Options 15](#_Toc454456694)

[X.2.1 <Option Name> 16](#_Toc454456695)

[X.3 Required Actor Groupings 16](#_Toc454456696)

[X.4 Overview 19](#_Toc454456697)

[X.4.1 Concepts 19](#_Toc454456698)

[X.4.2 Use Cases 19](#_Toc454456699)

[X.4.2.1 Use Case #1: <simple name> 19](#_Toc454456700)

[X.4.2.1.1 <simple name> Use Case Description 19](#_Toc454456701)

[X.4.2.1.2 <simple name> Process Flow 19](#_Toc454456702)

[X.5 Security Considerations 21](#_Toc454456703)

[X.6 Cross Profile Considerations 21](#_Toc454456704)

[Appendices 22](#_Toc454456705)

[Appendix A – <Appendix A Title> 22](#_Toc454456706)

[A.1 <Add Title> 22](#_Toc454456707)

[Appendix B – <Appendix B Title> 22](#_Toc454456708)

[B.1 <Add Title> 22](#_Toc454456709)

[Volume 2 – Transactions 23](#_Toc454456710)

[3.Y <Transaction Name [Domain Acronym-#]> 23](#_Toc454456711)

[3.Y.1 Scope 23](#_Toc454456712)

[3.Y.2 Actor Roles 23](#_Toc454456713)

[3.Y.3 Referenced Standards 24](#_Toc454456714)

[3.Y.4 Interaction Diagram 25](#_Toc454456715)

[3.Y.4.1 <Message 1 Name> 25](#_Toc454456716)

[3.Y.4.1.1 Trigger Events 25](#_Toc454456717)

[3.Y.4.1.2 Message Semantics 25](#_Toc454456718)

[3.Y.4.1.3 Expected Actions 26](#_Toc454456719)

[3.Y.4.2 <Message 2 Name> 26](#_Toc454456720)

[3.Y.4.2.1 Trigger Events 26](#_Toc454456721)

[3.Y.4.2.2 Message Semantics 26](#_Toc454456722)

[3.Y.4.2.3 Expected Actions 27](#_Toc454456723)

[3.Y.5 Security Considerations 27](#_Toc454456724)

[3.Y.5.1 Security Audit Considerations 27](#_Toc454456725)

[3.Y.5.1.(z) <Actor> Specific Security Considerations 27](#_Toc454456726)

[Appendices 28](#_Toc454456727)

[Appendix A – <Appendix A Title> 28](#_Toc454456728)

[C.1 <Add Title> 28](#_Toc454456729)

[Appendix B – <Appendix B Title> 28](#_Toc454456730)

[B.1 <Add Title> 28](#_Toc454456731)

[Volume 2 Namespace Additions 28](#_Toc454456732)

# Introduction to this Supplement

<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.>

## Open Issues and Questions

<List the open issues/questions that need to be addressed. These are particularly useful for highlighting problematic issues and/or specifically soliciting public comments.>

How is the value of the profile realized – workflow effects found in trial implementation should tell

## Closed Issues

<List the closed issues/questions with their resolutions. These are particularly useful for recording the rationale for closed issues to forestall unnecessary rehashing in the future and/or to make it easier to identify when a closed issue should be re-opened due to new information.>

Summarize why existing profiles from ITI were a bit off topic –different use models.

Will be faster and closer to the action than ADT feeds, which have a different purpose.

Included security information and recommendations in the profile.

# General Introduction

Update the following Appendices to the General Introduction as indicated below. Note that these are not appendices to Volume 1.

Appendix A - Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction list of Actors:

|  |  |
| --- | --- |
| Actor | Definition |
| Device-Patient Association Reporter | A system or person that asserts a device-patient association, disassociation, or attributes related to either. |
| Device-Patient Association Manager | A system that records, manages, and serves records of device-patient associations. |
| Device-Patient Association Consumer | A system or person that queries a Device-Patient Association Manager for device-patient association records |
| Device Registrant | A system (including the device itself) or person that identifies a device that may participate in device-patient associations. |
| Device Registration System | A system that registers devices and serves device identity information to a Device-Patient Association Manager. May be grouped with that Manager. |
| Patient Registration System | A system that identifies patients that may participate in device-patient associations, typically a master patient index (MPI) or other ADT system. |

Appendix B - Transaction Summary Definitions

Add the following transactions to the IHE Technical Frameworks General Introduction list of Transactions:

|  |  |
| --- | --- |
| Transaction | Definition |
| Assert Device-Patient Association | A Device-Patient Association Reporter asserts to a Device-Patient Association Manager that a device has been associated with a patient, or updates data concerning a reported assertion. |
| Assert Device-Patient Disassociation | A Device-Patient Association Reporter asserts to a Device-Patient Association Manager that the association between a device and a patient has been terminated.. |
| Query Device-Patient Associations | A Device-Patient Association Consumer sends a query to a Device-Patient Association Manager concerning the devices associated with a patient or set of patients currently or at a stated past time. |
| Register Device | A Device Registrant sends, updates, or deletes a record of identifying information on a device instance for storage and use by the Device-Patient Association Manager. |

Glossary

Add the following glossary terms to the IHE Technical Frameworks General Introduction Glossary:

|  |  |
| --- | --- |
| Glossary Term | Definition |
| Assertion | A statement that a certain premise is true, for example that a device has been prepared to collect data about a patient. |
| Binding | A process of associating two related elements of information. |
| Biometrics | A measurable physical characteristic or personal behavioral trait used to recognize the identity, or verify the claimed identity of a person. |
| Direct Association | A patient association established by the observation and recording of a physical connection of a device to the patient. |
| Direct Device-Patient Association Assertion | A claim of direct device-patient association based on evidence. |
| Duplicate Patient Identification Record | Two records representing the same patient, with differing identifiers of the same type with the same assigning authority. For example, two different medical record numbers issued by the same hospital to the same patient. In the context of device-patient association, an unintentional duplicate patient record may result if device data is recorded without a permanent unique patient identifier being recorded, as in an emergency. A human-validated merge operation is necessary to associate the device data with the patient after the fact. |
| Entity | In the context of this Profile, an organizational unit within a healthcare enterprise, typically, but not necessarily, associated with a free-standing building, office, or sub-unit within a common hospital corporation. For example, a patient visit would occur within a specific entity. |
| False Negative | Patient algorithm matching error occurring when two different records for the same person are thought to represent different people (for example name, gender, date of birth, MRN…). |
| False Positive | Patient algorithm matching error occurring when information for two different people appears to be a match representing the same individual (for example name, gender, date of birth, MRN…). |
| Identity Assertion | A claim attributing a particular identity to a person or device. |
| Identity Management | Identity management (IdM) is composed of the set of business processes, and a supporting infrastructure, for the creation, maintenance, and use of digital identities within a legal and policy context. |
| Indirect Device-Patient Association | A patient association asserted on the basis of a common attribute shared by a device and patient, such as a location. |
| Location-based Assertion | An assertion of an association between two objects (e.g. a patient and a device, device-to-device, patient-to-caregiver), based solely upon the co-location (e.g. same room and bed) of these two objects. |
| Minimal Guarantee | The fewest promises the system makes to its stakeholders, particularly when the primary actor's goal cannot be delivered. |
| Multi-Entity | A healthcare enterprise consisting of two or more entities. For example, a hospital corporation which owns three hospitals. |
| Observation-Patient Association | The assignment of a device measurement/parameter to a specific patient. Observation - patient associations are established through the connection relationship of a unique patient to a unique device at the point in time that the measurement was recorded by the device. |
| Overlap Record | One person with two or more unique enterprise identifiers. Without the two records being linked, information not available for point of care and clinical decisions are made in the absence of data. There is an increase in costs associated with repeat test, clinical procedures, etc., as well as rework in clinical and business processes. |
| Overlay Record | Records of two different people are “combined” into one record in error. Person A is treated with Person B’s clinical information. This has huge implications for quality of care and patient safety. |
| Device-Patient Association Conflict Notification | A message from a particular clinical IT system that it detects an inconsistency between different identity assertions. For example, a device and an intermediary system may be simultaneously asserting that a single data stream represents two different patients. |
| Device-Patient Record Linkage | The process of binding and/or associating a discrete patient record to a discrete device record. |
| Patient Identity Management | Patient identity management (PIM) has been defined as the “ability to ascertain a distinct, unique identity for an individual (a patient), as expressed by an identifier that is unique within the scope of the exchange network, given characteristics about that individual such as his or her name, date of birth, gender [etc.].” The scope of this definition can be expanded to refer to PIM as the process of accurately and appropriately identifying, tracking, managing, and linking individual patients and their digitized health care information, often within and across multiple electronic systems. |
| Patient Index (Master Patient Index) | A system, typically centralized for a provider institution or organization, which is authoritative for patient demographic information including identity data, for patients under care. Typically can respond to queries and give a unique identity or a set of candidate identities that are consistent with a set of identity factors. |
| Patient Linkage | The general problem of determining whether two existing records pertain to the same patient. This is distinct from device-patient association and uses different methods. |
| Patient Matching | Record linkage is the task of identifying pieces of scattered information that refer to the same thing. Patient matching is a specific application, in which we try to identify records that belong to the same patient among different data sources. |
| Precondition | "What the system under analysis will ensure is true before letting the use case start." |
| Proofing (Identity Proofing) | The process of collecting and verifying sufficient information (e.g. identity history, credentials, documents) from an applicant to a service provider for the purpose of proving that a person or object is the same person or object it claims to be. |
| Receiving System | In the context of PCIM, any system which is a consumer of device-patient association or observation messages, such as an electronic medical record system, device gateway, or a device at the point of care. |
| Record | The discrete representation of a specific and unique patient or the device in either the reporting or consuming system's database. |
| Strong Identity Assertion | A presumption of patient or device unique recognition using multiple factors that provides a high degree of accuracy and certainty (e.g., barcode, biometric). |
| Strong Identity Factors | An identifier designed to be unique (applies to only one person) and consistent over the appropriate domain for at least throughout the visit or encounter, for example, Medical Record Number or National ID number. |
| Success Guarantee | A success guarantee is a statement of what interests of the stakeholders are satisfied after a successful conclusion of the use case. |
| Unique Device Identifier | In the US, a unique identifier for a medical device that is recognized by the US FDA and which has a part that identifies the maker and model of the device (DI) and a part that identifies the particular instance of the device. More generally, any identifier which allows a particular device to be uniquely identified. |
| Weak Identity Assertion | A presumption of patient or device unique recognition using factors that provides a low degree of accuracy and certainty (e.g., name, location). |
| Weak Identity Factors | Factors which can contribute to identification, but typically are not unique to patient; for example, name, sex, date of birth. |

Volume 1 – Profiles

Add to Section …

<Reserve a subsequent section number in the current domain Technical Framework Volume 1 (DOM TF-1). Replace the letter “X” with that section heading number. This number should not change when this supplement is added to the Final Text Technical Framework. In this manner, references should be able to be maintained going forward.>

# 7 Point-of-Care Identity Management (PCIM)> Profile

<Provide an end-user friendly overview of what the Profile does for them.   
Keep it brief (a paragraph or two, up to a page). If extensive detail is needed, it should be included in section X.4- Use Cases.>

<Explicitly state whether this is a Workflow, Transport, or Content Module (or combination) profile. See the IHE Technical Frameworks General Introduction for definitions of these profile types. The IHE Technical Frameworks General Introduction is published at <http://www.ihe.net/Technical_Framework/index.cfm>.

## 7.1 PCIM Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General definitions of actors are given in the Technical Frameworks General Introduction Appendix A at <http://www.ihe.net/Technical_Framework/index.cfm>.

*<Workflow/Transport Instructions>*

<If this profile does not define workflow or transport transactions, delete the following text and diagram until the “Content Module Instructions” below.>

<Continue here for workflow and/or transport profiles:>

Figure 7.1-1 shows the actors directly involved in the Profile and the relevant transactions between them. If needed for context, other actors that may be indirectly involved due to their participation in other related profiles are shown in dotted lines. Actors which have a mandatory grouping are shown in conjoined boxes.

↑ Transaction Name 3 [DOM-Y3]

↑ Transaction Name 4 [DOM-Y4]

↑ Transaction 3 [3]

↑ Transaction 4 [4]

Profile Acronym: Actor C

Profile Acronym: Actor C

Transaction Name 1 [DOM-Y1] ↓

Transaction 1 [1] ↓

↓ Transaction Name 2 [DOM-Y2]

↓ Transaction 2 [2]

Actor A

Actor A

Actor F

Actor F

Actor D

Actor D

Actor E

Actor E

Actor B

Actor B

Transaction Name 1 [DOM-Y1] ↑

Transaction 1 [1] ↑

↑ Transaction Name 2 [DOM-Y2]

↑ Transaction 2 [2]

Figure X.1-1: Actor Diagram

Table 7.1-1 lists the transactions for each actor directly involved in the Profile. To claim compliance with this Profile, an actor shall support all required transactions (labeled “R”) and may support the optional transactions (labeled “O”).

<Actors from other profiles represented in dotted boxes, such as Actor C in the example above, should not be listed in Table 7.1-1.>

Table 7.1-1: Profile - Actors and Transactions

| Actors | Transactions | Optionality | Reference |
| --- | --- | --- | --- |
| Actor A | Transaction 1 | R | <Domain Acronym> TF-2: 3.Y1 |
| Transaction 2 | R | <Domain Acronym> TF-2: 3.Y2 |
| Actor F | Transaction 1 | R | <Domain Acronym> TF-2: 3.Y1 |
| Transaction 2 | R | <Domain Acronym> TF-2: 3.Y2 |
| Actor D/ Actor E | Transaction 1 | R | <Domain Acronym> TF-2: 3.Y1 |
| Transaction 2 | O (See note 1) | <Domain Acronym> TF-2: 3.Y2 |
| Transaction 3 | O ( See note 1) | <Domain Acronym> TF-2: 3.Y3 |
| Transaction 4 | O ( See note 1) | <Domain Acronym> TF-2: 3.Y4 |
| Actor B | Transaction 3 | R | <Domain Acronym> TF-2: 3.Y3 |
| Transaction 4 | R | <Domain Acronym> TF-2: 3.Y4 |

Note 1: *<For example, a note could describe that one of two possible transactions could be supported by an Actor or other variations. For example: Note: Either Transaction Y2 or Transaction Y3 shall be implemented for Actor D/Actor E. –or- Note: At least one of Transaction Y2, Transaction Y3, or Transaction Y4 shall be implemented for Actor D/Actor E.>*

<Content Module Instructions:>

<If this profile does not define Content Modules, delete the following diagram, text, and table.

The recommended Content Creator/Content Consumer diagram is given below. If this is not applicable to this profile, it is up to the author’s discretion to modify/replace. Authors are encouraged to maintain the neutrality of the content modules and incorporate transport by specifying grouping of the actors in the content module with actors from transport transactions.>

Figure 7.1-1 shows the actors directly involved in the Profile and the direction that the content is exchanged.

A product implementation using this profile must group actors from this profile with actors from a workflow or transport profile to be functional. The grouping of the content module described in this profile to specific actors is described in more detail in the “Required Actor Groupings” section below.



Figure 7.1-1: Actor Diagram

Table 7.1-1 lists the content module(s) defined in the Profile. To claim support with this profile, an actor shall support all required content modules (labeled “R”) and may support optional content modules (labeled “O”).

<Note that this table number has to change if this profile describes both transactions and content modules (or there will be two tables entitled X.1-1).>

<Note that the abbreviation in the column “Reference” the letter “D” will be incremented for every content module document defined in this profile (e.g., For example D1, D2).>

<In general, one supplement template will only contain one required content module document, but the example here shows multiple with one optional, just for illustration purposes.>

Table 7.1-1: Profile - Actors and Content Modules

| Actors | Content Modules | Optionality | Reference  *<this should be a reference to a location in Volume 3)* |
| --- | --- | --- | --- |
| Content Creator | Content Module 1 Name and Template ID | R | <Domain Acronym> TF-3: 6.3.1.D |
| Content Module 2 Name and Template ID | O See Note 1 | <Domain Acronym> TF-3: 6.3.1.D |
| Content Consumer | Content Module 1 Name and Template ID | O See Note 1 | <Domain Acronym> TF-3: 6.3.1.D |
| Content Module 2 Name and Template ID | R | <Domain Acronym> TF-3: 6.3.1.D |

Note 1: *<For example, a note could describe that one of two possible transactions could be supported by an Actor or other variations. For example: Note: Either Content Module 2 or Content Module 3 shall be implemented for the Content Creator or Content Consumer. –or, as a different example- Note: At least one of Content Module 2, Content Module 3, or Content Module 4 shall be implemented for Content Consumer. >*

### 7.1.1 Actor Descriptions and Actor Profile Requirements

Most requirements are documented in Transactions (Volume 2) and Content Modules (Volume 3). This section documents any additional requirements on profile’s actors.

<Do not repeat the definitions of the Actors that are maintained in the TF General Introduction Appendix A (Actor Definitions). Include text in this section to describe the Actor in the context of this Profile.>

<This section is empty unless there is a need for specific descriptions or requirements. Actors without additional requirements or elaborate descriptions need not be listed here.>

<If this is a Workflow Profile the sequence of transactions often require data from an inbound transaction to be carried forward to subsequent transactions . Individual transactions, which are designed to be reusable, do not define this data mapping and it must be documented here. If this is a long technical mapping, consider including this material in an appendix to Volume 2. For an example, see Radiology Scheduled Workflow RAD TF-2: Appendix A.>

<This section may also define system behavior. For example, in the PIX Profile, an ADT message is first received by the PIX Manager. The PIX manager should then use this data to respond to subsequent queries. Although this may be implied, it should be explicitly documented in this section.>

<Note that for content modules, bindings to other transport or workflow modules are referenced in the Required Actor Groupings section below. >

#### 7.1.1.1 Device-Patient Association Reporter

<If the summary description of the actor in Appendix A is insufficient to understand its role in this Profile, elaborate here.>

<Requirements on actors are predominantly contained inside Transactions in Volume 2. The main requirement on actors contained in Volume 1 is to support the transactions identified in Table X.1-1 and the content modules identified in Table Z. Requirements that do not fit in those locations may be placed here.>

#### X.1.1.2 Device-Patient Association Consumer

## 7.2 Actor Options

<Modify the following Table listing the actors in this profile, the options available for each, and references to sections that state requirements for compliance to each Option. For actors with no options, state “No options defined” in the Options column.>

<Note: Options are directly carried over to the Integration Statements which are published by vendors for review by buyers. Too many options can be confusing for readers.>

< Try to **minimize** options for Actors and only use if necessary.>

<Several options for Content Consumers are defined in PCC TF-2 section 3.1.1-3.1.4. It is recommended that these options are reused for content module definitions, but read the option definitions thoroughly to be certain that they apply. If they do apply in their entirety, you will need to define a corresponding option in this profile. The recommended naming convention for a similar, but different, option is, for example, “View Option - PCIM, etc., “View Option – CIRC”.>

Options that may be selected for each actor in this profile, if any, are listed in the table X.2-1. Dependencies between options when applicable are specified in notes.

Table 7.2-1: Point-of-Care Identity Management - Actors and Options

| Actor | Option Name | Reference  *<either reference TF-3 or the applicable X.2.x subsection below table>* |
| --- | --- | --- |
| Actor A | No options defined | -- |
| Actor B | No options defined | -- |
| Actor C/Actor D | No options defined | -- |
| No options defined | -- |
| Actor E *<e.g., Content Consumer>* | View Option (see section X.2.1) | PCC TF-2: 3.1.1 |
| Document Import Option | PCC TF-2: 3.1.2 |
| Section Import Option | PCC TF-2: 3.1.3 |
| Discrete Data Import Option | PCC TF-2: 3.1.4 |

Note: *<Conditional or required options must be described in this SHORT note, for longer notes use section X.2.1.>,*

### X.2.1 <Option Name>

<Consider including a high level description of the option.>

<e.g., The Content Consumer actor is required to support at least one of the View or Discrete Data Import options. The Document Import and Section Import options also require the View option.>

<Repeat this section (and increment numbering) as needed for additional options.>

## 7.3 Required Actor Groupings

*<Describe any requirements for actors in this profile to be grouped with other actors.>*

*<Note that this section effectively combines the previous “Profile Dependencies” Section (formerly Vol. 1, Section 2.1) and the previous “Groupings” section.>*

*<This section is for REQUIRED Actor Groupings (although “required” sometimes allows for a selection of one of several). To suggest other profile groupings or helpful references for other profiles to consider, use Section X.6 Cross Profile Considerations. Use X.5 for security profile recommendations.>*

An Actor from this profile (Column 1) shall implement all of the required transactions and/or content modules in this profile ***in addition to*** all of the transactions required for the grouped actor (Column 2).

If this is a content profile, and actors from this profile are grouped with actors from a workflow or transport profile, the Content Bindings reference column references any specifications for mapping data from the content module into data elements from the workflow or transport transactions.

In some cases, required groupings are defined as at least one of an enumerated set of possible actors; this is designated by merging column one into a single cell spanning multiple potential grouped actors. Notes are used to highlight this situation.

Section X.5 describes some optional groupings that may be of interest for security considerations and section X.6 describes some optional groupings in other related profiles.

<All Actors from this profile should be listed in Column 1. If no mandatory required grouping exists, “none” should be listed in Column 2. If the content module actor is bound to a transport or workflow actor it will be listed **with at least one** binding reference. Do not use “XD\*” as an actor name.>

<In some cases, required groupings are defined as at least one of an enumerated set of possible actors; to designate this create a row for each potential actor grouping and merge column one to form a single cell containing the profile actor which should be grouped with at least one of the actors in the spanned rows. In addition, a note should be included to explain the enumerated set. See example below showing Document Consumer needing to be grouped with at least one of XDS.b Document Consumer, XDR Document Recipient or XDM Portable Media Importer>

<The author should pay special consideration to IT and security profiles in this grouping section. Consideration should be given to Consistent Time (CT) Client, ATNA, as well as other profiles. For the sake of clarity and completeness, even if this table begins to become long, a line should be added for each actor for each of the required grouping for IT and security. Also see the ITI document titled ‘Cookbook: Preparing the IHE Profile Security Section’ at http://www.ihe.net/Technical\_Framework/index.cfm for a list of suggested IT and security groupings.>

<The Bindings column is used when a Content Module profile actor is grouped with a workflow or transport actor. Otherwise, mark it as “--”.>

Table X.3-1: Point-of-Care Identity Management - Required Actor Groupings

| <this Profile Acronym> Actor | Actor to be grouped with | | Reference | | Content Bindings Reference | |
| --- | --- | --- | --- | --- | --- | --- |
| Actor B | Actor A | | <reference the section where the actors are defined in that profile, e.g., <Domain Acronym TF-1: x.x.x> | | <Reference to CM bindings section  e.g., <Domain Acronym TF-3:Z.xxx > (e.g., PCC TF-2 :4.1) | |
| Actor C | <Domain Acronym> <external profile acronym> <Actor>  <e.g., RAD Scheduled Workflow Modality> | | - -- <for example:-RAD TF-1: 14.1> | | -- | |
| Actor C | <Domain Acronym> <external profile acronym> <Actor>  <e.g., ITI Consistent Time Client> | | - -- <for example:-RAD TF-1: 7.1> | | -- | |
| Actor D | None | | -- | | -- | |
| Actor E | | <Domain Acronym> <external profile acronym><Actor>  <shows a requirement to select at least one of these groupings with Actor E> | | -- | | See Note 1 | |
| <Domain Acronym> <external profile acronym><Actor>  <another from the list> | | -- | | See Note 1 | | |
| <Domain Acronym> <external profile acronym><Actor >  <another from the list> | | -- | | See Note 1 | | | |
| <e.g., Content Consumer | | ITI XDS.b Document Consumer | | ITI TF-1: 10.1 | | PCC TF-2 :4.1 (See Note 2) | |
| ITI XDR Document Recipient | | ITI TF-1: 15.1 | | PCC TF-2 :4.1 (See Note 2) | | | |
| ITI XDM Portable Media Importer | | ITI TF-1: 16.1 | | PCC TF-2 :4.1 (See Note 2) > | | | |
| <e.g., Content Consumer | ITI Consistent Time Client | | ITI TF-1:7.1 | | -- > | |

Note 1: <This is a short note. It may be used to describe situations where an Actor from this profile may be grouped with one of several other profiles/actors. This note could also be used to explain why the grouping is required, if that is still not clear from the text above.>

Note 2: Example note.

## 7.4 Overview

*<Volume 2 documents each transaction/content module in isolation. This section shows how the transactions/content modules of the profile are combined to address the use cases.>*

*<Use Cases are informative, not normative, and “SHALL” language is not allowed in use cases.>*

### 7.4.1 Concepts

<If needed, this section provides an overview of the concepts that provide necessary background for understanding the profile. If not needed, state “Not applicable.” For an example of why/how this section may be needed, please see ITI Cross Enterprise Workflow (XDW).>

<It may be useful in this section, but is not necessary, to provide a short list of the use cases described below and explain why they are different.>

### 7.4.2 Use Cases

#### 7.4.2.1 Use Case #1: <simple name>

<One or two sentence simple description of this particular use case.>

<Note that Section X.4.2.1 repeats in its entirety for additional Use Cases (replicate as section X.4.2.2, X.4.2.3, etc.).>

##### 7.4.2.1.1 <simple name> Use Case Description

<Describe the key use cases addressed by the Profile. Limit to a maximum of one page of text or consider an appendix.>

##### 7.4.2.1.2 <simple name> Process Flow

<Diagram and describe the process flow(s) covered by this profile in order to satisfy the use cases. Demonstrate how the profile transactions are combined/sequenced. To provide context and demonstrate how the profile interacts with other profiles, feel free to include transactions and events that are “external” to this profile (using appropriate notation.)   
The set of process flows will typically be exemplary, not exhaustive (i.e., it will address all the use cases, but will not show all possible combinations of actors, or all possible sequencing of transactions).  
If there are detailed behavioral rules that apply to a specific process flow or multiple process flows, an appendix may be added as needed.>

<The roles at the top of the swimlane diagram should correspond to actor names, include the profile acronym:actor name if referencing an actor from a different profile.>

<Modify the following “Swimlane Diagram”.>

Transaction\_2 [2]

Transaction\_2 [2]

Transaction\_1 [1]

Transaction\_1 [1]

Actor D/

Actor E

Actor D/

Actor E

Actor A /

Actor B

Actor A /

Actor B

*Internal action 1*

*Internal action 1*

Transaction-D [D]

Transaction-D [D]

Transaction-C [C]

Transaction-C [C]

Actor B/ Actor C

Actor B/ Actor C

Transaction\_2 [2]

Transaction\_2 [2]

Transaction\_3 [3]

Transaction\_3 [3]

*Internal action 2*

*Internal action 2*

Transaction-A [A]

Transaction-A [A]

Transaction-B [B]

Transaction-B [B]

Figure 7.4.2.2-1: Basic Process Flow in Profile

<If process flow “swimlane” diagrams require additional explanation to clarify conditional flows, or flow variations need to be described where alternate systems may be playing different actor roles, document those conditional flows here.>

<Delete the material below if this is a workflow or transport profile. Delete the material above if this profile is a content module only profile.>

Pre-conditions:

<Very briefly (typically one sentence) describe the conditions or timing when this content module would be used.>

Main Flow:

<Typically in an enumerated list, describe the clinical workflow when, where, and how this content module would be used.>

Post-conditions:

<Very briefly (typically one sentence) describe the state of the clinical scenario after this content module has been created including examples of potential next steps.>

## 7.5 Security Considerations

<Describe Profile-specific security considerations. This should include the outcomes of a risk assessment. This likely will include profile groupings, and residual risks that need to be assigned to the product design, system administration, or policy. See the ITI document titled ‘Cookbook: Preparing the IHE Profile Security Section’ at http://www.ihe.net/Technical\_Framework/index.cfm for suggestions on risk assessment, risk mitigation, and IT and security profiles.>

<If this is not a content module, delete the sentence below. If this is a content module profile, you may want to expound upon the security considerations provided by grouped actors.>

The security considerations for a content module are dependent upon the security provisions defined by the grouped actor(s).

## 7.6 Cross Profile Considerations

<This section is informative, not normative. It is intended to put this profile in context with other profiles. Any required groupings should have already been described above. Brief descriptions can go directly into this section; lengthy descriptions should go into an Appendix. Examples of this material include ITI Cross Community Access (XCA) Grouping Rules (section 18.2.3), the Radiology associated profiles listed at wiki.ihe.net, or ITI Volume 1 Appendix E “Cross Profile Considerations”, and the “See Also” sections Radiology Profile descriptions on the wiki such as <http://wiki.ihe.net/index.php?title=Scheduled_Workflow> -> See Also. If this section is left blank, add “Not applicable.”>

*<Consider using a format such as the following:>*

<other profile acronym> - <other profile name>  
A <other profile actor name> in <other profile name> might be grouped with a <this profile actor name> to <describe benefit/what is accomplished by grouping>.

Appendices

<Add Appendices to this Profile here. Examples of an appendix include HITSP mapping to IHE Use Cases or long use case definitions.>

<Volume 1 Appendices are informational only. No “SHALL” language is allowed in a Volume 1 appendix.>

Appendix A – <Appendix A Title>

Appendix A text goes here.

* 1. <Add Title>

Appendix A.1 text goes here

Appendix B – <Appendix B Title>

Appendix B text goes here.

* 1. <Add Title>

Appendix B.1 text goes here.

Volume 2 – Transactions

Add section 3.Y

## 3.17 Assert Device-Patient Association [PCD-17]>

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

### 3.17.1 Scope

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

### 3.17.2 Actor Roles

<Optional: if desired, in addition to the table, add a diagram as shown below to illustrate the actors included in this transaction, or delete the diagram altogether.>

Actor ABC

Actor ABC

Actor DEF

Actor DEF

Figure 3.Y.2-1: Use Case Diagram

Table 3.Y.2-1: Actor Roles

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of Role Names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete which ever form of the role section you choose not to use.>*

The Roles in this transaction are defined in the following table and may be played by the actors shown here:

Table 3.18.2-1 Actor Roles

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:         *<Actor Name>: <optionally, the situation where the Actor would play this Role if needed for clarity.>*” |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested*  *workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each Role. The behavior of specific Actors may also be specified when it goes beyond that of the general Role.

### 3.18.3 Referenced Standards

<e.g., HL7 2.3.1 Chapters 2, 3>

<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>

### 3.18.4 Interaction Diagram

<The interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction.>

Actor A

Actor A

Message 1

Message 1

Actor D

Actor D

Message 2

Message 2

#### 3.18.4.1 <Message 1 Name>

<One or two sentence summary of what Message 1 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>

<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>

##### 3.18.4.1.1 Trigger Events

<Description of the real world events that cause the sender (Actor A) to send Message 1 (e.g., an operator or an automated function determines that a new workitem is needed).>

##### 3.18.4.1.2 Message Semantics

<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>

<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>

<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>

##### 3.18.4.1.3 Expected Actions

<Description of the actions expected to be taken as a result of sending or receiving this message.>

<Describe what the receiver is expected/required to do upon receiving this message. >

<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>

<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>

#### 3.18.4.2 <Message 2 Name>

<One or two sentence summary of what Message 2 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>

<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>

<Repeat this section as necessary based on the number of messages in the interaction diagram.>

##### 3.18.4.2.1 Trigger Events

<Description of the real world events that cause the sender (Actor A) to send Message 1(e.g., an operator or an automated function determines that a new workitem is needed).>

##### 3.18.4.2.2 Message Semantics

<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>

<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>

<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>

##### 3.18.4.2.3 Expected Actions

<Description of the actions expected to be taken as a result of sending or receiving this message.>

<Describe what the receiver is expected/required to do upon receiving this message. >

<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>

<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>

### 3.18.5 Security Considerations

<Description of the transaction specific security consideration; such as use of security profiles.>

#### 3.18.5.1 Security Audit Considerations

<This section should identify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. >

##### 3.18.5.1.(z) <Actor> Specific Security Considerations

<This section should specify any specific security considerations on an Actor by Actor basis.>

**3.18 Assert Device-Patient Disassociation [PCD-18]>**

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

**3.18.1 Scope**

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

**3.18.2 Actor Roles**

*<Optional: if desired, in addition to the table, add a diagram as shown below to illustrate the actors included in this transaction, or delete the diagram altogether.>*

Actor ABC

Actor ABC

Actor DEF

Actor DEF

**Figure 3.Y.2-1: Use Case Diagram**

**Table 3.Y.2-1: Actor Roles**

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of Role Names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete which ever form of the role section you choose not to use.>*

The Roles in this transaction are defined in the following table and may be played by the actors shown here:

**Table 3.18.2-1 Actor Roles**

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:         *<Actor Name>: <optionally, the situation where the Actor would play this Role if needed for clarity.>*” |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested*  *workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each Role. The behavior of specific Actors may also be specified when it goes beyond that of the general Role.

**3.18.3 Referenced Standards**

*<e.g., HL7 2.3.1 Chapters 2, 3>*

*<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>*

**3.18.4 Interaction Diagram**

*<The interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction.>*

Actor A

Actor A

Message 1

Message 1

Actor D

Actor D

Message 2

Message 2

**3.18.4.1 <Message 1 Name>**

*<One or two sentence summary of what Message 1 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

**3.18.4.1.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1 (e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.17.4.1.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.17.4.1.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.17.4.2 <Message 2 Name>**

*<One or two sentence summary of what Message 2 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

*<Repeat this section as necessary based on the number of messages in the interaction diagram.>*

**3.17.4.2.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1(e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.17.4.2.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.17.4.2.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.17.5 Security Considerations**

*<Description of the transaction specific security consideration; such as use of security profiles.>*

**3.17.5.1 Security Audit Considerations**

*<This section should identify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. >*

**3.17.5.1.(z) <Actor> Specific Security Considerations**

*<This section should specify any specific security considerations on an Actor by Actor basis.>*

**3.19 Query Device-Patient Associations [PCD-19]>**

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

**3.19.1 Scope**

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

**3.19.2 Actor Roles**

*<Optional: if desired, in addition to the table, add a diagram as shown below to illustrate the actors included in this transaction, or delete the diagram altogether.>*

Actor ABC

Actor ABC

Actor DEF

Actor DEF

**Figure 3.Y.2-1: Use Case Diagram**

**Table 3.Y.2-1: Actor Roles**

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of Role Names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete which ever form of the role section you choose not to use.>*

The Roles in this transaction are defined in the following table and may be played by the actors shown here:

**Table 3.19.2-1 Actor Roles**

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:         *<Actor Name>: <optionally, the situation where the Actor would play this Role if needed for clarity.>*” |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested*  *workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each Role. The behavior of specific Actors may also be specified when it goes beyond that of the general Role.

**3.19.3 Referenced Standards**

*<e.g., HL7 2.3.1 Chapters 2, 3>*

*<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>*

**3.19.4 Interaction Diagram**

*<The interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction.>*

Actor A

Actor A

Message 1

Message 1

Actor D

Actor D

Message 2

Message 2

**3.19.4.1 <Message 1 Name>**

*<One or two sentence summary of what Message 1 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

**3.19.4.1.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1 (e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.19.4.1.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.19.4.1.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.19.4.2 <Message 2 Name>**

*<One or two sentence summary of what Message 2 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

*<Repeat this section as necessary based on the number of messages in the interaction diagram.>*

**3.19.4.2.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1(e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.19.4.2.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.19.4.2.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.19.5 Security Considerations**

*<Description of the transaction specific security consideration; such as use of security profiles.>*

**3.19.5.1 Security Audit Considerations**

*<This section should identify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. >*

**3.19.5.1.(z) <Actor> Specific Security Considerations**

*<This section should specify any specific security considerations on an Actor by Actor basis.>*

**3.20 Register Device [PCD-20]>**

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

**3.20.1 Scope**

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

**3.20.2 Actor Roles**

*<Optional: if desired, in addition to the table, add a diagram as shown below to illustrate the actors included in this transaction, or delete the diagram altogether.>*

Actor ABC

Actor ABC

Actor DEF

Actor DEF

**Figure 3.Y.2-1: Use Case Diagram**

**Table 3.Y.2-1: Actor Roles**

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of Role Names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete which ever form of the role section you choose not to use.>*

The Roles in this transaction are defined in the following table and may be played by the actors shown here:

**Table 3.20.2-1 Actor Roles**

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:         *<Actor Name>: <optionally, the situation where the Actor would play this Role if needed for clarity.>*” |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested*  *workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each Role. The behavior of specific Actors may also be specified when it goes beyond that of the general Role.

**3.20.3 Referenced Standards**

*<e.g., HL7 2.3.1 Chapters 2, 3>*

*<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>*

**3.20.4 Interaction Diagram**

*<The interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction.>*

Actor A

Actor A

Message 1

Message 1

Actor D

Actor D

Message 2

Message 2

**3.20.4.1 <Message 1 Name>**

*<One or two sentence summary of what Message 1 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

**3.20.4.1.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1 (e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.20.4.1.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.20.4.1.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.20.4.2 <Message 2 Name>**

*<One or two sentence summary of what Message 2 accomplishes typically relating the message to the relevant standard. Avoid shall language in this upper level section. Do not duplicate the triggers, encoding, semantics, standards used, or expected actions. Those belong in the following sections.>*

*<Explicitly state if the multiplicity of an actor may be greater than one; i.e., if an actor (whether it is a client or server) can expect this message from a single source or multiple sources.>*

*<Repeat this section as necessary based on the number of messages in the interaction diagram.>*

**3.20.4.2.1 Trigger Events**

*<Description of the real world events that cause the sender (Actor A) to send Message 1(e.g., an operator or an automated function determines that a new workitem is needed).>*

**3.20.4.2.2 Message Semantics**

*<Detailed description of the meaning, structure and contents of the message, including any IHE specific clarifications of the message format, attributes, etc.>*

*<Start by describing the standard underlying the message and how the participating actors are mapped (e.g., “This message is a DICOM C-FIND Request. Actor A is the SCU. Actor D is the SCP.”).>*

*<Continue profiling the message by providing guidance or constraints on how the message parameters are populated, how the payload is encoded, how the message is structured and what the contents mean. These message semantics should both help the sender to construct the message and the receiver to interpret the message.>*

**3.20.4.2.3 Expected Actions**

*<Description of the actions expected to be taken as a result of sending or receiving this message.>*

*<Describe what the receiver is expected/required to do upon receiving this message. >*

*<Avoid re-iterating the transaction sequencing specified in the Profile Process Flows as expected actions internal to the transaction. Doing so prevents this transaction being re-used in other contexts.>*

*<Explicitly define any expected action based on the multiplicity of an actor(s), if applicable.>*

**3.20.5 Security Considerations**

*<Description of the transaction specific security consideration; such as use of security profiles.>*

**3.20.5.1 Security Audit Considerations**

*<This section should identify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. >*

**3.20.5.1.(z) <Actor> Specific Security Considerations**

*<This section should specify any specific security considerations on an Actor by Actor basis.>*

**3.20 Assert Device-Patient Association [PCD-20]>**

*<The “Y” in the heading should be the same as the # in the [Domain Acronym -#] title>*

**3.20.1 Scope**

This transaction is used to *<…describe what is accomplished by using the transaction. Remember that by keeping transactions general/abstract, they can be re-used in a variety of profiles>*

**3.20.2 Actor Roles**

*<Optional: if desired, in addition to the table, add a diagram as shown below to illustrate the actors included in this transaction, or delete the diagram altogether.>*

Actor ABC

Actor ABC

Actor DEF

Actor DEF

**Figure 3.Y.2-1: Use Case Diagram**

**Table 3.Y.2-1: Actor Roles**

|  |  |
| --- | --- |
| **Actor:** | <Official actor name; list every actor in this transaction.> |
| **Role:** | <Very brief, one phrase, description of the role that this actor plays in this transaction.> |
| **Actor:** |  |
| **Role:** |  |
| **Actor:** |  |
| **Role:** |  |

*<The assignment and use of Role Names in transaction specifications has proved to be very effective/efficient in Radiology, especially when existing transactions are re-used by additional actors. Following is an alternative example of the Role section. Delete which ever form of the role section you choose not to use.>*

The Roles in this transaction are defined in the following table and may be played by the actors shown here:

**Table 3.20.2-1 Actor Roles**

|  |  |
| --- | --- |
| **Role:** | *<Role Name:><Only unique within this transaction. Typically one word. The Role Name is analogous to SCU or SCP in DICOM Services.>* |
| **Actor(s):** | The following actors may play the role of *<Role Name>*:         *<Actor Name>: <optionally, the situation where the Actor would play this Role if needed for clarity.>*” |
| **Role:** | *<e.g., Requestor:*  *Submits the relevant details and requests the creation of a new workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Requestor:*  *Workitem Creator: when requesting workitems*  *Workitem Performer: when performing unscheduled workitems>* |
| **Role:** | *<e.g., Manager:*  *Creates and manages a Unified Procedure Step instance for the requested*  *workitem.>* |
| **Actor(s):** | *<e.g., The following actors may play the role of Manager:*  *Workitem Manager: when receiving a new workitem for its worklist.>* |

Transaction text specifies behavior for each Role. The behavior of specific Actors may also be specified when it goes beyond that of the general Role.

**3.20.3 Referenced Standards**

*<e.g., HL7 2.3.1 Chapters 2, 3>*

*<e.g., DICOM 2008 PS 3.3: A.35.8 X-Ray Radiation Dose SR IOD>*

Appendices

<Detailed cross transaction relationships or mapping details are described in an appendix in Volume 2x. Volume 2 appendices may be informational or normative. Immediately after the title of a Volume 2 appendix, provide a very explicit statement defining whether this new appendix is informative or normative.>

Appendix A – <Appendix A Title>

Appendix A text goes here.

* 1. <Add Title>

Appendix A.1 text goes here

Appendix B – <Appendix B Title>

Appendix B text goes here.

* 1. <Add Title>

Appendix B.1 text goes here.

Volume 2 Namespace Additions

Add the following terms to the IHE General Introduction Appendix G:

<Please explicitly identify all new OIDs, UIDs, URNs, etc., defined specifically for this profile. These will be added to the IHE TF General Introduction namespace appendix when it becomes available. These items should be collected from the sections above, and listed here as additions when this document is published for Trial Implementation. This section will be deleted prior to inclusion into the Technical Framework as Final Text, but should be present for publication of Public Comment and Trial Implementation.>