**Integrating the Healthcare Enterprise**



**IHE Devices**

**Technical Framework Supplement**

**Service-oriented Device Point-of-care Interoperability (SDPi)**

**Revision 0.1 – Draft in Preparation for Public Comment (*or* Trial Implementation)**

Date: July 10, 2020

Author: Devices Technical Committee

Email: devices@ihe.net

**Please verify you have the most recent version of this document.** See [here](http://ihe.net/Technical_Frameworks/) for Trial Implementation and Final Text versions and [here](http://ihe.net/Public_Comment/) for Public Comment versions.

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

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

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

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

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

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

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

**Foreword**

This is a supplement to the IHE Devices Technical Framework Revision 10.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

*<For Public Comment:>* This supplement is published on <Month XX, 201x> for Public Comment. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>. In order to be considered in development of the Trial Implementation version of the supplement, comments must be received by <Month XX, 201X>.

*<For Trial Implementation:>* This supplement is published on <Month XX, 201X> for Trial Implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the Devices Technical Framework. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>.

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 W.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 Devices domain can be found at [ihe.net/IHE\_Domains](https://www.ihe.net/ihe_domains/).

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at [http://ihe.net/IHE\_Process](http://ihe.net/IHE_Process/) and [http://ihe.net/Profiles](http://ihe.net/Profiles/).

The current version of the IHE DevicesTechnical Framework can be found at [http://ihe.net/Technical\_Frameworks](http://ihe.net/Technical_Frameworks/).

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

CONTENTS

[Introduction to this Supplement 8](#_Toc45252172)

[Open Issues and Questions 9](#_Toc45252173)

[Closed Issues 9](#_Toc45252174)

[IHE Technical Frameworks General Introduction 10](#_Toc45252175)

[9 Copyright Licenses 10](#_Toc45252176)

[9.1 Copyright of Base Standards 10](#_Toc45252177)

[9.1.1 DICOM (Digital Imaging and Communications in Medicine) 10](#_Toc45252178)

[9.1.2 HL7 (Health Level Seven) 10](#_Toc45252179)

[9.1.3 LOINC (Logical Observation Identifiers Names and Codes) 11](#_Toc45252180)

[9.1.4 SNOMED CT (Systematized Nomenclature of Medicine -- Clinical Terms) 11](#_Toc45252181)

[10 Trademark 11](#_Toc45252182)

[IHE Technical Frameworks General Introduction Appendices 12](#_Toc45252183)

[Appendix A – Actor Summary Definitions 12](#_Toc45252184)

[Appendix B – Transaction Summary Definitions 13](#_Toc45252185)

[Appendix D – Glossary 13](#_Toc45252186)

[Volume 1 – Profiles 15](#_Toc45252187)

[<*Domain-specific additions>* 15](#_Toc45252188)

[W Service-oriented Device Point-of-care Interoperability – Plug-and-trust (SDPi-P) Profile 16](#_Toc45252189)

[W.1 SDPi-P Actors, Transactions, and Content Modules 16](#_Toc45252190)

[W.1.1 Actor Descriptions and Actor Profile Requirements 19](#_Toc45252191)

[W.1.1.1 <Actor A> 20](#_Toc45252192)

[W.1.1.2 <Actor B> 20](#_Toc45252193)

[W.2 SDPi-P Actor Options 20](#_Toc45252194)

[W.2.1 <Option Name> 21](#_Toc45252195)

[W.3 SDPi-P Required Actor Groupings 22](#_Toc45252196)

[W.4 SDPi-P Overview 25](#_Toc45252197)

[W.4.1 Concepts 25](#_Toc45252198)

[W.4.2 Use Cases 25](#_Toc45252199)

[W.4.2.1 Use Case #1: <simple name> 25](#_Toc45252200)

[W.4.2.1.1 <simple name> Use Case Description 26](#_Toc45252201)

[W.4.2.1.2 <simple name> Process Flow 26](#_Toc45252202)

[W.5 SDPi-P Security Considerations 28](#_Toc45252203)

[W.6 SDPi-P Cross Profile Considerations 28](#_Toc45252204)

[X Service-oriented Device Point-of-care Interoperability - Reporting (SDPi-R) Profile 29](#_Toc45252205)

[X.1.1 SDPi-R Actors, Transactions, and Content Modules 29](#_Toc45252206)

[X.1.1.1 Actor Descriptions and Actor Profile Requirements 29](#_Toc45252207)

[X.1.2 SDPi-R Actor Options 29](#_Toc45252208)

[X.1.2.1 <Option Name> 29](#_Toc45252209)

[X.1.3 SDPi-R Required Actor Groupings 29](#_Toc45252210)

[X.1.4 SDPi-R Overview 29](#_Toc45252211)

[X.1.4.1 Concepts 29](#_Toc45252212)

[X.1.4.2 Use Cases 29](#_Toc45252213)

[X.1.4.2.1 Use Case #1: <simple name> 29](#_Toc45252214)

[X.1.4.2.1.1 <simple name> Use Case Description 29](#_Toc45252215)

[X.1.5 SDPi-R Security Considerations 29](#_Toc45252216)

[X.1.6 SDPi-R Cross Profile Considerations 29](#_Toc45252217)

[X.1.7 SDPi-R Safety Considerations 29](#_Toc45252218)

[Y Service-oriented Device Point-of-care Interoperability - Alerting (SDPi-A) Profile 30](#_Toc45252219)

[Y.1.1 SDPi-A Actors, Transactions, and Content Modules 30](#_Toc45252220)

[Y.1.1.1 Actor Descriptions and Actor Profile Requirements 30](#_Toc45252221)

[Y.1.2 SDPi-A Actor Options 30](#_Toc45252222)

[Y.1.2.1 <Option Name> 30](#_Toc45252223)

[Y.1.3 SDPi-A Required Actor Groupings 30](#_Toc45252224)

[Y.1.4 SDPi-A Overview 30](#_Toc45252225)

[Y.1.4.1 Concepts 30](#_Toc45252226)

[Y.1.4.2 Use Cases 30](#_Toc45252227)

[Y.1.4.2.1 Use Case #1: <simple name> 30](#_Toc45252228)

[Y.1.4.2.1.1 <simple name> Use Case Description 30](#_Toc45252229)

[Y.1.5 SDPi-A Security Considerations 30](#_Toc45252230)

[Y.1.6 SDPi-A Cross Profile Considerations 30](#_Toc45252231)

[Y.1.7 SDPi-A Safety Considerations 30](#_Toc45252232)

[Z Service-oriented Device Point-of-care Interoperability – external Control (SDPi-xC) Profile 31](#_Toc45252233)

[Z.1.1 SDPi-xC Actors, Transactions, and Content Modules 31](#_Toc45252234)

[Z.1.1.1 Actor Descriptions and Actor Profile Requirements 31](#_Toc45252235)

[Z.1.2 SDPi-xC Actor Options 31](#_Toc45252236)

[Z.1.2.1 <Option Name> 31](#_Toc45252237)

[Z.1.3 SDPi-xC Required Actor Groupings 31](#_Toc45252238)

[Z.1.4 SDPi-xC Overview 31](#_Toc45252239)

[Z.1.4.1 Concepts 31](#_Toc45252240)

[Z.1.4.2 Use Cases 31](#_Toc45252241)

[Z.1.4.2.1 Use Case #1: <simple name> 31](#_Toc45252242)

[Z.1.4.2.1.1 <simple name> Use Case Description 31](#_Toc45252243)

[Z.1.5 SDPi-xC Security Considerations 31](#_Toc45252244)

[Z.1.6 SDPi-xC Cross Profile Considerations 31](#_Toc45252245)

[Z.1.7 SDPi-xC Safety Considerations 31](#_Toc45252246)

[Appendices to Volume 1 32](#_Toc45252247)

[Appendix A – <Appendix Title> 33](#_Toc45252248)

[A.1 <Title> 33](#_Toc45252249)

[A.1.1 <Title> 33](#_Toc45252250)

[Appendix B – <Appendix Title> 34](#_Toc45252251)

[B.1 <Title> 34](#_Toc45252252)

[B.1.1 <Title> 34](#_Toc45252253)

[Volume 2 – Transactions 35](#_Toc45252254)

[3.21 Discover Network Topology [DEV-21] 35](#_Toc45252255)

[3.21.1 Scope 35](#_Toc45252256)

[3.21.2 Actor Roles 35](#_Toc45252257)

[3.21.3 Referenced Standards 36](#_Toc45252258)

[3.21.4 Messages 36](#_Toc45252259)

[3.21.4.1 <Message 1 Name> 37](#_Toc45252260)

[3.21.4.1.1 Trigger Events 37](#_Toc45252261)

[3.21.4.1.2 Message Semantics 37](#_Toc45252262)

[3.21.4.1.3 Expected Actions 37](#_Toc45252263)

[3.21.4.2 <Message 2 Name> 38](#_Toc45252264)

[3.21.4.2.1 Trigger Events 38](#_Toc45252265)

[3.21.4.2.2 Message Semantics 38](#_Toc45252266)

[3.21.4.2.3 Expected Actions 38](#_Toc45252267)

[3.21.5 Protocol Requirements 39](#_Toc45252268)

[3.21.6 Security Considerations 39](#_Toc45252269)

[3.21.6.1 Security Audit Considerations 39](#_Toc45252270)

[3.21.6.(z) <Actor> Specific Security Considerations 39](#_Toc45252271)

[Appendices to Volume 2 40](#_Toc45252272)

[Appendix A – <Appendix Title> 41](#_Toc45252273)

[A.1 <Title> 41](#_Toc45252274)

[A.1.1 <Title> 41](#_Toc45252275)

[Appendix B – <Appendix Title> 42](#_Toc45252276)

[B.1 <Title> 42](#_Toc45252277)

[B.1.1 <Title> 42](#_Toc45252278)

[Namespace Additions for Volume 2 43](#_Toc45252279)

[Volume 3 – Content Modules 44](#_Toc45252280)

[5 IHE Namespaces, Concept Domains and Vocabularies 45](#_Toc45252281)

[5.1 IHE Devices Namespaces 45](#_Toc45252282)

[5.2 IHE Devices Concept Domains 45](#_Toc45252283)

[5.3 IHE Devices Format Codes and Vocabularies 46](#_Toc45252284)

[5.3.1 IHE Format Codes 46](#_Toc45252285)

[5.3.2 IHEActCode Vocabulary 46](#_Toc45252286)

[5.3.3 IHERoleCode Vocabulary 47](#_Toc45252287)

[6 DEV HL7 V3 CDA Content Modules 48](#_Toc45252288)

[7 DEV DICOM Content Definitions 49](#_Toc45252289)

[8 DEV Semantic Content Modules 50](#_Toc45252290)

[8.1 Overview of device semantic content 50](#_Toc45252291)

[8.2 General device content considerations 50](#_Toc45252292)

[8.2.1 Overview of SDC/BICEPS semantic content 50](#_Toc45252293)

[8.3 Device specialization content modules 50](#_Toc45252294)

[8.3.1 Device: Infusion Pump 50](#_Toc45252295)

[SDC/BICEPS content module 50](#_Toc45252296)

[8.3.2 Device: Ventilator 50](#_Toc45252297)

[SDC/BICEPS content module 50](#_Toc45252298)

[8.3.3 Device: Physiologic monitor 50](#_Toc45252299)

[SDC/BICEPS content module 50](#_Toc45252300)

[Appendices to Volume 3 51](#_Toc45252301)

[Appendix A – <Appendix Title> 52](#_Toc45252302)

[A.1 <Title> 52](#_Toc45252303)

[A.1.1 <Title> 52](#_Toc45252304)

[Appendix B – <Appendix Title> 53](#_Toc45252305)

[B.1 <Title> 53](#_Toc45252306)

[B.1.1 <Title> 53](#_Toc45252307)

[Volume 4 – National Extensions 54](#_Toc45252308)

[3 National Extensions for <Country Name or IHE Organization> 55](#_Toc45252309)

[3.1 Comments 55](#_Toc45252310)

[3.2 IHE <Country Name> Scope of Changes 55](#_Toc45252311)

[3.3 <Profile Name> <(Profile Acronym)> 56](#_Toc45252312)

[3.3.1 <Profile Acronym> Value Set Binding for <Country Name or IHE Organization> Realm Concept Domains 56](#_Toc45252313)

[3.3.2 <Profile Acronym> <Type of Change> 56](#_Toc45252314)

[4 National Extensions for <Country Name or IHE Organization> 57](#_Toc45252315)

[Appendices to Volume 4 58](#_Toc45252316)

[Appendix A – <Appendix Title> 59](#_Toc45252317)

[A.1 <Title> 59](#_Toc45252318)

[A.1.1 <Title> 59](#_Toc45252319)

[Appendix B – <Appendix Title> 60](#_Toc45252320)

[B.1 <Title> 60](#_Toc45252321)

[B.1.1 <Title> 60](#_Toc45252322)

# Introduction to this Supplement

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

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

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

This <profile acronym> Profile (or This Technical Framework Supplement) is based on Release 4 of the emerging HL7®[[1]](#footnote-2) FHIR®[[2]](#footnote-3) specification. HL7 describes FHIR Change Management and Versioning at <https://www.hl7.org/fhir/versions.html>.

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

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

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

This IHE Devices Technical Framework supplement introduces a new *family of interoperability profiles*, Service-oriented Device Point-of-care Interoperability (SDPi), that comprise (4) separate profiles:

* SDPi-Plug-and-trust (**SDPi-P**) Profile
* SDPi-Reporting (**SDPi-R**) Profile
* SDPi-Alerting (**SDPi-A**) Profile
* SDPi-external Control (**SDPi-xC**) Profile

To that end, the supplement includes updates to all (3) IHE DEV TF volumes, including:

**TF-1 Integration Profiles**

* General overview of the SDPi architectural approach & integrated set of profiles
* Profile specific sections
* Related appendices, for example the integration of this family of SDPi profiles with other sources of requirements, or the application of Service Oriented Architecture (SOA) to these profiles

**TF-2 Transactions**

* Extensive new set of transactions based on ISO/IEEE 11073 Service-oriented Device Connectivity (SDC) medical device interoperability standards.
* Related appendices, for example the specialized use of

**TF-3 Content Modules**

* New content covering the application of ISO/IEEE 11073 SDC semantic standards to device content modules, with a primary focus on specifications related to the ISO/IEEE 11073-10207 BICEPS standard.

## 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.>

## 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.>

# IHE Technical Frameworks General Introduction

The [IHE Technical Framework General Introduction](http://ihe.net/Technical_Frameworks/#GenIntro) is shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to this document where appropriate.

# 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.

# IHE Technical Frameworks General Introduction Appendices

The [IHE Technical Framework General Introduction Appendices](http://ihe.net/Technical_Frameworks/#GenIntro) are components shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to these documents where appropriate.

Update the following appendices to the General Introduction as indicated below. Note that these are **not** appendices to this domain’s Technical Framework (TF-1, TF-2, TF-3 or TF-4) but rather, they are appendices the IHE Technical Frameworks General Introduction located [here](https://www.ihe.net/resources/technical_frameworks/#GenIntro).

**NEW: REQUIRED APPROVAL OF ACTORS, TRANSACTIONS and TERMS -** To avoid duplication and insure consistency across domains, all **new or modified** actors, transactions and glossary terms need approval by IHE’s Domain Coordination Committee (DCC) before they are published in a trial implementation supplement. Please see [this Wiki page](https://wiki.ihe.net/index.php/Approval_Process_for_IHE_Actors,_Transactions_and_Glossary_Terms) for additional guidance and links to the forms for approval submission.

# Appendix A – Actor Summary Definitions

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

<Add any actor definitions for **new or modified actors** defined specifically for this profile in the table below. These will be added to the IHE TF General Introduction Appendix A after publication for trial implementation. Verify that any actors added here are not already contained in the [IHE General Introduction Appendix A](http://ihe.net/Technical_Frameworks/#GenIntro).>

| New (or modified) Actor Name | Definition |
| --- | --- |
| *<Verb-Noun format (e.g., Store Image, Register Document Set)>* | *If this is a modified actor description, add the original description and use* ***bold underline*** *to indicate where the amendment adds text and bold strikethrough. where the amendment removes text* |
|  |  |
|  |  |

*<For the benefit of the reader, you may decide to list all actors associated with this profile. If so, add them in the table below. If you choose not to add them here, the text and table below should be deleted.>*

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

Complete List of Existing Actors Utilized in this Profile

| Existing Actor Name | Definition |
| --- | --- |
|  |  |
|  |  |
|  |  |

# Appendix B – Transaction Summary Definitions

Add the following **new or modified** transactions to the IHE Technical Frameworks General Introduction Appendix B:

<Add any transaction definitions for **new (or modified) transactions** defined specifically for this profile. These will be added to the IHE TF General Introduction Appendix B after publication for trial implementation. Verify that any transactions added here are not already contained in the [IHE General Introduction Appendix B](http://ihe.net/Technical_Frameworks/#GenIntro).>

<After determining that a suitable transaction does not already exist, please note that the “verb-noun” construction for transaction names is preferred where possible. For additional guidance, see the IHE wiki at [http://wiki.ihe.net/indeW.php/IHE\_Profile\_Design\_Principles\_and\_Conventions#Transactions](http://wiki.ihe.net/index.php/IHE_Profile_Design_Principles_and_Conventions#Transactions).

| New (or modified) Transaction Name and Number | Definition |
| --- | --- |
| *<Verb-Noun formation (e.g., Send Data [DOM-xx]}>* | *If this is a modified transaction description, add the original description and use* ***bold underline*** *to indicate where the amendment adds text and* ***~~bold strikethrough~~****. where the amendment removes text* |
|  |  |

# Appendix D – Glossary

Add the following **new or updated glossary** terms to the IHE Technical Frameworks General Introduction Appendix D.

<Add any **new or updated glossary terms** associated with the profile here. Verify that any new glossary terms added here are not already contained in the [IHE Glossary](http://ihe.net/Technical_Frameworks/#GenIntro). Also, please review the [Glossary Rules](http://wiki.ihe.net/index.php/Official_Templates#Glossary_Rules) for terms that should/should not be added to the IHE Glossary. Please list terms in alphabetical order.>

| New (or modified) Glossary Term | Definition |
| --- | --- |
| *New or modified glossary term (in alphabetical order)* | *If this is a modified glossary term definition, add the original definition and use* ***bold underline*** *to indicate where the amendment adds text and* ***~~bold strikethrough~~****. where the amendment removes text* |
|  |  |
|  |  |

<Note: The sections following this Introduction will eventually be added as Final Text to Volumes 1 – 4 of the Technical Framework. The material above this note (the Introduction to this Supplement, Open and Closed Issues and General Introduction and Shared Appendices sections) will not be moved when this supplement is moved to Final Text.>

Volume 1 – Profiles

## <*Domain-specific additions>*

<Some domains have specific sections, added as subsections to Sections 1 or 2, in their Technical Frameworks. These types of additions are allowed as long as they do not adjust the overall numbering scheme which needs to remain consistent across domains. If there are such additions, they should be included here. If none, enter NA.>

*[Editors Note: Consider adding here:*

1. *General IHE Devices Architecture / Use Context section*
2. *General SDPi Family of Profiles Overview section.*

*]*

Add new 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.>*

# W Service-oriented Device Point-of-care Interoperability – Plug-and-trust (SDPi-P) 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 W.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://ihe.net/Technical\_Frameworks](http://ihe.net/Technical_Frameworks/).

## W.1 SDPi-P 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. IHE Transactions can be found in the Technical Frameworks General Introduction Appendix B. Both appendices are located at <http://ihe.net/Technical_Frameworks/#GenIntro>

*<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 W.1-1 shows the actors directly involved in the SDPi-P 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 required grouping are shown in conjoined boxes (see Section W.3).

↑ Transaction Name 3 [DOM-Y3]

↑ Transaction Name 4 [DOM-Y4]

Profile Acronym: Actor C

Transaction Name 1 [DOM-Y1] ↓

↓ Transaction Name 2 [DOM-Y2]

Actor A

Actor F

Actor D

Actor E

Actor B

Transaction Name 1 [DOM-Y1] ↑

↑ Transaction Name 2 [DOM-Y2]

Figure W.1-1: SDPi-P Actor Diagram

Table W.1-1 lists the transactions for each actor directly involved in the SDPi-P 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 W.1-1. They are documented in Section W.3.>

Table W.1-1: SDPi-P Profile - Actors and Transactions

| Actors | Transactions | Initiator or Responder | 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 | Transaction 1 |  | R | <Domain Acronym> TF-2: 3.Y1 |
| Actor E | Transaction 2 |  | R | <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 |  | O ( See Note 2) | <Domain Acronym> TF-2: 3.Y4 |

Note 1: *<For example, a note could specify that at least one of the transactions shall be supported by an actor or other variations. For example: Note: Either Transaction Y3 or Transaction Y4 shall be implemented for Actor E. >*

Note 2: *<For example, could specify that Transaction Y4 is required if Actor B supports XYZ Option, see Section W.3.W.>*

<Content Module Instructions:>

<If this profile does not define Content Modules, delete the following diagram, text, and table. <Note that this figure number has to change if this profile describes both transactions and content modules (or there will be two figures entitled W.1-1).>

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 W.1-1 shows the actors directly involved in the SDPi-P Profile and the direction that the content is exchanged.

A product implementation using this profile may 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 Required Actor Groupings <DOM> TF-1: W.6 or in Cross Profile Considerations <DOM> TF-1: W.6.

Share Content

Content

Creator

Content

Consumer

Figure W.1-1: SDPi-P Actor Diagram

Table W.1-1 lists the content module(s) defined in the SDPi-P 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 W.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 W.1-1 SDPi-P – Actors and Content Modules

| Actors | Content Modules | Optionality | Reference |
| --- | --- | --- | --- |
| 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 1: Either Content Module 2 or Content Module 3 shall be implemented for the Content Creator or Content Consumer.*

*For example- Note 1: At least one of Content Module 2, Content Module 3, or Content Module 4 shall be implemented for Content Consumer.>*

### W.1.1 Actor Descriptions and Actor Profile Requirements

*<For Workflow Profile:>*

Most requirements are documented in <DOM> TF-2 Transactions. This section documents any additional requirements on profile’s actors.

<Enter here “No additional requirements needed.”, if none.>

*<For Content Module Profile:>*

Most requirements are documented in <DOM> TF-3 T Content Modules. This section documents any additional requirements on profile’s actors.

<Enter here “No additional requirements needed.”, if none.>

<**Do not repeat** the definitions of the actors that are maintained in the [Technical Frameworks General Introduction Appendix A](http://ihe.net/Technical_Frameworks/#GenIntro) (Actors). 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 actors in, bindings to other transport or workflow modules are referenced in the Required Actor Groupings section below. >

#### W.1.1.1 <Actor A>

<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 W.1-1 and the content modules identified in Table Z. Requirements that do not fit in those locations may be placed here.>

#### W.1.1.2 <Actor B>

## W.2 SDPi-P Actor Options

<Modify the following table, listing all 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 column 2.>

<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, so try to **minimize** options for actors and only use if necessary.>

<Several options for Content Consumers are defined in PCC TF-2: 3.1.1-3.1.4. It is recommended that these options are reused, if applicable, but read the option definitions thoroughly to be certain that they apply. If they do not 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 - SDPi-P, etc., “View Option – CIRC”.>

**Options tha**t may be selected for each actor in this profile, if any, are listed in the Table W.2-1. Dependencies between options, when applicable, are specified in notes.

Table W.2-1: <Profile Name> – Actors and Options

| Actor | Option Name | Reference |
| --- | --- | --- |
| Actor A | *<Option 1 name>* Option | *<reference to applicable W.2.x sub-section below table>* |
| Actor B | No options defined | -- |
| Actor C | *<Option 2 name>* Option | *<reference to applicable W.2.x sub-section below table>* |
| Actor D | *<Option 1 name>* Option  *<Note that it is OK to have the same option apply to more than one actor. The option adds specific functionality in a profile. The actors will have different requirements identified in Section W.2.X to enable that functionality.>* | *<reference to applicable sub-section below table,*  *e.g., Section W.2.1>* |
| Actor E, *<e.g., Content Consume>* (See Note) | View Option | 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 W.2.1.>*

*<Add a sub-section below for every new option defined in Table W.2-1.>*

### W.2.1 <Option Name>

<First, include a sentence with a high-level description of the option. What capability does this option enable in the profile? Then, enumerate the specific requirements for the actor(s) that support this option.>

An <actor name> that supports this option shall <Describe the requirements associated with this option.>

<Sometimes an option requires that an optional transaction becomes mandatory. In that case, list the transaction as Optional in Table W.1-1, but indicate in this section that it is required, e.g., Transaction [DOM-Y4 is required for Actor-B that supports this option.”>

<Sometimes an option requires that the actor be grouped with an actor in another profile. In that case, describe that here and also refer to the Required Grouping table in the next section. E.g., “An Actor-A that supports the Really Secure Option shall be grouped with an Secure Node or Secure Application in the ATNA Profile. See Table W.3-1.”>

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

## W.3 SDPi-P Required Actor Groupings

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

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

*<This section specifies all 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 W.6 Cross Profile Considerations. Use Section W.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 requirements for the grouped actor (Column 2) (Column 3 in alternative 2).

If this is a content profile, and actors from this profile are grouped with actors from a workflow or transport profile, the 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 W.5 describes some optional groupings that may be of interest for security considerations and Section W.6 describes some optional groupings in other related profiles.

<Two alternatives for Table W.3-1 are presented below.

* If there are no required groupings for any actor in this profile, use alternative 1 as a template.
* If an actor in this profile (with no option), has a required grouping, use alternative 1.
* If any required grouping is associated with an actor/option combination in this profile, use alternative 2.>

<alternative 1> Table W.3-1: <Profile Name> - Required Actor Groupings

<All actors from this profile should be listed in Column 1, even if none of the actors has a required groupings. If no required grouping exists, “None” should be indicated in Column 2. If an actor in a content profile is required to be grouped with an actor in a transport or workflow profile, it will be listed **with at least one** required grouping. 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 security profiles in this grouping section. Consideration should be given to Consistent Time (CT) Client, ATNA Secure Node or Secure Application, 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 security. Also see the ITI document titled ‘Cookbook: Preparing the IHE Profile Security Section’ at <http://ihe.net/Technical_Frameworks/#IT> for a list of suggested IT and security groupings.>

| <this Profile Acronym> Actor | Actor(s) to be grouped with | Reference | Content Bindings Reference |
| --- | --- | --- | --- |
| Actor A | *<external Domain Acronym or blank>*  *SDPi-P/<Actor>*  *<e.g., ITI CT / Time Client>* | *<TF Reference; typically from Vol 1>*  *<e.g., ITI-TF-1: 7.1>* | -- |
| Actor B | None | -- | -- |
| Actor C  *<In this example, Actor C shall be grouped with all three actors listed in column 2>* | *<external Domain Acronym or blank>*  *SDPi-P/<Actor>* | -- | See Note 1 |
|  | *<external Domain Acronym or blank> SDPi-P/<Actor>* | -- | See Note 1 |
|  | *<external Domain Acronym or blank>*  *SDPi-P/<Actor>* | -- | See Note 1 |
| Actor D *(See note 1)*  *<In this example, the note is used to indicate that the Actor D shall be grouped with one or more of the two actors of the two actors in column 2.>* | *<external Domain Acronym or blank>*  *SDPi-P/<Actor>* | -- | See Note 1 |
|  | *<external Domain Acronym or blank>*  *SDPi-P/<Actor>* | -- | See Note 1 |
| Actor E  *<In rare cases, the actor to be grouped with must implement an option. An example is in column 2.)* | *<external Domain Acronym or blank>*  *SDPi-P <Actor>*  *<e.g., ITI RFD Form Filler with the Archive Form Option>* | *<TF Reference to the Option definition; typically from Vol 1>*  *<(e.g., ITI TF-1: 17.3.11)>* |  |
| *<e.g., Content Consumer (See Note 1)* | *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 CT / 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.*

Note 2: *<A note could also be used to explain why the grouping is required, if that is still not clear from the text above.>*

<alternative 2> Table W.3-1: <this Profile Acronym> Profile - Required Actor Groupings

<All actors from this profile should be listed in Column 1. If no required grouping exists, “None” should be indicated in Column 3. >

<Guidance on using the “Grouping Condition” column:

* If an actor has no required grouping, Column 2 should contain “--“. See Actor A below.
* If an actor has a required grouping that is not associated with a profile option (i.e., it has no condition), column 2 should contain “Required”. See Actor B below.
* Sometimes an option requires that an actor in this profile be grouped with an actor in another profile. That condition is specified in Column 2. See Actor C below.>

| <this Profile Acronym> Actor | Grouping Condition | Actor(s) to be grouped with | Reference |
| --- | --- | --- | --- |
| Actor A | -- | None | -- |
| Actor B | Required | *<external Domain Acronym or blank> SDPi-P/<Actor>*  *<e.g., ITI CT / Time Client>* | *<TF Reference; typically from Vol 1>*  *<(e.g., ITI TF-1: 7.1)>* |
| Actor C | With the *<Option name in this profile>* Option | *<external Domain Acronym or blank> SDPi-P/<Actor>* | *Where the Option is defined in this profile <Section W.3 z>* |
| Actor D  *<if an actor has both required and conditional groupings, list the Required grouping first>* | Required | *<external Domain Acronym or blank> SDPi-P/<Actor>* | *<TF Reference; typically from Vol 1>* |
| If the *<Option name in this profile>* Option is supported. | *<external Domain Acronym or blank> SDPi-P/<Actor>* | *<TF Reference; typically from Vol 1>* |
| If the *<other Option name in this profile>* Option is supported. | *<external Domain Acronym or blank> SDPi-P/<Actor>* | *<TF Reference; typically from Vol 1>* |
| Actor E  *(In rare cases, the actor to be grouped with must implement an option, an example is in column 3)* | Required | *<external Domain Acronym or blank> SDPi-P/<Actor>* with the *<option name>*  *<e.g., ITI RFD Form Filler with the Archive Form Option>* | *<TF Reference to the Option definition; typically from Vol 1>*  *<(e.g., ITI TF-1:17.3.11)>* |

## W.4 SDPi-P 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.>*

### W.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.>

### W.4.2 Use Cases

#### W.4.2.1 Use Case #1: <simple name>

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

<Note that Section W.4.2.1 repeats in its entirety for additional use cases (replicate as Section W.4.2.2, W.4.2.3, etc.).>

##### W.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 appendiW.>

##### W.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-A [A]

Actor D/Actor E

Actor A/Actor B

Actor B/Actor C

Internal action 1

Internal action 2

Transaction-B [B]

Transaction-C [C]

Transaction\_2 [2]

Transaction\_3 [3]

Transaction-1 [1]

Transaction-D [D]

Transaction-2 [2]

Figure W.4.2.2-1: Basic Process Flow in SDPi-P 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.>

## W.5 SDPi-P 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://ihe.net/Technical_Frameworks/#IT> 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).

## W.6 SDPi-P 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 appendiW. 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/indeW.php/Scheduled\_Workflow#See\_Also](http://wiki.ihe.net/index.php/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>.

# X Service-oriented Device Point-of-care Interoperability - Reporting (SDPi-R) Profile

## X.1.1 SDPi-R Actors, Transactions, and Content Modules

### X.1.1.1 Actor Descriptions and Actor Profile Requirements

## X.1.2 SDPi-R Actor Options

### X.1.2.1 <Option Name>

## X.1.3 SDPi-R Required Actor Groupings

## X.1.4 SDPi-R Overview

### X.1.4.1 Concepts

### X.1.4.2 Use Cases

#### X.1.4.2.1 Use Case #1: <simple name>

##### X.1.4.2.1.1 <simple name> Use Case Description

## X.1.5 SDPi-R Security Considerations

## X.1.6 SDPi-R Cross Profile Considerations

## X.1.7 SDPi-R Safety Considerations

# Y Service-oriented Device Point-of-care Interoperability - Alerting (SDPi-A) Profile

## Y.1.1 SDPi-A Actors, Transactions, and Content Modules

### Y.1.1.1 Actor Descriptions and Actor Profile Requirements

## Y.1.2 SDPi-A Actor Options

### Y.1.2.1 <Option Name>

## Y.1.3 SDPi-A Required Actor Groupings

## Y.1.4 SDPi-A Overview

### Y.1.4.1 Concepts

### Y.1.4.2 Use Cases

#### Y.1.4.2.1 Use Case #1: <simple name>

##### Y.1.4.2.1.1 <simple name> Use Case Description

## Y.1.5 SDPi-A Security Considerations

## Y.1.6 SDPi-A Cross Profile Considerations

## Y.1.7 SDPi-A Safety Considerations

# Z Service-oriented Device Point-of-care Interoperability – external Control (SDPi-xC) Profile

## Z.1.1 SDPi-xC Actors, Transactions, and Content Modules

### Z.1.1.1 Actor Descriptions and Actor Profile Requirements

## Z.1.2 SDPi-xC Actor Options

### Z.1.2.1 <Option Name>

## Z.1.3 SDPi-xC Required Actor Groupings

## Z.1.4 SDPi-xC Overview

### Z.1.4.1 Concepts

### Z.1.4.2 Use Cases

#### Z.1.4.2.1 Use Case #1: <simple name>

##### Z.1.4.2.1.1 <simple name> Use Case Description

## Z.1.5 SDPi-xC Security Considerations

## Z.1.6 SDPi-xC Cross Profile Considerations

## Z.1.7 SDPi-xC Safety Considerations

Appendices to Volume 1

<Add appendices to Volume 1 for this profile here. Examples of an appendix include HITSP mapping to IHE Use Cases or long use case definitions.>

<If there are no Volume 1 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>

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

# 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.

Volume 2 – Transactions

Add Section 3.21

## 3.21 Discover Network Topology [DEV-21]

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

### 3.21.1 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>*

### 3.21.2 Actor Roles

<*Alternative 1*> Table 3.21.2-1: 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 whichever 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:

<*Alternative 2*>Table 3.21.2-1 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.

### 3.21.3 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>*
* *<e.g., applicable sub-sections in ITI TF-2x: Appendix Z on HL7 FHIR>*

### 3.21.4 Messages

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

Actor A

Message 1

Actor D

Message 2

Figure 3.21.4-1: Interaction Diagram

#### 3.21.4.1 <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.>

##### 3.21.4.1.1 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).>

##### 3.21.4.1.2 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.>

##### 3.21.4.1.3 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.>

#### 3.21.4.2 <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.>

##### 3.21.4.2.1 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).>

##### 3.21.4.2.2 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.>

##### 3.21.4.2.3 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.>

### 3.21.5 Protocol Requirements

<In this section, the selected protocol bindings of the transactions are explained in detail (like SOAP or HTTP bindings).For an example, see the QRPH DEX Profile or ITI TF-2b:3.34.5, 3.35.5. Indicate NA if not used.>

### 3.21.6 Security Considerations

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

#### 3.21.6.1 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. >

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

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

Appendices to Volume 2

<Detailed cross transaction relationships or mapping details are described in an appendix in Volume 2W. 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.

If there are no Volume 2 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>

# 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.

# Namespace Additions for Volume 2

<For Public Comment, please explicitly identify all new OIDs, UIDs, URNs, etc., defined specifically for this profile. These items should be collected from the sections above, and listed here as additions to the applicable domain OID Registry. 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.>

At Trial Implementation publication, the domain technical committee **must** ensure that all new OIDs, UIDs, URNs, etc., defined specifically for this profile have been recorded in their OID Registry. This section will be deleted prior to inclusion into the Technical Framework Volumes as Final Text but should be present for publication of Public Comment and Trial Implementation.>

The Devices registry of OIDs is located at <link to your OID registry(ies)

Volume 2 additions to the Devices OID Registry are:

Volume 3 – Content Modules

<The current version of the supplement template only addresses HL7 v3 CDA Content Modules and DICOM Content. All CDA Content Modules (Document, Header, Section and Entry) will go in Section 6 of Volume 3 of each domain’s Technical Framework document and DICOM Content Definitions will go in Section 7. In the future, this supplement template may have additional sections for other types of Content Modules (Section 8, etc., of Volume 3).

<Please note that prior to the release of the new template set, some domains may have defined CDA Content Modules in Volume 2 (e.g., PCC); however, going forward, CDA Content Modules will be defined in Volume 3.>

# 5 IHE Namespaces, Concept Domains and Vocabularies

Add to Section 5 IHE Namespaces, Concept Domains and Vocabularies

[Editor: Sync this section with the content in IHE DEV TF-3 Rev. 10.0, recognizing that SDC may bring in some additional semantics over those generally “not applicable” in Rev. 10]

## 5.1 IHE Devices Namespaces

<**For Public Comment publication**, please explicitly identify all **new** OIDs, UIDs, URNs, etc., defined specifically for this profile. These items should be collected from the sections within this supplement and listed here as additions to the applicable domain OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework as Final Text, but should be present for publication for Public Comment.>

<**For Trial Implementation publication**, the domain technical committee **must** ensure that all new OIDs, UIDs, URNs, etc., defined specifically for this profile (and listed here for public comment publication have now been recorded in their OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework Volumes as Final Text but should be present for publication for Trial Implementation.>

<Ensure the domain’s registry of OIDs is linked to from the following wiki page. It may be another wiki page, a document on the ftp site, etc.>

The Devices registry of OIDs is located at [http://wiki.ihe.net/indeW.php/OID\_Registration#IHE\_Domain\_Namespaces](http://wiki.ihe.net/index.php/OID_Registration#IHE_Domain_Namespaces)

Additions to the Devices OID Registry are:

| codeSystem | codeSystemName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.2 IHE Devices Concept Domains

<Concept Domains are named categories of things that are used when it isn’t possible to bind to a specific set of codes. There are a number of reasons you might not be able to define and bind to a specific set of codes, one of the most common being that the codes set needs to vary depending on locale or context.>

For a listing of the <Domain Acronym> Concept Domains see <enter location of the domains Concept Domains or NA if none>

| conceptDomain | conceptDomainName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.3 IHE Devices Format Codes and Vocabularies

### 5.3.1 IHE Format Codes

List in the table below any **new** format codes to be added to the IHE Format Codes wiki page at [http://wiki.ihe.net/indeW.php/IHE\_Format\_Codes](http://wiki.ihe.net/index.php/IHE_Format_Codes). For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

| Profile | Format Code | Media Type | Template ID |
| --- | --- | --- | --- |
| <Profile name (profile acronym)> | <urn:ihe: > |  | <oids> |
|  |  |  |  |
|  |  |  |  |

### 5.3.2 IHEActCode Vocabulary

List in the table below, any **new** additions to the IHEActCode Vocabulary wiki page at [http://wiki.ihe.net/indeW.php/IHEActCode\_Vocabulary](http://wiki.ihe.net/index.php/IHEActCode_Vocabulary). For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

|  |  |
| --- | --- |
| Code | Description |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |
| <Code name> | <short one sentence description or reference to longer description (not preferred)> |

### 5.3.3 IHERoleCode Vocabulary

List in the table below any **new** additions to the IHERoleCode Vocabulary wiki page at [http://wiki.ihe.net/indeW.php/IHERoleCode\_Vocabulary](http://wiki.ihe.net/index.php/IHERoleCode_Vocabulary). For public comment, the additions must be listed in the table below. The domain technical committee must ensure any new codes are also added to the wiki page prior to publication for trial implementation.

| Code | Description |
| --- | --- |
| <name of role> | <Short, one sentence description of role or reference to more info.> |
| <name of role> | <Short, one sentence description of role or reference to more info.> |
| <name of role> | <Short, one sentence description of role or reference to more info.> |

# 6 DEV HL7 V3 CDA Content Modules

[Editor: This section left blank in IHE DEV TF-3 Rev. 10.0]

# 7 DEV DICOM Content Definitions

[Editor: This section left blank in IHE DEV TF-3 Rev. 10.0]

# DEV Semantic Content Modules

[Editor: Why is this section #11 vs. #8]

## Overview of device semantic content

## General device content considerations

### Overview of SDC/BICEPS semantic content

[Editor: This will be 8.2.8 … when we figure out the outline #’ing]

## Device specialization content modules

### Device: Infusion Pump

#### SDC/BICEPS content module

### Device: Ventilator

#### SDC/BICEPS content module

### Device: Physiologic monitor

#### SDC/BICEPS content module

Appendices to Volume 3

*<Add any applicable Volume 3 appendices below.*

*<If there are no Volume 3 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>*

# 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.

Volume 4 – National Extensions

Add appropriate Country section

# National Extensions for <Country Name or IHE Organization>

<A template for Volume 4 is included in this document for completeness; however, National Extensions are typically developed after a profile has been published for Trial Implementation. If you are developing a new profile for Public Comment, it is recommended that this section be marked “Not Applicable”.>

<Avoid using this section if you can, this is “only if absolutely necessary”. Differences add cost to implementation and testing and can reduce interoperability. Review carefully to determine if the national use case truly requires a difference in the profile mechanisms rather than just differences in system configuration.>

<National Extensions can add requirements above and beyond IHE, but **not** relax requirements. This would prevent Connectathon results based on national testing being recognized elsewhere. For more information, see [http://wiki.ihe.net/indeW.php?title=National\_Extensions\_Process](http://wiki.ihe.net/index.php?title=National_Extensions_Process).>

The format of this section is not strongly specified due to the varying nature of national extensions. For an example of National Extensions, see the RAD TF 4 or ITI TF-4 documents.>

<**This section should be repeated for each set of additional extensions. Instructions may be given in both English and the native language**.>

The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1 through 3 of the IHE <Domain Acronym> Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in <Country Name>. It also translates a number of English terms to ensure correct interpretation of requirements of the <Domain Acronym> Technical Framework.

## Comments

This <Domain Acronym> national extension document was authored under the sponsorship and supervision of <sponsor name> who welcomes comments on this document and the IHE <country> initiative. Comments should be directed to:

Name:

Organization/Title:

Email:

## IHE <Country Name> Scope of Changes

The extensions, restrictions and translations specified apply to the following IHE <Domain Acronym> Integration profiles:

* <Domain Acronym>:Profile Name
* <Domain Acronym>:Profile Name
* Etc.

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

<Add info or tables>

### <Profile Acronym> Value Set Binding for <Country Name or IHE Organization> Realm Concept Domains

*<This section defines the actual value sets and code systems for any coded concepts that were described by concept domains in the main profile and binds the value set to the coded concepts.>*

*<Add info or tables>*

*<Delete the example below prior to publication for Public Comment.>*

*<Beginning of example*

**e.g., 3.3.1CARD Value Set Binding for US Realm Concept Domains**

| UV Concept Domain | US Realm Vocabulary Binding or Single Code Binding | Value Set OID |
| --- | --- | --- |
| UV\_CardiacProcedureDrugClasses | US\_CardiacProcedureDrugClasses | 1.3.6.1.4.1.19376.1.4.1.5.15 |

**e.g., 3.3.2.1 US\_CardiacProcedureDrugClasses (1.3.6.1.4.1.19376.1.4.1.5.15)**

|  |  |  |
| --- | --- | --- |
| Coding Scheme  Concept | SNOMED CT | NDF-RT |
| Calcium channel blockers | 48698004 | N0000029119 |
| Beta-blockers | 33252009 | N0000029118 |
| Nitrates | 31970009 | N0000007647 |
| Aminophylline | 55867006 | N0000146397 |

end of example>

### <Profile Acronym> <Type of Change>

<Add info or tables>

# National Extensions for <Country Name or IHE Organization>

<Repeat (and increment) the sections above as needed for additional National Extensions>

Appendices to Volume 4

*<Add any applicable Volume 4 appendices below>*

*<If there are no Volume 4 appendices, enter “Not applicable”* *and delete the Appendix A and Appendix B placeholder sections.>*

# 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.

1. HL7 is the registered trademark of Health Level Seven International. [↑](#footnote-ref-2)
2. FHIR is the registered trademark of Health Level Seven International. [↑](#footnote-ref-3)