nehta

Logical Service Specification

Template Service Interface

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Final

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Document Information

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Version History

Date	Version	Name	Comments
6 December 2011	1.0	PCEHR Design Authority	Approved for release
6 September 2012	1.1	PCEHR Design Authority	Updates for changes to HPI-O relaxation. Conformant repositories that are not directly used by healthcare providers are not able to have an HPI-O. For example DHS (Medicare) is issued with an alternative identification by the PCEHR System Operator to interact with the PCEHR system.

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Preface

Purpose

The purpose of this document is to define the collaborations, logical Service Interfaces, Service Operations and associated logical conformance points for the *Template Service Interface*.

This specification develops Enterprise, Computational and Information views for the *Template Service Interface* at the conceptual and logical levels in accordance with the architectural framework set out in the eHealth Interoperability Framework [EIF]

This logical service interoperability is intended to be independent of implementation of the required functionality on any particular technology platform. Such implementation detail is in the Technical Service Specification [TSS].

This document defines the set of system roles required for interoperation with the *Template Service Interface* and the responsibilities associated with these roles, and provides sufficient elaboration of the service, computational and information views to allow [TSS] documentation to specify interoperability using particular technology platforms.

The Template Service enables implementers and systems to obtain standardised specifications for clinical documents to be exchanged within the Australian healthcare community. The Template Service is responsible for managing and storing the data representations associated with all of the data formats stored within a personally controlled electronic health record (PCEHR), but can also store specifications for clinical documents not associated with a PCEHR. The Template Service does not handle clinical information, and does not provide services to validate instances of documents created using templates obtained from the Template Service.

Intended Audience

This NEHTA-managed specification is intended for:

- Developers and implementers of PCEHR Conformant Repositories and other shared electronic health record (SEHR) systems (normative).
- Jurisdictional eHealth programs (informative).
- The Australian Health Informatics Standards development community (informative).
- Developers and implementers of software products which seek to interact with the PCEHR System or other SEHR systems (normative).
- Developers and implementers of software products that exchange clinical documents in with other systems utilising inter-operable formats (normative).

This is a technical document which makes use of the UML2.3 standard [UML2010].

This document assumes that the reader is familiar with:

- UML and service-oriented architecture concepts and patterns
- the PCEHR Concept of Operations [PCEHR_CON_OPS], September 2011 release.
- RM-ODP (Reference Model of Open Distributed Processing) reference model [RM-ODP]

Document Map

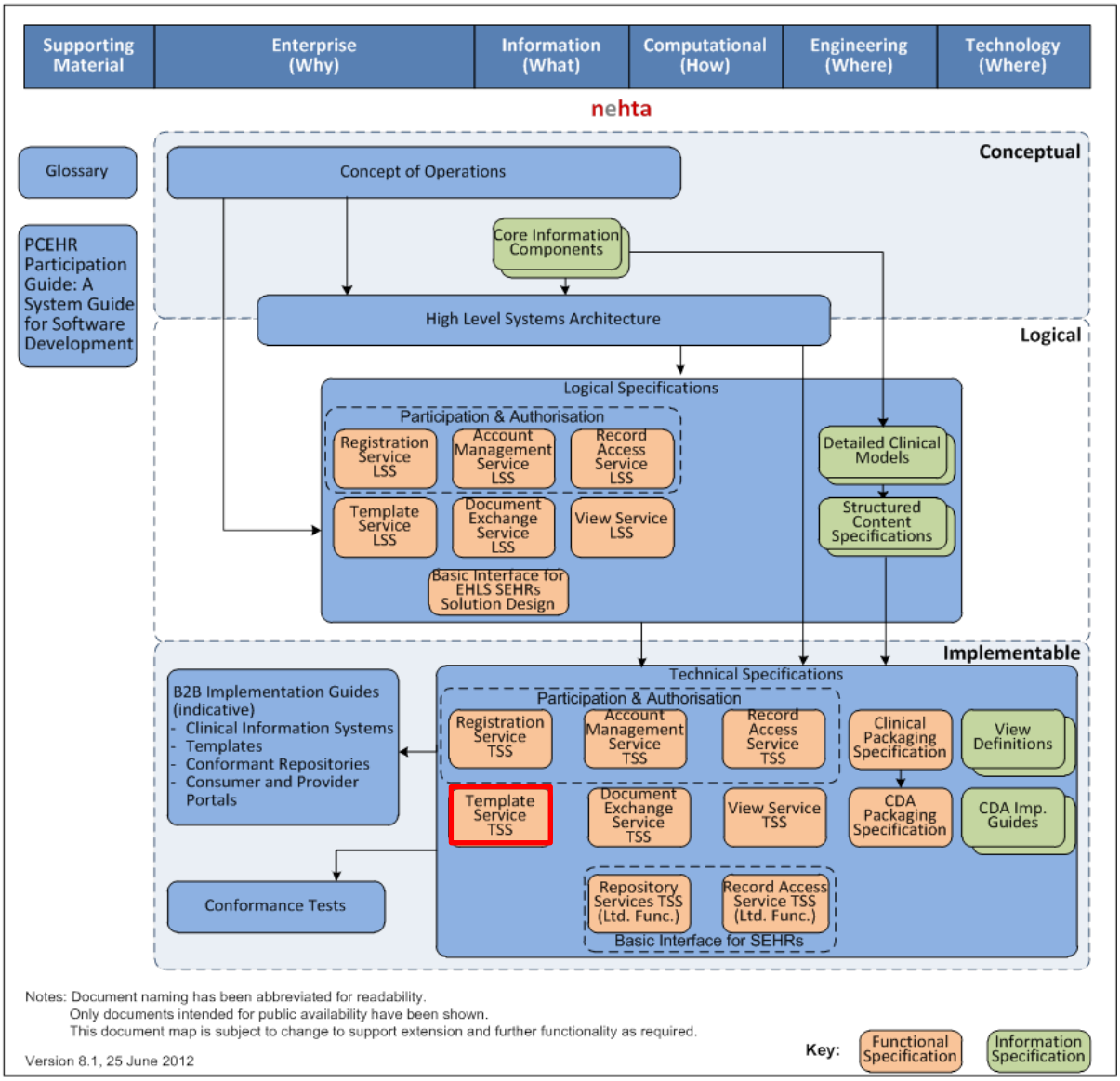

Figure 1

Acronyms and Terminology

Please refer to Appendix B for definitions of the acronyms and terminology used in this document.

The keywords SHALL, SHALL NOT, SHOULD and SHOULD NOT in this document are to be interpreted as described in IETF's RFC 2119 [RFC2119].

References

Please refer to Appendix C for details of references used in this document.

1 Introduction

1.1 Context

The Template Service provides a mechanism for sharing, storing, finding, retrieving and managing the lifecycle of templates. A template encapsulates the definition of a clinical document type and may also be used to define other types of document, such as administrative or consumer documents.

The PCEHR System uses the Template Service to ensure that the structure of different types of clinical documents stored within the PCEHR System are consistent with an agreed common set of definitions. Information can only be shared via the PCEHR System if it has an approved template and the data is valid for the data validation rules within the template. For example, a Shared Health Summary cannot be loaded into the PCEHR System unless it meets the data validation rules within the template.

The PCEHR System also leverages the lifecycle management processes within the Template Service to support governance over information that can be shared via the PCEHR System. New forms of information cannot be shared via the PCEHR System unless an approved template is available via the Template Service.

Healthcare forms are electronic versions of forms used to capture data for clinical purposes (such as a GP referral). These forms are often stored as Word document templates. Healthcare Forms do not need to explicitly represent a document format and are not usually linked with data validation or rendering definitions.

1.2 Scope of Document

1.2.1 In Scope

This Logical Service Specification defines the collaborations, logical service interfaces, service operations and associated conformance points for the *Template Service Interface* of the National Template Service. The scope is restricted to the specification of the external interfaces supported by the Template Service. It defines the interactions via the *Template Service Interface* between the Template Service and other systems in terms of the format and content of information exchanged.

1.2.2 Out of Scope

This document does not cover any user interaction via a portal or other user interface, and deals solely with machine level interactions.

This document does not include the definition of the components of a template, or how they are created or used.

1.3 Relationship to eHealth Interoperability Framework

This specification has been produced in accordance with the eHealth Interoperability Framework [EIF], which considers three layers of abstraction and five viewpoints (see summary in Appendix A). The three viewpoints relevant to this logical service specification are each covered in a separate section.

This document includes a Community Model. Whilst this artefact sits at the Conceptual level within EIF, it is included within this specification in order to aid readability and provide context.

1.4 Conformance Points

This specification contains conformance points that identify normative requirements that are to be met by identified members of the Template Service Interface Community (as described in section 2.1 below) in order to comply with this specification when interacting via the Template Service Interface.

Conformance points include requirements on a party invoking the service ('Template User') and the party providing the service ('Template Repository').

Any capability required to meet a conformance point shall be considered part of the requirements to be met under this specification.

Conformance points are identified within this document by the means of the following notation:

TPLT-L 0	This is an example only. Conformance points SHALL be numbered and contain an identifier of 'TPLT-L' which identifies them as being applicable to the Template Service Interface logical service specification.

2 Enterprise Viewpoint

This section provides the enterprise context for the logical service specification relating to the Template Service. This is a non-normative section of the document that provides the business context for the conformance statements in Sections 3 and 4.

In accordance with the eHealth Interoperability Framework [EIF], this enterprise viewpoint uses the RM-ODP community model.

This section describes the PCEHR Repository Services community in terms of:

- *Objectives*: members of these communities collaborate in order to achieve these objectives.
- *Business services*: A business service represents an agreement (explicit or implicit) that binds two or more participating parties that interact.
- *Community roles*: A community role classifies a set of "parties" (i.e. organisations and individual persons) that participate as a member of the community.
- *Artefacts*: An artefact represents a business object that is exchanged between participants.

2.1 Community Model

The Template Service provides a mechanism to assist in ensuring semantic interoperability between interconnected clinical information systems and electronic health record repositories in the Australian health sector. It is used by the PCEHR System to validate the conformance of all received clinical documents with standardised document specifications, resulting in all clinical information being stored in a conformant format within the PCEHR.

Without the a means to achieve semantic interoperability, clinical information stored in the PCEHR would be stored in different, inconsistent formats making it impossible for the PCEHR System (or other clinical information systems accessing this information) to automatically process the information. Consequently, valuable key features of eHealth could not be realised, including consolidated clinical views or decision support systems.

The Template Service represents a national eHealth infrastructure service introduced as part of the PCEHR programme. It is used by the PCEHR System to ensure conformance of all received clinical documents. However, it is also available to other clinical information systems that need to validate clinical documents or obtain information about their specified structure.

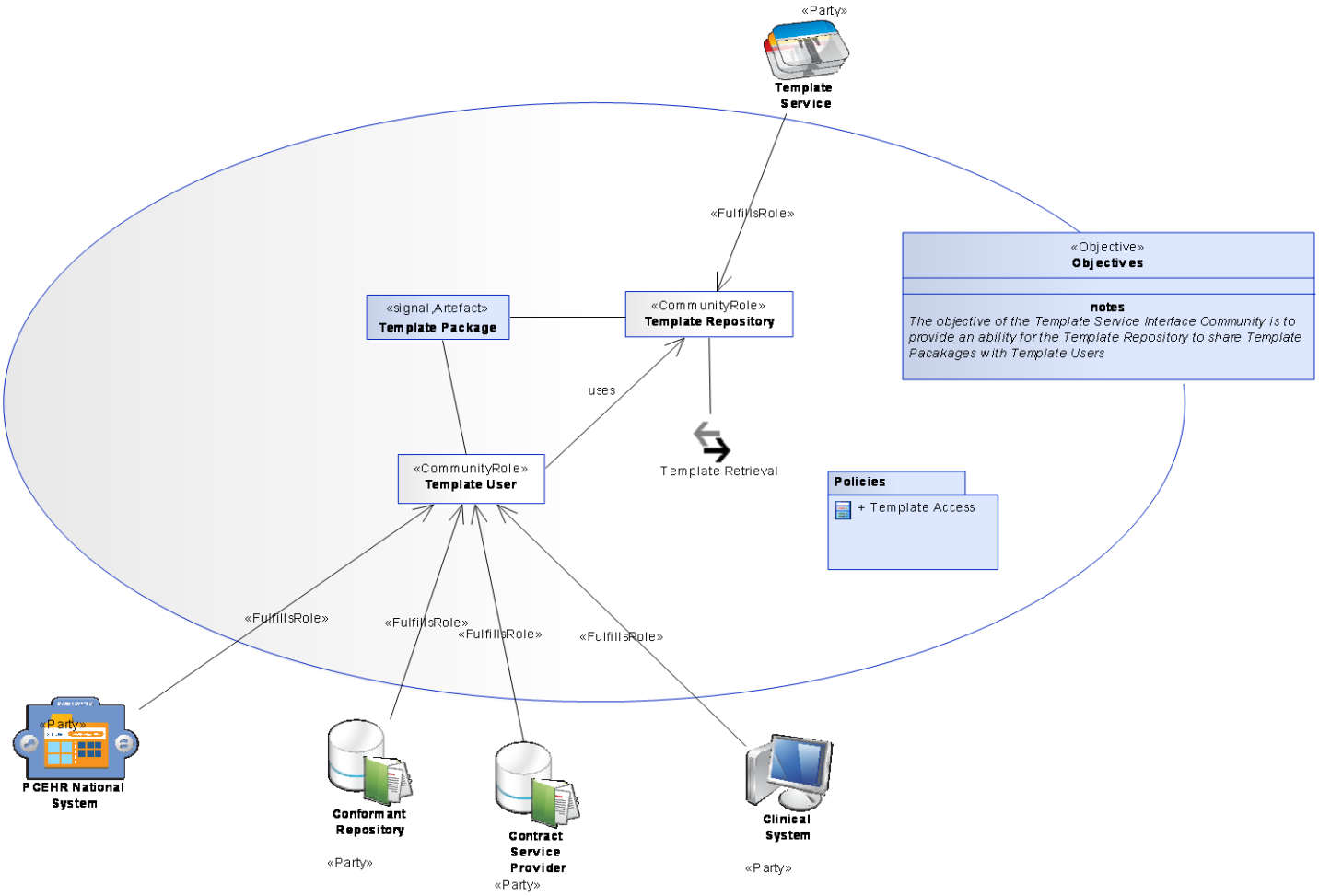

Figure 2

2.1.1 Objectives

The objective of the Template Service Interface Community is to provide an ability for the Template Repository to share Template Packages with Template Users.

2.1.2 Policies

The following policies apply to the members of the Template Service Interface Community.

Template Access

All Template Users must comply with the Template Service Access requirements.

2.1.3 Community Roles

The community roles shown in the diagram are described below.

Template Repository

The *Template Repository* persists the template definitions shared and managed by the Template Service.

Template User

A *Template User* is a person or system acting on their behalf who can find and retrieve a Template as the first step in a process which will eventually result in the completion of a clinical document conforming to the retrieved template.

2.1.4 Parties

Template Service

The *Template Service* party fulfils a number of roles within the broader Template Community. In the Template Interface Community it provides access to *Template Packages*.

PCEHR National System

The *PCEHR National System* party fulfils a number of roles within the broader *PCEHR Community*. In the *PCEHR Community* it provides access to PCEHR Records, Documents and Views as well as provides a number of support functions.

Conformant Repository

Conformant repositories use templates to validate the structure of documents being processed.

Contract Service Provider

Contract service providers use templates to validate the structure of documents being processed

Clinical System

Clinical systems may use templates to generate or verify clinical documents.

2.1.5 Artefacts

Template Package

A template encapsulates the definition of a clinical document type and includes:

- a unique identifier
- data definitions
- data validation definition
- information about how to render a clinical document
- supporting material (such as implementation guides).

A template may also define other types of document, such as administrative or consumer documents.

- Each template describes:
- the data format
- how to validate against this format
- the mechanisms for displaying or accessing all or parts of the data associated with a document matching the template.

All of the components of a template are aggregated and managed as the Template Package.

2.2 Requirements addressed by this specification

This specification addresses the "Find Templates" and "Retrieve Template and Related Information" functionality specified in the PCEHR Concept of Operations [PCEHR_CON_OPS] (Section 6.5.2).

3 Computational Viewpoint

The Computational viewpoint is concerned with describing the functional decomposition of the system into computational objects which interact at their interfaces. It includes descriptions of services that objects offer and other objects consume, i.e. service contracts in general terms. These objects prescribe the key functionality of the system to be built, while assuming that necessary infrastructure support and services are specified elsewhere (in the technical service specification [TSS])

This viewpoint is mainly relevant for solution architects and software developers, although a high-level computational description of the interaction between information technology systems and users may also be detailed. This can be a refinement of the interactions defined in the enterprise viewpoint and can involve subject matter experts and business analysts.

This section of the document contains conformance statements that specify the services in terms of the:

- messages exchanged
- processing required of the Service Invoker before invoking a service
- dependency between the response messages generated and the request message and the prior state of the Service Provider
- resulting effect (if any) on the state of the Service Provider
- required processing of response message by the Service Invoker.

3.1 Services Architecture

3.1.1 Overview

The Template Service interface is represented as a simple interaction between two roles – the Template Repository and the Template User. This is shown below.

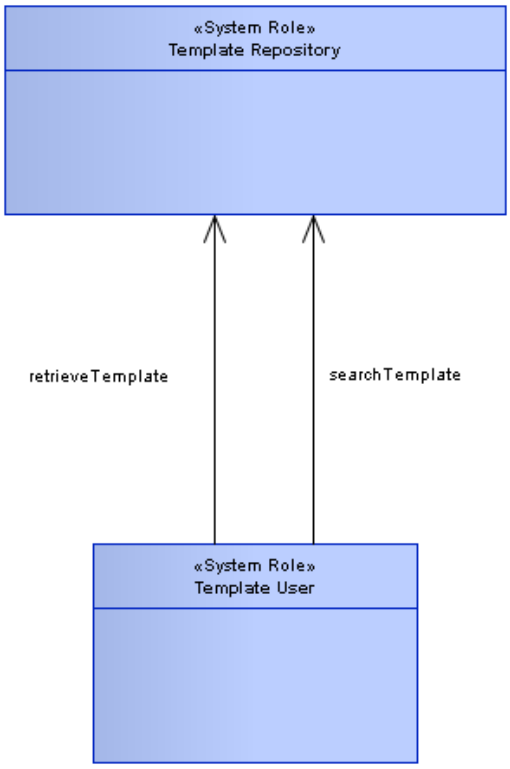

Figure 3

3.1.2 System Roles

Table 1 summarises the system roles to provide context for the following sections.

Table 1

System Role	Description and Rationale	Community Role	Further details
Template Repository	The Template Repository is responsible for sharing, storing, finding and retrieving templates.	The Template Repository system role directly implements the Template Service Interface community role of the same name.	Section 3.5
Template User	The Template User represents any consumer of templates within the community	The Template User implements the Template Service Interface community roles of Conformant Repository, PCEHR National Repository, Contract Service Provider, Template Portal and Clinical System.	Section 3.6

3.2 Services

This section outlines how the interactions between the system roles defined above can be grouped into a service. The mapping of interactions to services is shown below.

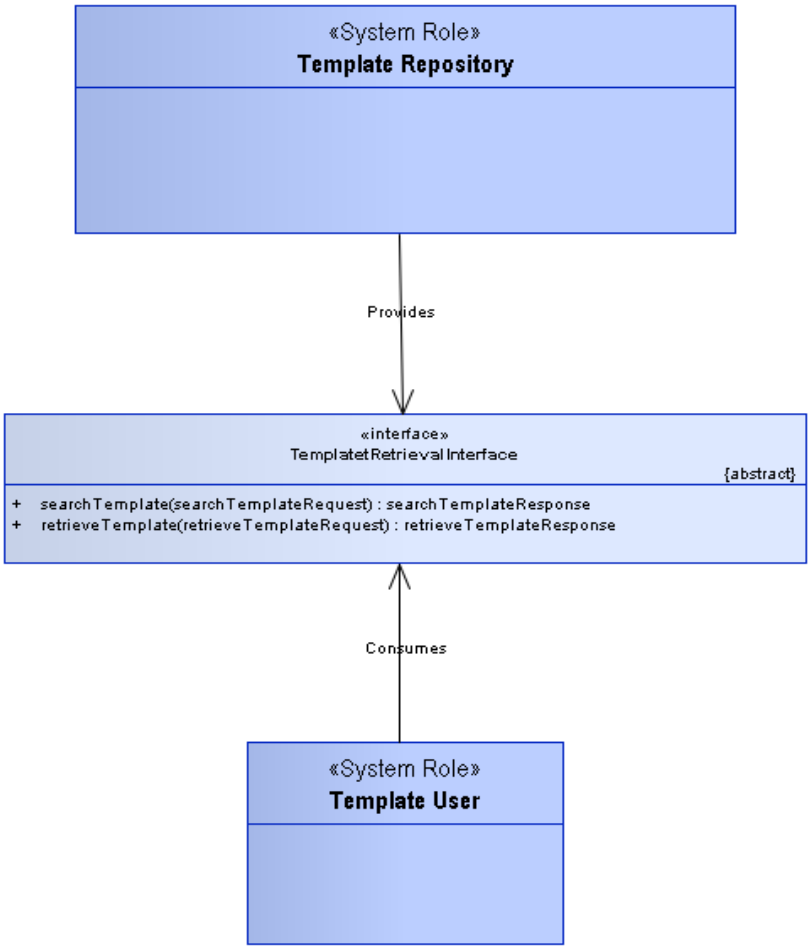

Figure 4

3.3 Template Retrieval Service Contract

3.3.1 Template-Retrieval Service Interface

The system roles involved in the Template Service interface interact in a single service of Template-Retrieval.

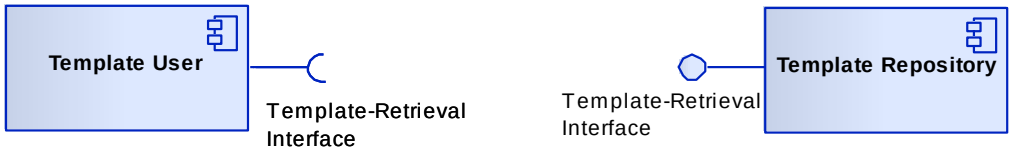

Figure 5

This service is provided by the Template Repository which makes available Template-Packages to be retrieved.

The service is invoked by Template Users who need to obtain a Template-Package.

It provides two service operations:

- searchTemplate
- retrieveTemplate

Figure 6

A Service Operation is a specific function which supports communication between two participants. The Template-Retrieval service interface supports the service operations detailed in Table 2.

Table 2

Service Interface - Operations	Mandatory	Comment
searchTemplate	Yes	This function is used to obtain metadata for one or more template packages which may be available.
retrieveTemplate	Yes	The function is used to obtain a template package from the repository.

3.3.1.1 searchTemplate Service Operation

Figure 7

Description

This operation is used to find information about one or more instances of a Template-Package. If successful, the search operation returns a list of all templates within the template repository which have attributes matching the search criteria (the search criteria is defined as metadata elements in the request, detailed in section 4.1.1). The returned list contains all the metadata attributes for those templates.

The search may be utilised with a known template identifier, which will result in the return of the metadata for that template only.

Template metadata is represented as name value pairs, and is optional. The search function will find all templates which have metadata values matching all the supplied search criteria. Multiple matches may be returned. Where the number of matches exceeds the capacity of the Template Repository to return, an error response will result, and no information will be produced. The search criteria will need to be refined to restrict the scope for matches.

Template metadata may change over time, especially attributes such as status. The machine usable components within a template package will never change. Where there is a need to make changes to those components, a new template will be

created, with a different identifier. Depending on the reason for the change, that new template may or may not replace an existing template. It is possible for many similar templates to co-exist. The various metadata elements and the search capability allow for the discovery of an appropriate template from such a set.

Precondition

Conformance Points

TPLT-L 1	The Template User SHALL construct a message conformant with the definition contained in section 4.1.1.

Postconditions

Conformance Points

TPLT-L 2	On successful execution, the *Template Repository* SHALL return a response message conformant with the response definition contained in section 4.1.2.
TPLT-L 3	If the *Template Repository* does not find any templates that match the provided search criteria, the *Template Repository* SHALL return a success response indicating that no matches were found. The *Template Repository* SHALL NOT return an error.

Input, Output and Fault

Table 3

Operation data fields	Data structures
Input	searchTemplateRequest
Output	searchTemplateResponse
Fault	genericServiceFault

Exception Conditions

Conformance Points

TPLT-L 4	If an error occurs while processing the request, the *Template Repository* SHALL construct a response message conformant with the fault definition contained in section 4.1.5.
TPLT-L 5	If the *Template User* does not receive a response within n seconds (where n is agreed with the service operator) the *Template User* SHALL cease waiting for a response and MAY repeat the request.

3.3.1.2 retrieveTemplate Service Operation

Figure 8

Description

This operation is used to retrieve a copy of a Template-Package from the repository.

If successful, the operation returns the template package and associated metadata. The request has options to restrict the scope of content returned in the package, enabling the retrieval of only machine usable content, without the overhead of retrieving additional material which may be intended only for explanation.

As the machine usable components within a template package will never change, and other components and the metadata are likely to change very infrequently, it is expected that a *Template User* will cache Template-Packages to reduce the need to repeatedly fetch the same information. A successful response includes information establishing the period for which the response will be able to treated as remaining valid.

Precondition

Conformance Points

TPLT-L 6	The *Template User* SHALL construct a message conformant with the definition contained in section 4.1.3

Postconditions

Conformance Points

TPLT-L 7	On successful execution, the *Template Repository* SHALL return a response message conformant with the response definition contained in section 4.1.4.
TPLT-L 8	If the *Template Repository* does not find the requested template, the *Template Repository* SHALL return a success response indicating that no template could be supplied. The *Template Repository* SHALL NOT return an error.

Input, Output and Fault

Table 4

Operation data fields	Data structures
Input	retrieveTemplateRequest
Output	retrieveTemplateResponse
Fault	genericServiceFault

Exception Conditions

Conformance Points

TPLT-L 9	If an error occurs while processing the request, the *Template Repository* SHALL construct a response message conformant with the fault definition contained in section 4.1.5.
TPLT-L 10	If the *Template User* does not receive a response within n seconds (where n is agreed with the service operator), the *Template User* SHALL cease waiting for a response and MAY repeat the request.

3.4 Common Specifications

3.4.1 Audit

The auditing of interaction with the *Template Repository* is the responsibility of the *Template Repository*. The *Template Repository* will retain a record of all access attempts. The *Template User* is not required to record audit data.

Conformance Points

TPLT-L 11	The *Template Repository* role SHALL audit all invocation attempts and results.
TPLT-L 12	The *Template User* SHOULD audit all interaction invocation attempts and the associated results. The audit entry SHOULD be logged in alignment with [RFC3881].

3.4.2 Security

Conformance Points

TPLT-L 13	The *Template User* and *Template Repository* SHALL establish a mutually authenticated secure communication channel.

3.4.2.2 Identification

Conformance Points

TPLT-L 14	The *Template Repository* SHALL provide credentials enabling the identification and authentication of the *Template Repository*.
TPLT-L 15	The *Template User* SHALL provide credentials enabling the identification and authentication of the *Template User*.
TPLT-L 16	Identification and authentication of the *Template User* SHALL be undertaken by the *Template Repository*.
TPLT-L 17	The absence of identification and authentication credentials SHALL prevent the *Template User* from accessing the service.
TPLT-L 18	The supply of identification and authentication credentials which do not authenticate SHALL prevent the *Template User* accessing the service.

3.4.2.3 Caching

Conformance Points

TPLT-L 19	The *Template User* MAY cache responses retrieved from the *Template Repository* and SHALL respect any cache expiry instructions included in the response.

3.5 System Role Template Repository

3.5.1 Role Considerations

The national Template Service is the only provider of the Template Repository system role.

3.5.2 Services Provided

Conformance Points

TPLT-L 20	The *Template Repository* SHALL provide the Template-Retrieval Service.

3.5.3 Services Consumed

The Template Repository system role does not consume any services.

3.6 System Role Template User

3.6.1 Role Considerations

The Template User system role may be fulfilled by a clinical system, the PCEHR National Repository, the Template Portal, a contract service provider system or any conformant repository.

3.6.2 Services Provided

The Template User system role does not provide any services.

3.6.3 Services Consumed

Conformance Points

TPLT-L 21	The *Template User* SHALL consume the Template-Retrieval Service.

4 Information Viewpoint

The information viewpoint is concerned with the representation of information in the system and is relevant for business (i.e. clinical and administrative) stakeholders and information modellers. The major interest is expected from subject matter experts (i.e. clinicians), health informatics experts, (i.e. clinical terminologists and informaticians) and information architects who document information components and the appropriate clinical terminology concepts according to their preferred style of expression.

4.1 Service Operation Data Types

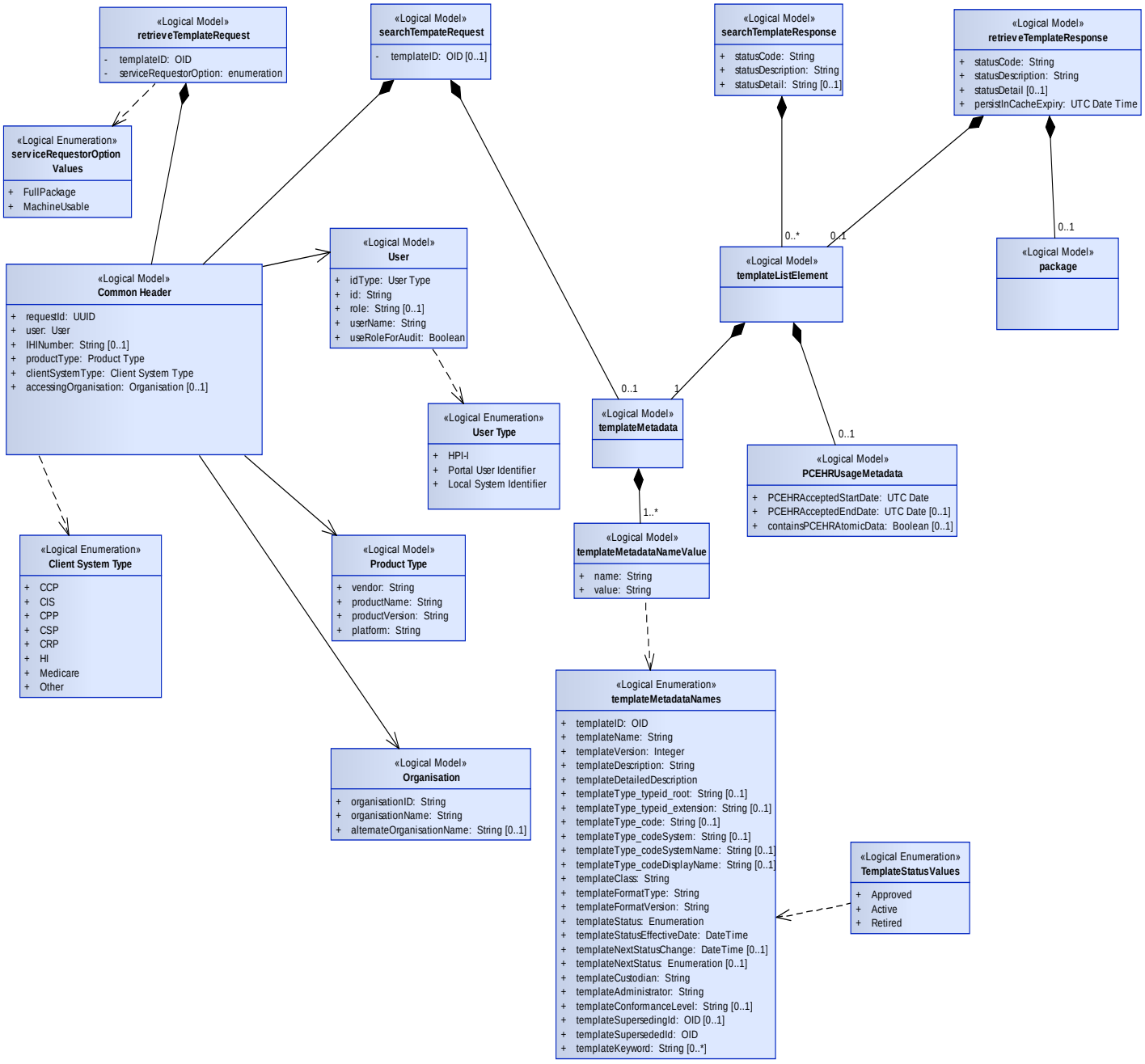

Figure 9

4.1.1 SearchTemplateRequest

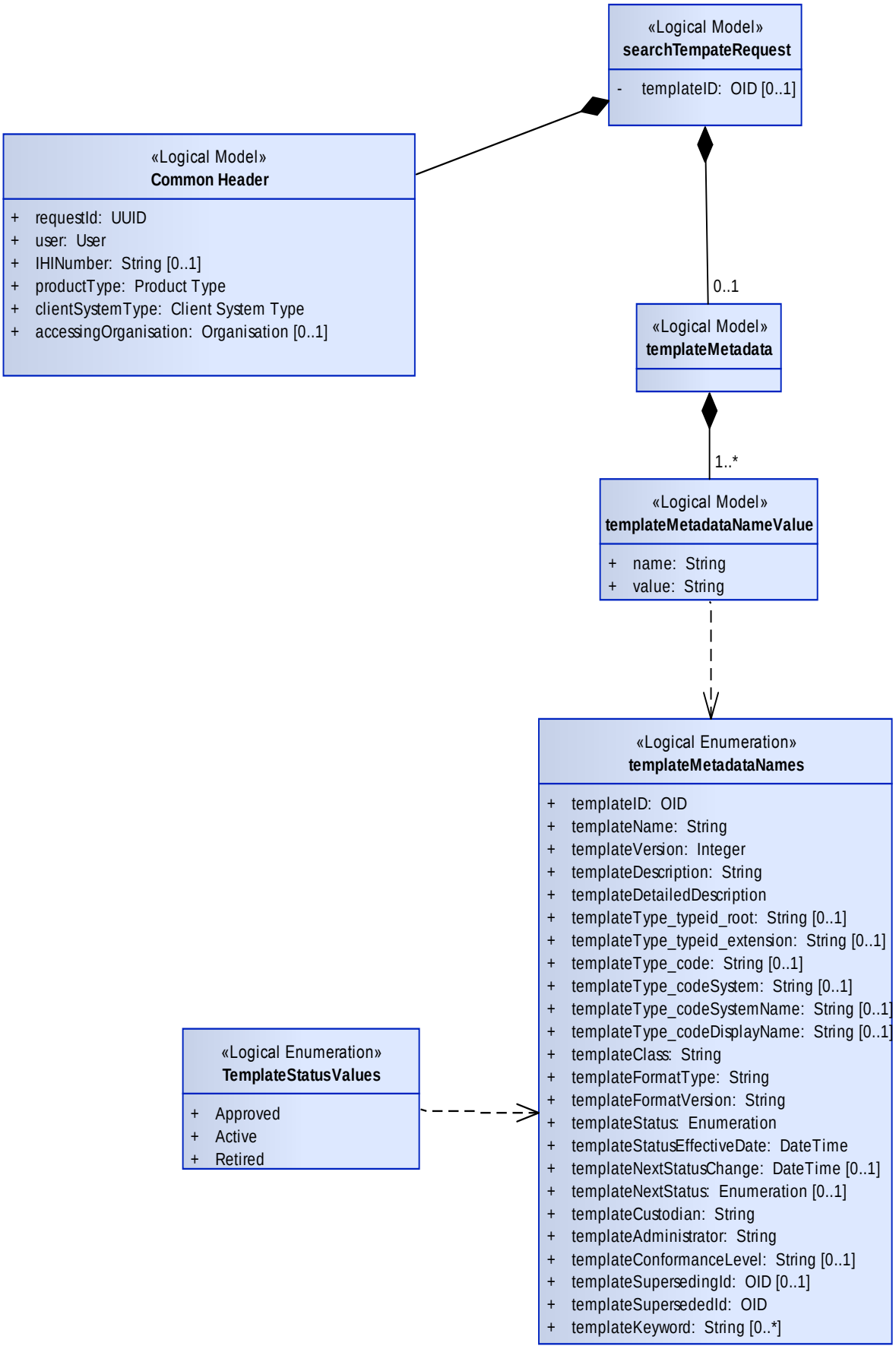

Figure 10

Table 5

SearchTemplateRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the common service header.	1
templateID	OID	A unique template identifier. Will only be supplied if information is required for a known identifier	0..1
templateMetadata	templateMetadata	The meta data values to use to search for matching templates	0..1 Required if a templateID is not supplied

4.1.2 SearchTemplateResponse

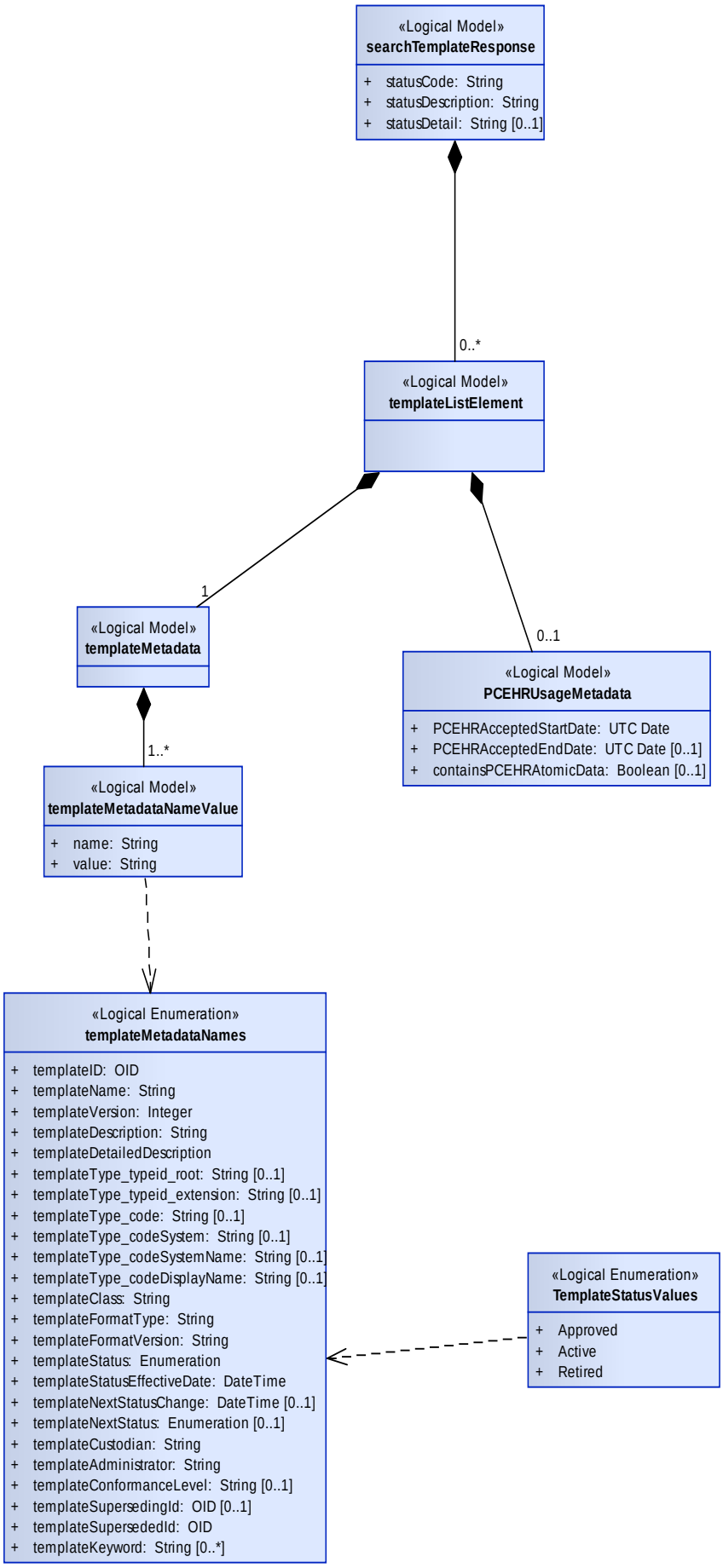

Figure 11

Table 6

SearchTemplateResponse			
Field	**Data Type**	**Description**	**Cardinality**
statusCode	String	The status of the request	1
statusDescription	String	A text description of the status	1
statusDetail	String	Optional additional information about the status, especially for warnings.	0..1
Template List	templateListElement	A list of all the templates matching the search	0..*

4.1.3 RetrieveTemplateRequest

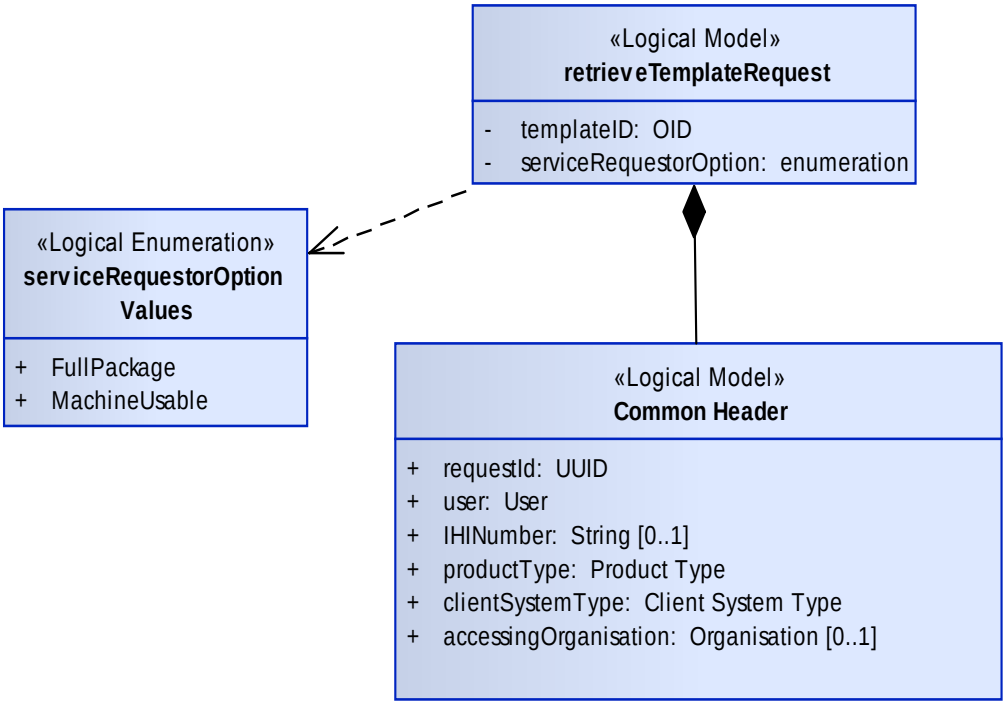

Figure 12

Table 7

RetrieveTemplateRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the common service header.	1
templateID	OID	A unique template identifier	1
serviceRequestOption	Enumeration	Allows the scope of the returned template package to be determined. Allowable values are: • FullPackage • MachineUsable	1

4.1.4 RetrieveTemplateResponse

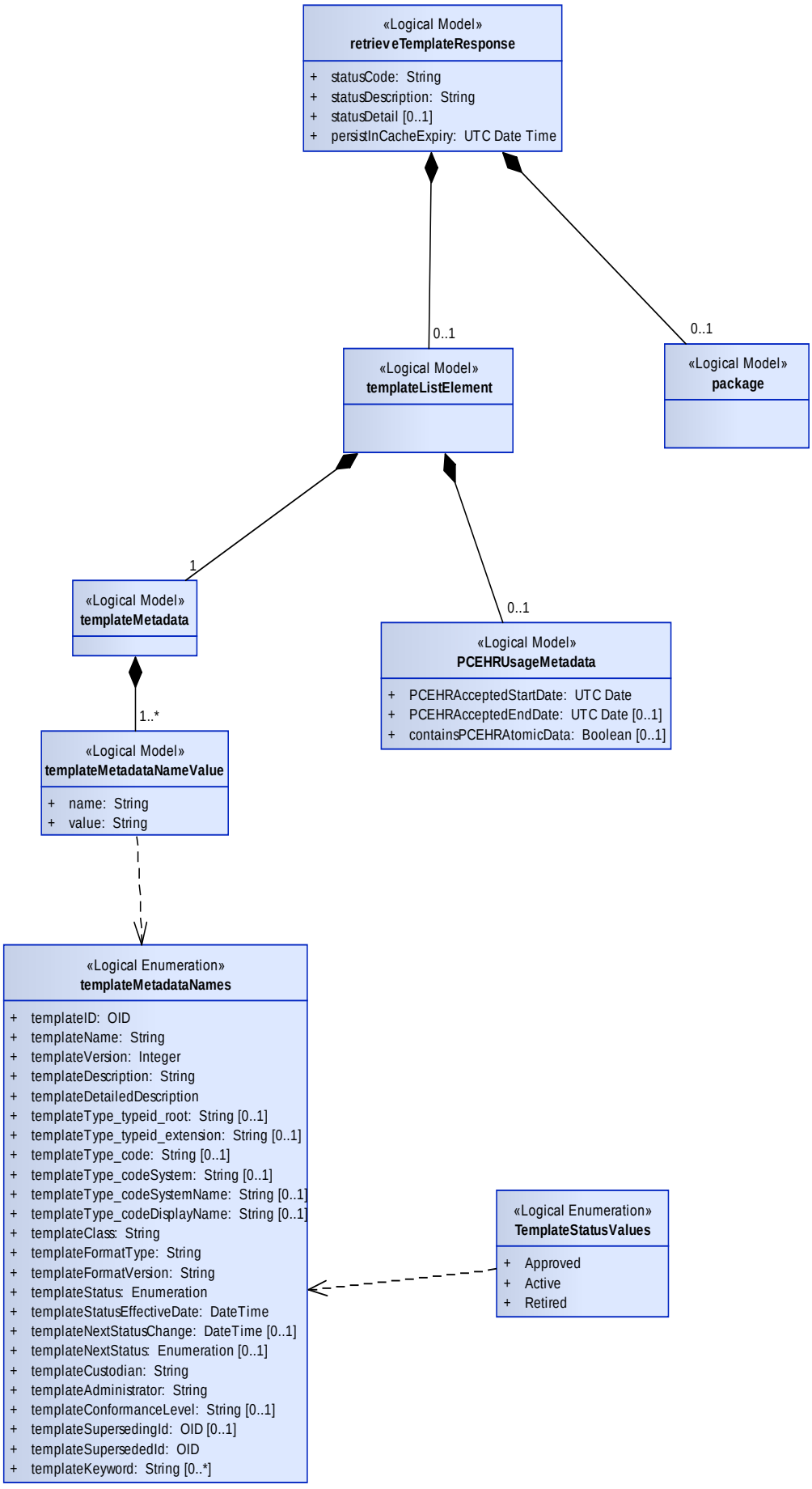

Figure 13

Table 8

RetrieveTemplateResponse			
Field	**Data Type**	**Description**	**Cardinality**
statusCode	String	The status of the request	1
statusDescription	String	A text description of the status	1
statusDetail	String	Optional additional information about the status, especially for warnings.	0..1
Template List	templateListElement	The metadata of the template being retrieved	0..1 Only present if a template is successfully returned
persistInCacheExpiry	UTC Date Time	The date and time when any cached copy of this response should be discarded, and a new request made	1
package	base64Binary	The actual template package, defined in section 4.3.1 below.	0..1 Only present if a template is successfully returned

4.1.5 Common Service Operation Data Types

4.1.5.1 templateMetadata

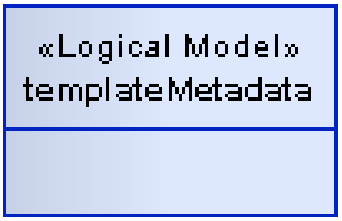

Figure 14

Table 9

templateMetadata			
Field	**Data Type**	**Description**	**Cardinality**
nameValuePair	templateMetadataNameValue	The name of a template metadata item	1..*

4.1.5.2 templateMetadataNameValue

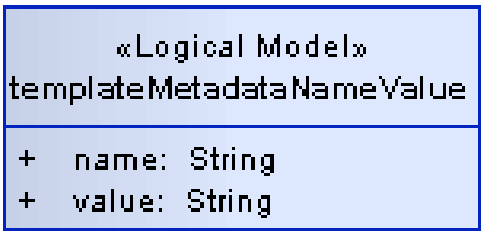

Figure 15

Table 10

templateMetadataNameValue			
Field	**Data Type**	**Description**	**Cardinality**
name	string	The name of a template metadata item	1
value	string	The value associated with the named metadata item	1

4.1.5.3 templateMetadataNames

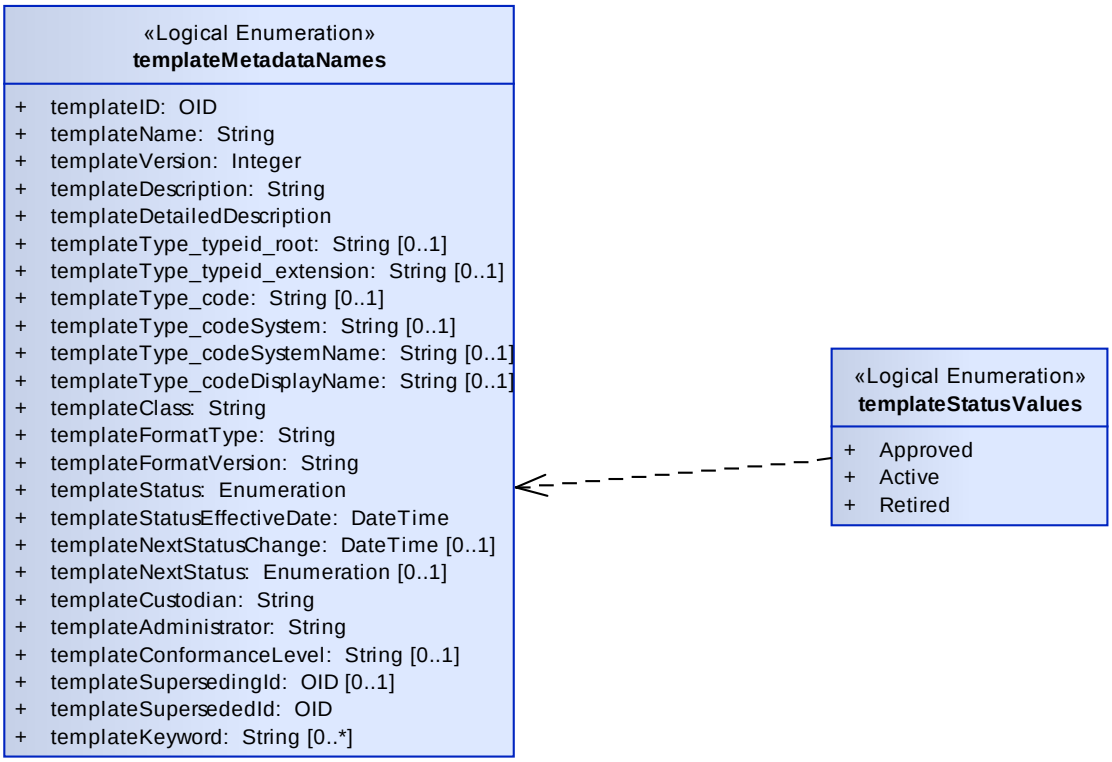

Figure 16

This enumeration contains the current values for the metadata names supported in the name value pairs of the Template Metadata.

This list is extensible, and may be added to over time.

Table 11

templateMetadataNameValue name enumeration (as at time of publication)	
Name Value	**Description**
templateID	The unique identifier for a template
templateName	A short name for the template. Not guaranteed to be unique, but shared for different versions of a template. It is not required that all templates with the same name be related in any manner.
templateVersion	The version number of the template
templateDescription	A short, easily rendered description of the template
templateDetailedDescription	The detailed text description of the template
templateType_typeid_root	A part of the definition of the CDA document type applicable to a CDA document generated from the template. Only relevant to templates defining a CDA document.
templateType_typeid_extension	A part of the definition of the CDA document type applicable to a CDA document generated from the template. Only relevant to templates defining a CDA document.
templateType_code	A part of the definition of the CDA document type applicable to a CDA document generated from the template. Only relevant to templates defining a CDA document.
templateType_codeSystem	A part of the definition of the CDA document type applicable to a CDA document generated from the template. Only relevant to templates defining a CDA document.
templateType_codeDisplayName	A part of the definition of the CDA document type applicable to a CDA document generated from the template. Only relevant to templates defining a CDA document
templateClass	A broad grouping, covering classifications such as ClinicalDocument, HealthForm, AdministrativeDocument, UserDocument etc. which defines the sort of document that would be generated from the template
templateFormatType	The super type of format the template adheres to, e.g. CDA, RTF, HL7 V2.
templateFormatVersion	The version of the TemplateFormatType
templateStatus	The current status of the template
templateStatusEffectiveDate	The date the TemplateStatus took effect
templateNextStatusChange	The date that the TemplateStatus expires and the TemplateNextStatus will become the new status
templateNextStatus	The status the template will have when the current status expires. Has the same values as the TemplateStatus.
templateCustodian	The identifier of the template custodian that can be resolved from a person registry
templateAdministrator	The identifier of the package administrator that can be resolved from a person registry

templateMetadataNameValue name enumeration (as at time of publication)	
Name Value	**Description**
templateConformanceLevel	A CDA conformance level deemed to be met by documents which validate according to the template definition. Only applies to templates which define a CDA document.
templateSupersedingId	The TemplateID of the template that replaced this one. Identifies the next later version of the template.
templateSupersededId	The TemplateID of the template that this template is replacing. Identifies the immediate prior version of the template.
templateKeyword	Any searchable keyword that may identify the template. Multiple occurrences are permitted.

templateStatusValues enumeration (as at time of publication)	
Name Value	**Description**
Approved	Approved for publication and sharing, but not available for assertion of conformance of a generated document
Active	Available to be used to generate documents and for conformance to be asserted
Retired	No longer recommended for use for generation of documents.

4.1.5.4 PCEHRUsageMetadata

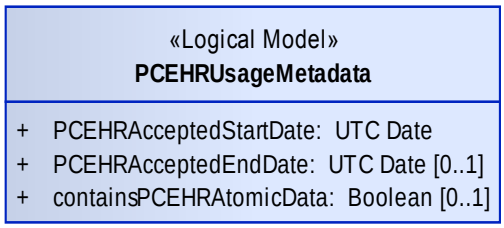

Figure 17

Table 12

PCEHRUsageMetadata			
Field	**Data Type**	**Description**	**Cardinality**
PCEHRAcceptedStartDate	UTC Date	The date (and optionally time) in UTC notation that the PCEHR System commenced or will commence acceptance of submission of documents conforming to the template	1
PCEHRAcceptedEndDate	UTC Date	The date (and optionally time) in UTC notation that the PCEHR System ceased or will cease acceptance of submission of documents conforming to the template	0..1
containsPCEHRAtomicData	Boolean	An indicator as to whether documents conforming to the template may contain information relevant to the population of the internal PCEHR System atomic data model. Used to determine the need to process documents for extraction of data used within the PCEHR for populating pre-defined views such as the consolidated view.	0..1

4.1.5.5 templateListElement

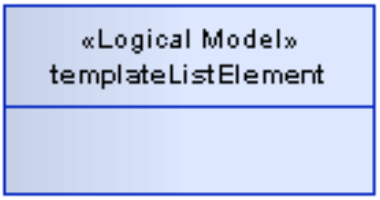

Figure 18

Table 13

templateListElement			
Field	**Data Type**	**Description**	**Cardinality**
Template metadata	templateMetadata	The meta data values for the template	1
Usage metadata	PCEHRUsageMetadata	Metadata values associated with the template use by PCEHR System	0..1 Only exists for templates relevant to PCEHR System

4.1.6 GenericServiceFault

Table 14

GenericServiceFault			
Field	**Data Type**	**Description**	**Cardinality**
Status Code	String	The status of the request	1
Status Description	String	A text description of the status	1
Status Detail	String	Optional additional information about the status, especially for warnings.	0..1

4.2 Common Header

This section encompasses the set of attributes which make up the Common Header used in all PCEHR Service Requests, and shared by the Template-Retrieval Service Interface.

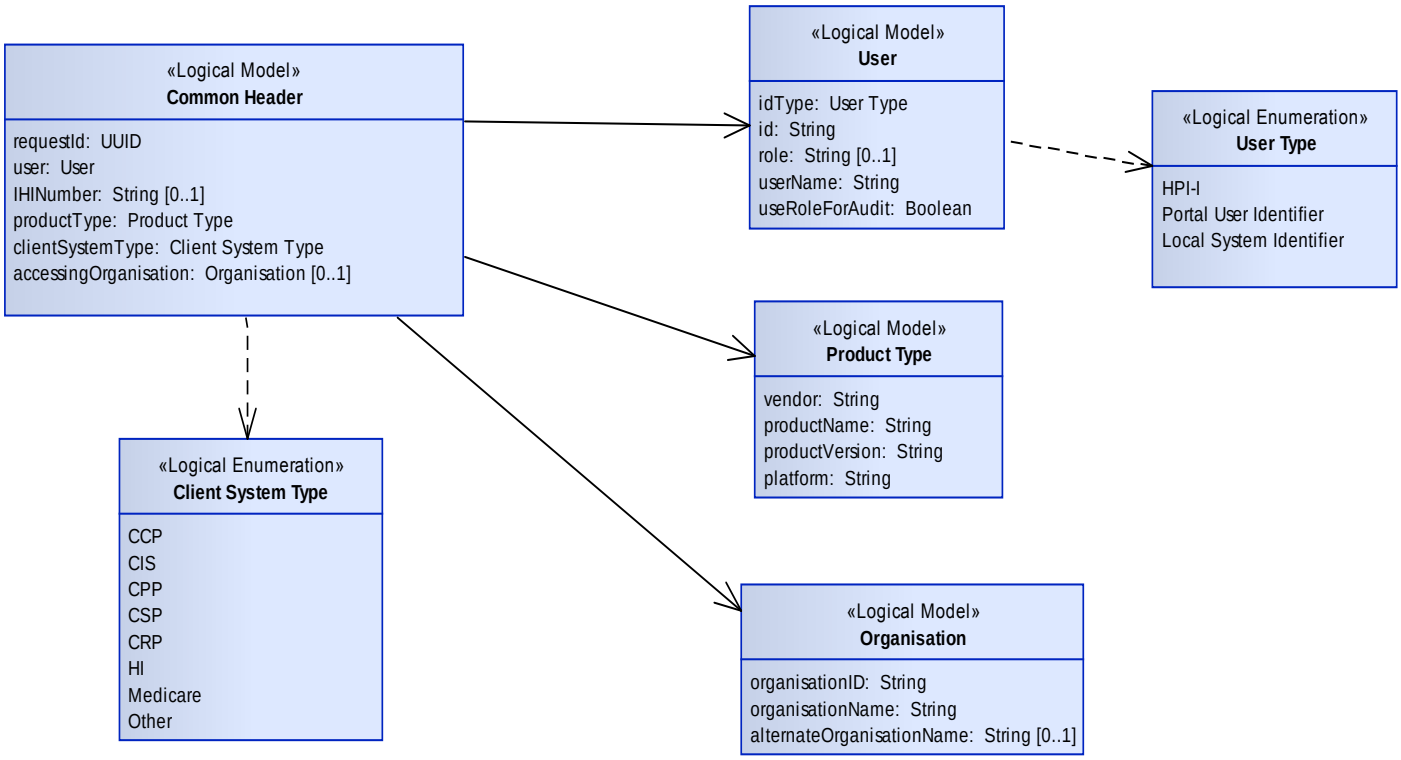

Figure 19

Table 15

Common Header			
Field	**Data Type**	**Description**	**Cardinality**
Request Id	UUID	Unique identification of the request	1
User	User	Identification details of the user originating the request	1
IHI Number	String	Individual IHI number	0..1
Product Type	Product Type	Identification of the system originating the request	1

Common Header			
Field	**Data Type**	**Description**	**Cardinality**
Client System Type	Enumeration	The type of client system. • Conformant Consumer Portal (CCP) • Clinical Information System (CIS) • Conformant Provider Portal (CPP) • Contracted Service Provider System (CSP) • Conformant Repository Provider System (CRP) • HI Service (HI) • Medicare • Other	1
Accessing Organisation	Organisation	The healthcare organisation on behalf of which the request is being made	0..1

Conformance Points

TPLT-L 22 The `Request Id` SHALL be a different value for every request made. It SHALL be created in a way which ensures that the value is unique across all Template-Retrieval service requests from any system.

TPLT-L 23 The `IHI Number` SHALL NOT be supplied for Template-Retrieval Service requests.

TPLT-L 24 If the `IHI Number` is supplied it SHALL contain a string representation using only numeric digits of a valid Individual Healthcare Identifier issued by the HI Service.

4.2.2 User

The User entity encompasses the identity information relating to the end user of the system originating a request.

Table 16

User			
Field	**Data Type**	**Description**	**Cardinality**
Id Type	Enumeration	The type of user ID supplied. • HPI-I • Portal User Identifier • Local System Identifier	1
Id	String	User identifier	1
Role	String	Optional field for to enter the role of the user for use in audit logging if User Name is not appropriate	0..1
User Name	String	The name of the user	1
Use role for audit	Boolean	If true indicates that the role is to be used for audit display purposes rather than the User name	1

Conformance Points

TPLT-L 25 The `Id` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 26 If the `Id Type` value of `HPI-I` is supplied, the `Id` SHALL contain a string representation using only numeric digits of a valid Healthcare Provider Identifier - Individual issued by the HI Service.

TPLT-L 27 If the `Id Type` value of `Portal User Identifier` is supplied, the `Id` SHALL contain a value issued by a trusted identity provider which relates a conformant portal user to a PCEHR identity.

TPLT-L 28 If the `Id Type` value of `Local System Identifier` is supplied, the `Id` SHALL contain a representation of the access credential utilised to access the system originating the request

TPLT-L 29 If the `Id Type` value of `Local System Identifier` is supplied, the `Id` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 30 If the `Use role for audit` flag is set to True, the `Role` SHALL be a supplied

TPLT-L 31 If the `Role` is supplied it SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 32 The `User Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

4.2.3 Product Type

The Product type entity encompasses the information identifying the system originating the request.

Table 17

Product Type			
Field	**Data Type**	**Description**	**Cardinality**
Vendor	String	The name of the vendor that produced the system	1
Product Name	String	A name used to identify the system	1
Product Version	String	System version number	1
Platform	String	The system platform being used	1

Conformance Points

TPLT-L 33 The `Vendor` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 34 The `Product Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 35 The `Product Version` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 36 The `Platform` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

4.2.4 Organisation

The Organisation entity encompasses the organisation identity information.

Organisation			
Field	**Data Type**	**Description**	**Cardinality**
Organisation ID	String	An identifier for the accessing organisation	1
Organisation Name	String	The name of the accessing organisation	1
Alternate Organisation Name	String	An alternative display name for the organisation	0..1

Conformance Points

TPLT-L 37 If present, the `Organisation ID` SHALL contain a string representation of the identifier applicable to the accessing organisation. This identifier SHALL be either:

- a representation using only numeric digits of a valid Healthcare Provider Identifier - Organisation issued by the HI Service; or
- a unique identifier issued by the PCEHR System Operator.

TPLT-L 38 The `Organisation Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

TPLT-L 39 The `Organisation Name` SHALL correspond to the name of the organisation asserted by the Healthcare Provider Identifier - Organisation contained in the `Organisation ID` field

TPLT-L 40 If the `Alternate Organisation Name` is supplied it SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

4.2.5 Client System Type

An enumeration of Client system Types which are supported by the PCEHR System, and as such, are allowable values for the common header when interacting with the Template Retrieval Service.

Table 18

Field	Description
Conformant Consumer Portal	Conformant Consumer Portal
Clinical Information System	A Clinical Information System such as a PAS, RIS, PMS, ED System, etc
Conformant Provider Portal	Conformant Provider Portal
Contracted Service Provider	Contracted Service Provider
Conformant Repository	A Conformant Repository
HI Service	The national Health Care Identifier service
Medicare	DHS Medicare systems
Other	Any other system type

4.2.6 User Type

An enumeration of Source system user identifiers which are supported by the PCEHR System, and as such, are allowable values for the common header when interacting with the Template Retrieval Service.

Table 19

Field	Description
HPI-I	A Health Care Provider Individual identifier issued by the HI Service
Portal User Identifier	An identity which is managed and verified by the PCEHR system and identifies a user of a conformant portal
Local System Identifier	A local user id not managed by the PCEHR system

4.3 Other Data Types

The Template Service Interface is a mechanism for accessing Templates (as Template Packages) provided by the Template Service.

The detail of the contents and use of a Template Package is not within the scope of the Template Service Interface, so is not specified here. This information is packaged as a number of different files to meet the various needs, as well as metadata information about each file, and about the template as a whole.

The following defines the logical structure of the Template Package as a component retrieved by the interface.

4.3.1 Template Package Structure

The template package consists of a number of files with different uses. They may be considered to be organised into a logical folder structure, as shown below.

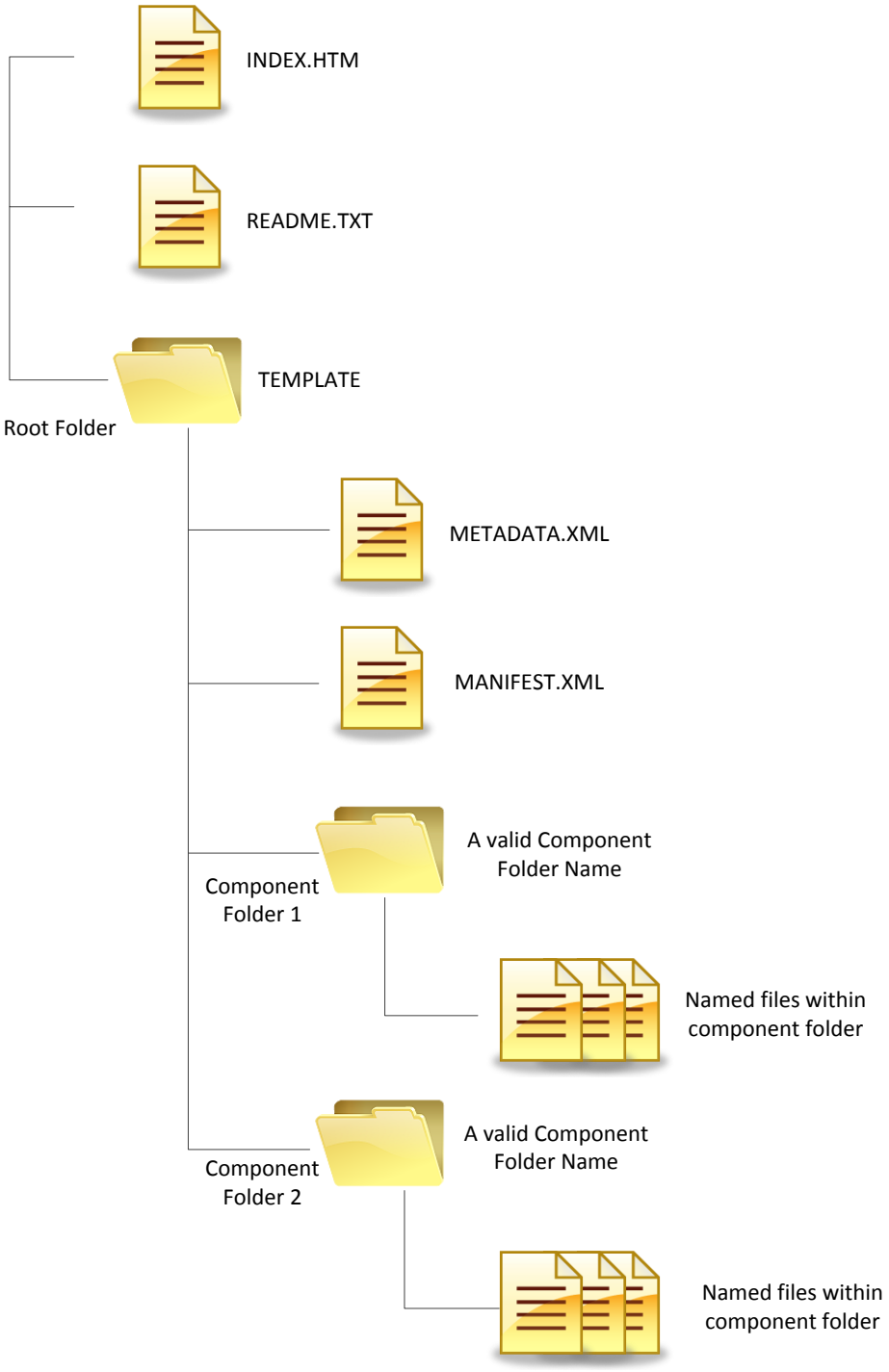

Figure 20

Table 20 defines the Template Package content definitions.

Table 20

File Name	Required	Description
INDEX.HTM	Optional	This file provides an HTML entry point into the package contents. If present, it can be used to provide a means to display or render selected components of the package.
README.TXT	Optional	This file contains informative data about the Template package. If present, it will contain information about the actual retrieval (such as search parameters, date of access etc.).
Root Folder TEMPLATE	Mandatory	This folder defines the root of the Template Package contents. The name of this folder is fixed to TEMPLATE.
METADATA.XML	Mandatory	This file contains Template Package metadata. See Section 4.1.5 for structure and Section 4.1.5.2 for logical content.
MANIFEST.XML	Mandatory	This file contains the definition for the template component files. It contains metadata for each file contained within the component type folders, including the file name and location. Section 4.3.2 defines the structure.
Component folders	Mandatory	Template components get bundled into component types to enable segregation of content and enhance usability when accessed via the Template Portal. There is no naming restriction on the component folder names, but the files contained within them must be explicitly referenced in the MANIFEST.XML file. Refer conformance points below for component type folder naming information
Components	Mandatory	Within each component folder, there are different formats of files stored to deliver the different template features. Each file in the component folder is referenced in MANIFEST.XML file.

TPLT-L 41 The Root folder SHALL be given the fixed name of TEMPLATE.

TPLT-L 42 The TEMPLATE folder shall contain only folders and the METADATA.XML and MANIFEST.XML files.

TPLT-L 43 The template metadata part SHALL conform to the specification set out in Section 4.1.5.1.

TPLT-L 44 The template component manifest part SHALL conform to the specification set out in Section 4.3.2.

TPLT-L 45 Template component folders MAY be named as DEFN, VALDN, DEFINFO, VALINFO and INFO. The DEFN and VALDN folders SHALL contain machine usable components. The DEFINFO, VALINFO and INFO folders SHALL contain human readable documents. Other folder names are permissible.

4.3.2 Template Component Manifest

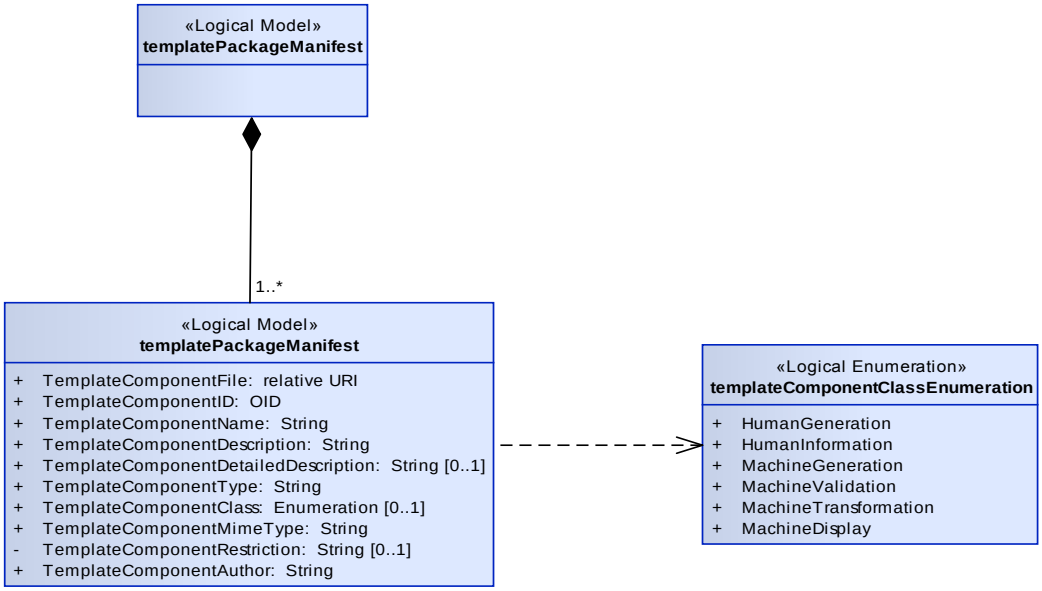

Figure 21

Table 21

templatePackageManifest			
Field	**Data Type**	**Description**	**Cardinality**
Template Component File	relative URI	The relative reference to the file within the structure that this entry describes.	1
Template Component ID	OID	The unique identifier for the template component.	1
Template Component Name	String	A short name for the template component. Not guaranteed to be unique.	1
Template Component Description	String	A short, easily rendered description of the template component.	1
Template Component Detailed Description	String	The detailed text description of the template component.	0..1
Template Component Type	String	The logical use of this template component - may include usage notes, schema, form, etc. Needed to distinguish, especially for forms, where mimeType of RTF may be a form, or may just be an instruction.	1
Template Component Class	Enumeration	Grouping of like components to enable selection of subsets of template components.	0..1
Template Component Mime Type	String	The mimeType of this template component	1
Template Component Restriction	String	Classification of component to enable selection for restricted or public access. Not all template or form components may have the same access levels.	0..1
Template Component Author	String	The main author of the template component.	1

Appendix A eHealth Interoperability Framework

This document has been produced in accordance with the eHealth Interoperability Framework [EIF]. The eHealth Interoperability Framework is based on a combination of the Australian Government Architecture (AGA)[1], RM-ODP and HL7's Service Aware Interoperability Framework (SAIF)[2,3].

The eHealth Interoperability Framework is used across NEHTA products to help deliver consistent and cohesive eHealth specifications. It provides a common specification language for teams involved in working in eHealth, supports the identification of secure and interoperable services and assists in analysing eHealth solutions to ensure that they will deliver the intended outcome.

A.1 Three Layers of Abstraction

The eHealth Interoperability Framework has three layers of abstraction. The top layer focuses on defining the system in a stakeholder centric fashion at the conceptual level. The detail and refinement of the system definition is covered at the logical level and the implementable level maps the logical specification onto a number of technology-specific implementable specifications.

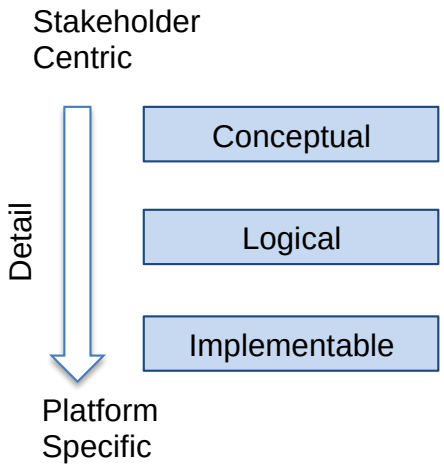

Figure 22

Separating the conceptual from the logical and the logical from the implementable allows service or other system components to be defined independently of technology choices. It also ensures that different stakeholder groups can play to their strengths at the different layers of abstraction.

In particular, the conceptual level is aimed at consumers, healthcare providers and government stakeholders. The logical level is aimed at more technical stakeholders, including health informaticians, implementers and the ICT industry. The implementable level is aimed at developers and testers.

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[1] http://www.finance.gov.au/e-government/strategy-and-governance/aga-rm/AGA-RM.html

[2] http://gforge.hl7.org/gf/project/saeaf/docman/?subdir=320

[3] The EIF differs from other popular frameworks such as TOGAF. TOGAF is a process-oriented framework for creating and managing architectural artefacts. EIF is a specification framework used to describe system architectures. EIF, and the SAIF framework it is based on, are strongly influenced by ISO 10746, which is an international standard reference model for open distributed processing (RM ODP). The viewpoints and levels of abstraction in the EIF are more similar to the categories that underpin the Zachman framework. However, RM-ODP also provides a specification language that is compatible with UML.

A.2 Five Viewpoints

The eHealth Interoperability Framework has five "viewpoints":

- The *enterprise viewpoint*, which focuses on the purpose, scope, policies and business requirements for the system.
- The *information viewpoint*, which focuses on the semantics of the information and the information processing performed. It describes the information managed by the system and the structure and content type of the supporting data.
- The *computational viewpoint*, which describes the functionality provided by the system and its functional decomposition into objects and interfaces.
- The *engineering viewpoint*, which focuses on describing how the different elements described in the information and computational viewpoints will be deployed or distributed and how the system will meet the operational requirements.
- The *technology viewpoint*, which focuses on the choice of technology of the system and includes both the software and hardware platforms.

This document focuses on the enterprise, information and computational viewpoints and each viewpoint is covered in a separate section.

In addition to the viewpoints, the eHealth Interoperability Framework also prescribes three abstraction layers, namely the Conceptual Layer, the Logical Layer and the Implementable Layer.

The interaction between the viewpoints and the layers of abstraction can be represented as a matrix of views, as shown below. This document covers the cells shown.

Table 22

	Enterprise	Information	Computational	Engineering	Technology
Conceptual	**This Document**				
Logical		**This Document**	**This Document**		
Implementable					

Appendix B Acronyms and Terminology

A glossary of terms used within PCEHR is provided in the PCEHR System Glossary [PCEHR-SYSTEM-GLOSSARY].

B.1 Acronyms

Acronym	Explanation
CIS	Clinical Information System
EIF	eHealth Interoperability Framework
GP	General Practitioner
HPI-I	Healthcare Provider Identifier - Individual
HPI-O	Healthcare Provider Identifier - Organisation
IETF	Internet Engineering Task Force
IHI	Individual Healthcare Identifier
LSS	Logical Service Specification
PCEHR	Personally Controlled Electronic Health Record
SEHR	Shared Electronic Health Record
TSS	Technical Service Specification

B.2 Specialised Terminology

Term	Explanation
Clinical Information System	An Information System used to help support clinical activity.
Conformant Repository	A repository that conforms to the appropriate PCEHR standards and specifications required to ensure interoperability, privacy, integrity and long term availability of the healthcare information it holds.
Consumer Portal	A consumer portal is a nationally operated portal to allow individuals to access their own PCEHR.
Provider Portal	A provider portal complements existing local health record systems by providing an alternative form of access to the PCEHR for healthcare providers.
Service	A Service encapsulates the collaboration which occurs between two or more parties to achieve a goal. Each participant in the service may offer multiple Service Interfaces.
Service Interface	A Service Interface is a logical grouping of operations which be offered by a participant within the context of a Service.
Service Operation	A Service Operation is a specific function which supports communication between two participants.

Appendix C References

Tag	Name	Version Release/ Date
[TSS]	Template Service Interface Technical Service Specification	Version 1.0
[PCEHR_CON_OPS]	Concept of Operations: relating to a Personally Controlled Electronic Health Record System http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/PCEHR-document	September 2011 Release
[RFC2119]	IETF, *RFC 2119: Keywords for use in RFCs to Indicate Requirement Levels*, S. Bradner http://ietf.org/rfc/rfc2119.txt	March 1997
[RFC3881]	Security Audit and Access Accountability Message XML Data Definitions for Healthcare Applications http://tools.ietf.org/pdf/rfc3881.pdf	September 2004
[RM-ODP]	Reference Model of Open Distributed Processing ISO/IEC 10746-3:2009	2009
[UML2010]	http://www.omg.org/spec/UML/2.3/	UML Version 2.3 Release May 2010
[EIF]	eHealth Interoperability Framework	Version 1.0 2 December 2011