nehta

Logical Service Specification

PCEHR Document Exchange Service

Version 1.2 — 6 September 2012

Final

National E-Health Transition Authority

National E-Health Transition Authority Ltd
Level 25
56 Pitt Street
Sydney, NSW, 2000
Australia.
www.nehta.gov.au

Document Information

Approver	PCEHR Design Authority
Owner	Head of PCEHR
Contact officer	PCEHR Design Team
Contributors	PCEHR - Standards, Foundation and Architecture (SFA) Team

Version History

Date	Version	Name	Comments
	1.0	PCEHR Design Authority	Approved for release
2012-01-18	1.1	PCEHR Team	Incorporate stakeholder feedback on SetDocumentAccessLevelRequest
2012-09-06	1.2	PCEHR Team	Updates for change to Accessing Organisation (PCEHR system participant) in common header. HPI-O relaxation.This update applies only to conformant repositories, for example DHS (Medicare), where a unique identifier is issued by the PCEHR System Operator.

This page is intentionally blank

Table of Contents

Preface

Purpose

The purpose of this document is to define the logical service interfaces and associated conformance points for the PCEHR Document Exchange Service.

The PCEHR Document Exchange Service encapsulates the set of document exchange related interactions between clinical information systems, PCEHR portals and the National PCEHR System and the interactions between the National PCEHR System and PCEHR conformant repositories (these sets of interactions are shown at a high level in Figure 3 and are discussed in detail in section 2).

This specification considers the computational and information viewpoints of the solution and provides a logical consideration of these areas. It defines the set of system roles and associated responsibilities and provides context for technical service specifications that follow this specification.

Technical service specifications will provide a realisation of the interfaces for a given technical platform and will not repeat the logical role definitions or conformance points.

Intended Audience

This document is intended primarily for:

- Developers and implementers of the National PCEHR System, PCEHR Conformant Repositories, Clinical Information Systems seeking to interact with the PCEHR System and PCEHR Conformant Portals (normative).
- Organisations that produce software products which seek to interact with the National PCEHR System (normative).
- Jurisdictional eHealth programs (informative).
- The Australian Health Informatics Standards development community (informative).

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

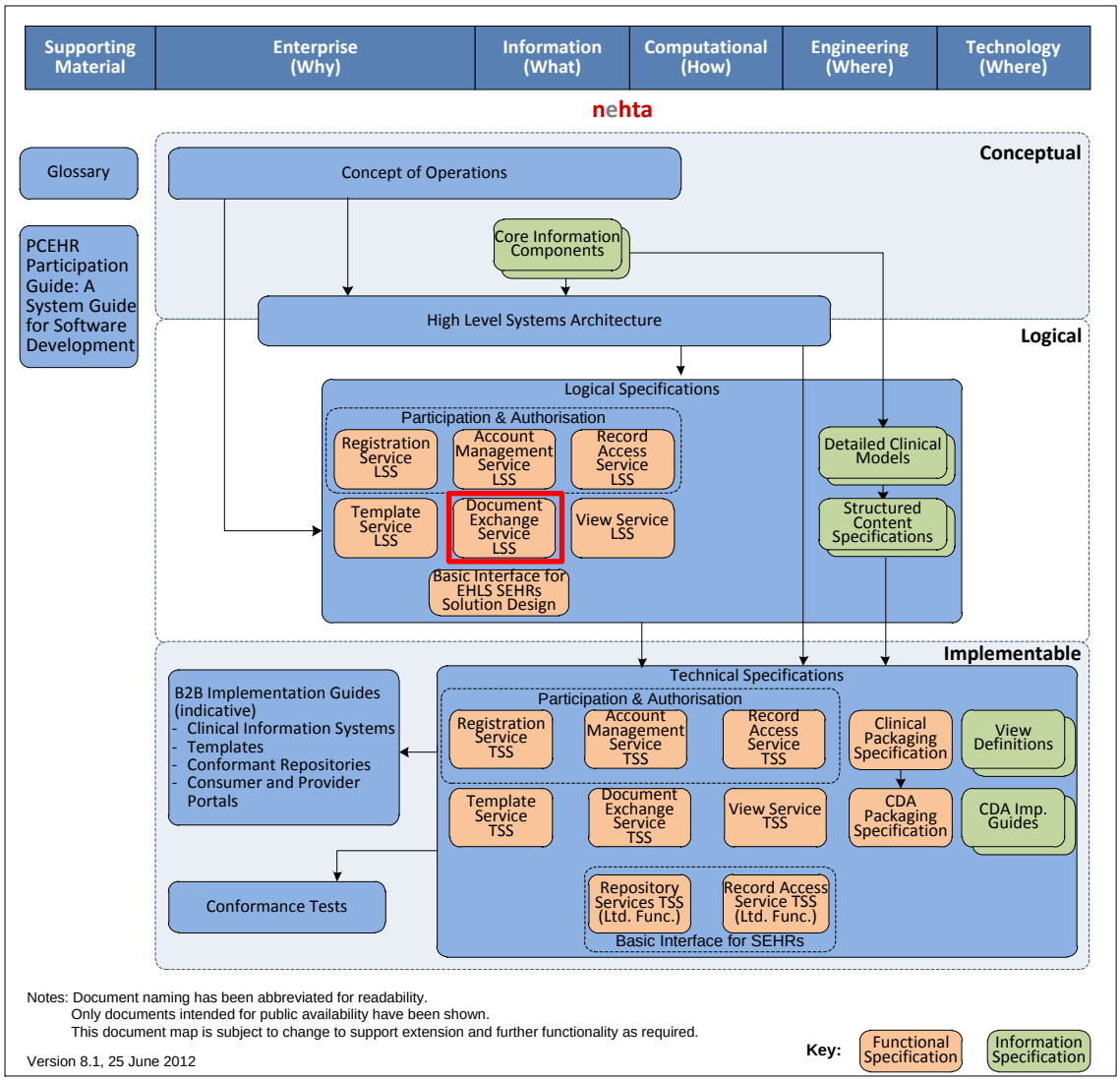


Figure 1 - Document Map

Acronyms and Terminology

Please refer to Appendix C 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 D for details of the references used within this document.

1 Introduction

1.1 Context

This document describes the PCEHR Document Exchange Service. This document describes the functions available for submitting documents to the *PCEHR system*, retrieving documents from the PCEHR system, finding documents, removing documents, changing document access levels and the interfaces required for Conformant Repositories to register and deregister documents within the *PCEHR System* and for the *PCEHR System* to retrieve documents which have been registered from a *Conformant Repository*.

The set of interfaces required to support Document Exchange forms a key part of the PCEHR interface set. However there is a wide range of additional functional areas.

The black highlighted areas in Figure 2 show how this logical service specification fits into the complete set of PCEHR functionality.

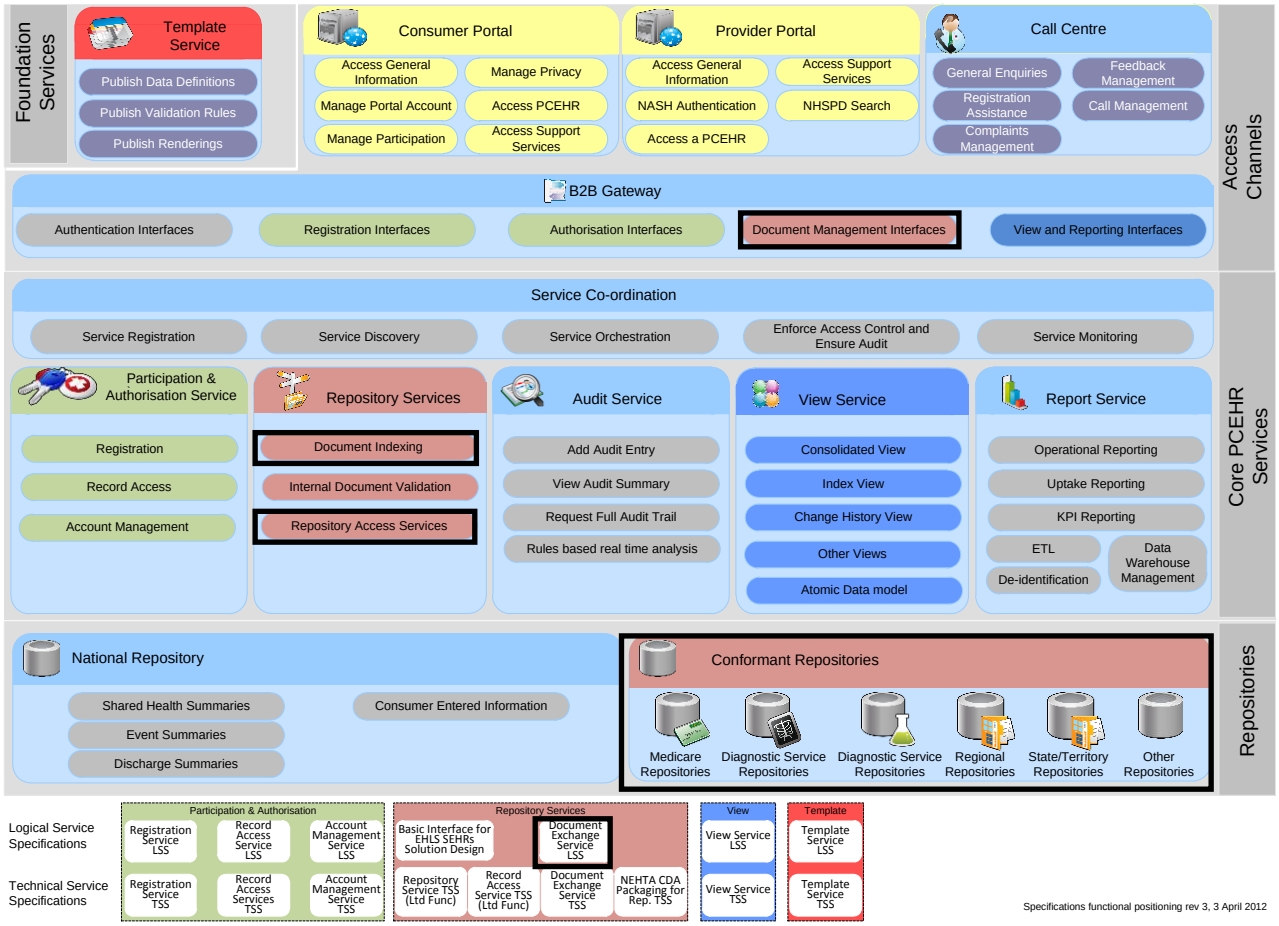


Figure 2 – PCEHR functions addressed

As illustrated in Figure 3 below, the Document Exchange Service is expected to be utilised by Clinical Systems (which, for the purposes of this illustration, includes Contracted Service Providers and Conformant Provider Portals), Conformant Consumer Portals and Conformant Repositories. This is further described in later sections of this document.

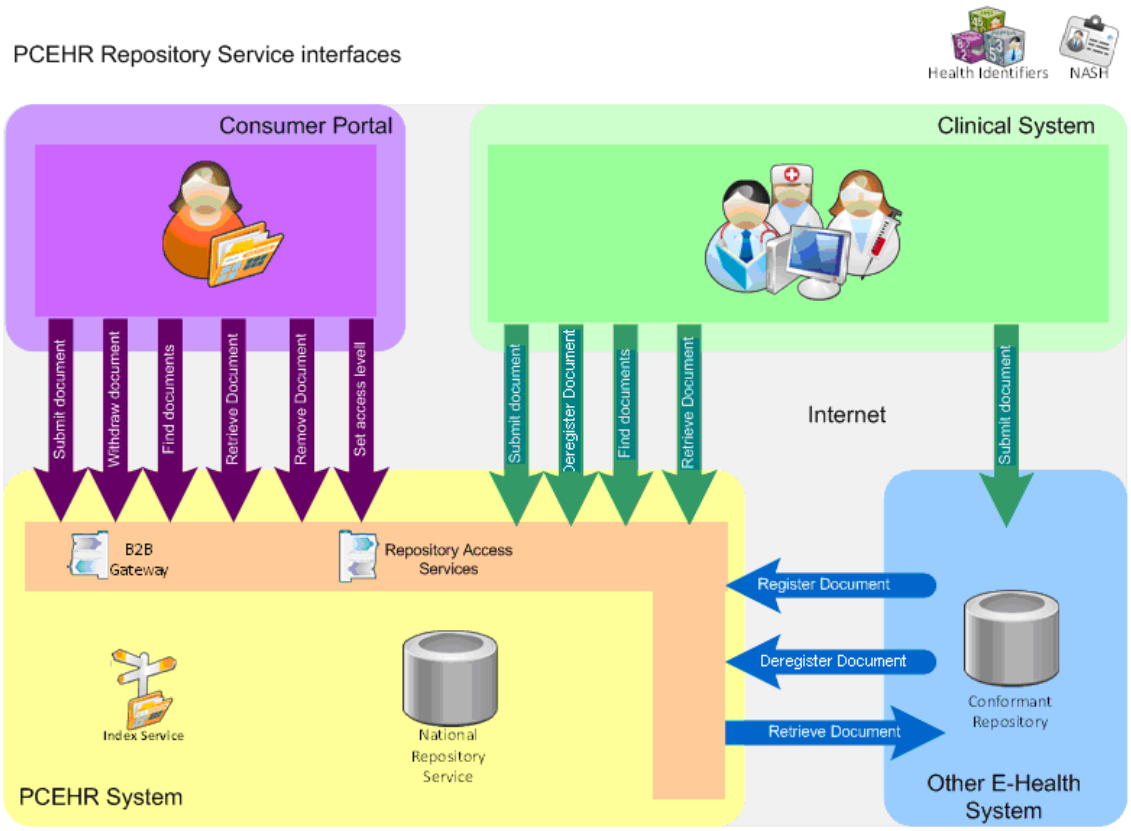


Figure 3 - Document Exchange Service - systems and interactions

1.2 Scope of Document

This document specifies the behaviour that is required of a set of interworking systems. This behaviour is specified in terms of a catalogue of related services that are provided and consumed by those systems. Services are specified in terms of interface contracts.

1.2.1 In Scope

The following items are in scope for this specification.

- The conceptual and logical platform-agnostic specification for the services offered within a shared electronic health record community.
- The definition of key roles and interaction patterns.
- The specification of formal conformance points.

1.2.2 Out of Scope

The following items are explicitly out of scope for this specification:

- Consideration of standards such as Web Services, IHE XDS.b or HSSP's RLUS specification.
- The specification of PCEHR Conformant Portals, PCEHR Conformant Clinical Information Systems or PCEHR Conformant Repositories.
- The internal design for national PCEHR components such as the Index Service.
- Administrative and support related operations which are internal to the PCEHR System.

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 viewpoints relevant to this logical service specification are each covered in a separate section.

1.4 Conformance Points

This specification contains conformance points that identify normative requirements that are to be complied with by systems fulfilling roles identified in this specification.

Conformance points include requirements on a party invoking the service (Service Invoker) and the party providing the service (Service Provider).

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:

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

2 Computational Viewpoint

The computational viewpoint is concerned with describing the functional decomposition of the system into computational objects which interact at their interfaces, including descriptions of services that objects offer and other objects consume, i.e. service contracts in general terms. These objects describe the key functionality of the system to be built, while assuming that necessary infrastructure support and services are specified elsewhere, using engineering and technology viewpoint concepts described below.

This viewpoint is mainly relevant for solution architects and software developers, although a high-level computational description of the interaction between IT systems and users may also be relevant to other readers.

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.

2.1 Services Architecture

2.1.1 Overview

This section provides a summary of the system roles and interactions.

Figure 4 illustrates the key system roles and interactions within the scope of the PCEHR Document Exchange Service.

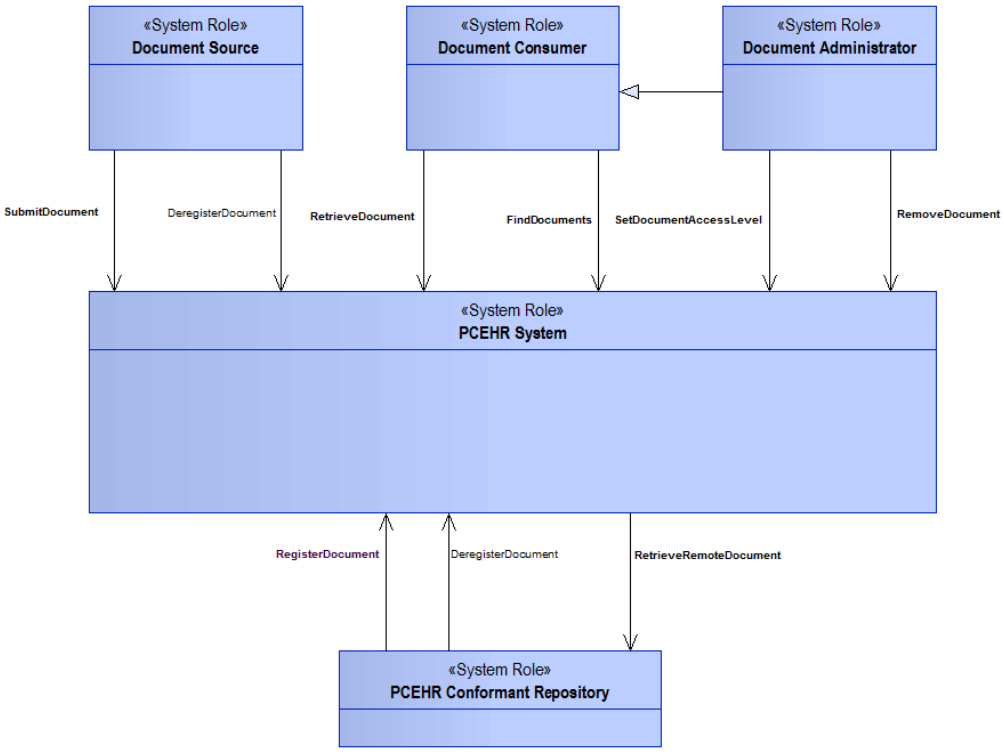


Figure 4 – PCEHR Document Exchange Service interactions

2.1.2 System Roles

Table 1 provides a summary of the roles in order to give context to the following sections. The full detail of each role is provided in the section in the right hand column.

Table 1 - PCEHR Document Exchange Service system roles

System Role	Description and Rationale	Section
Document Source	The *Document Source* represents the creator or submitter of the document within the National PCEHR System. Sources identified at the Healthcare Organisation (PCEHR system participant) level are associated with a Participating Healthcare Provider Identifier – Organisation (HPI-O). Sources (e.g. conformant repositories) not identified as Healthcare Organisations (PCEHR system participants) are identified with a unique identifier issued by the PCEHR System Operator.	2.10
PCEHR Conformant Repository	A *PCEHR Conformant Repository* represents a PCEHR Document Repository which is separate from the PCEHR System.	2.7
Document Administrator	The *Document Administrator* role is responsible for managing the state of documents. An administrator may change the access level associated with a document or logically remove the document.	2.8
PCEHR System	The *PCEHR System* role is responsible for maintaining the set of documents (and associated metadata) linked to each PCEHR, enforcing access policies and providing interfaces to Clinical Systems and portals.	2.6
Document Consumer	The *Document Consumer* represents a consumer of documents within the PCEHR community.	2.9

2.2 Services

Figure 5 shows how the interactions between system roles may be grouped together into logical services. These services provide a logical grouping and are not intended to dictate the physical realisation of the solution.

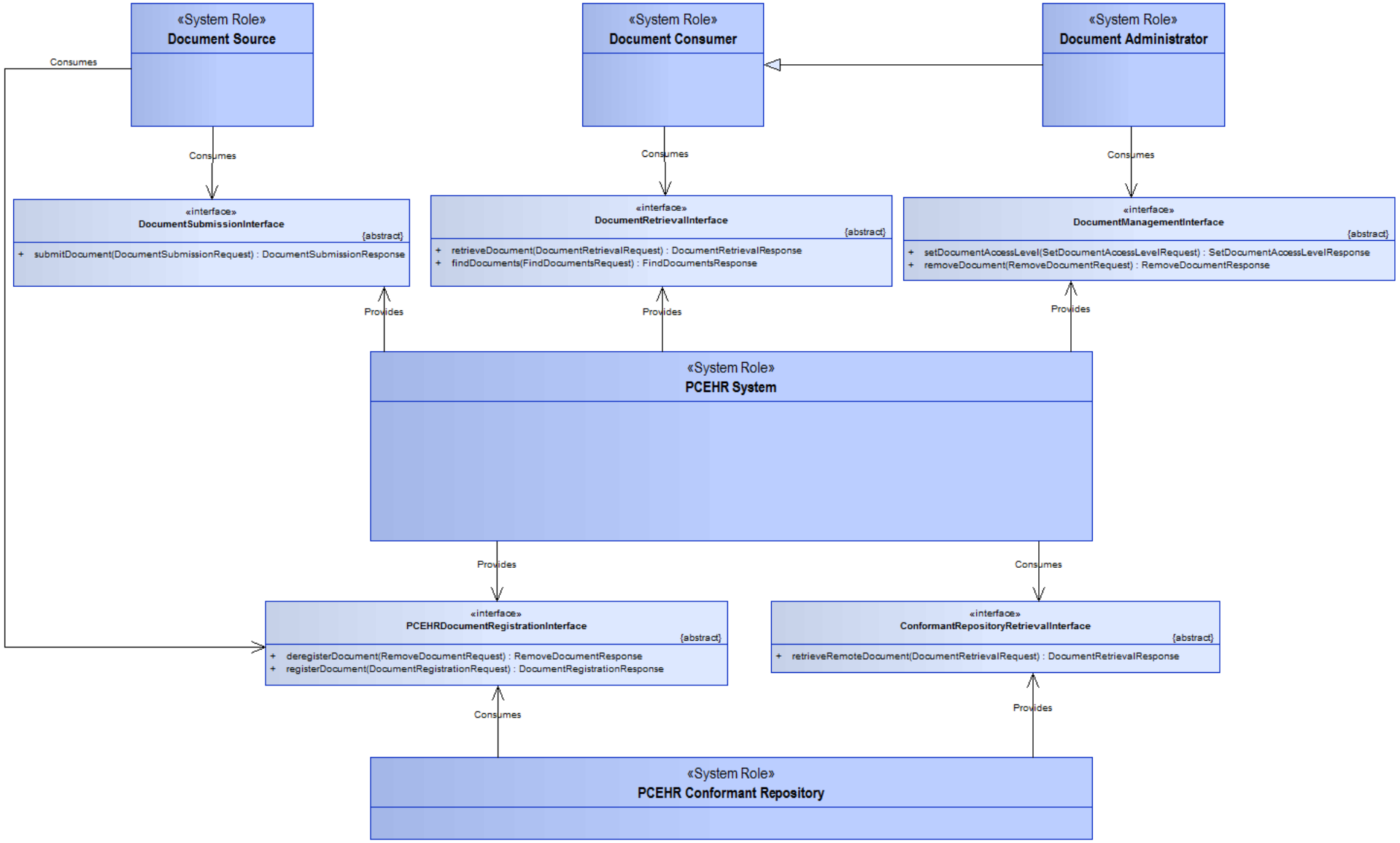


Figure 5 - Mapping of interactions to services

The following sections list the Service Interface and Service Operations identified in Figure 5. It is intended that this section be used as a reference to understand the purpose of each function and the responsibilities attributed to the System roles involved in each operation.

Figure 5 shows the PCEHRDocumentRegistration interface being consumed by the Document Source role, however this role only consumes the deregisterDocument operation within this interface. This is further explained in section 2.10.

Throughout this section, the terms Document and Document Package are used interchangeably to refer to the document or set of documents associated with a PCEHR Document Exchange interaction.

2.3 PCEHR Document Exchange Service Contract

2.3.1 Service Interface – DocumentSubmissionInterface

The DocumentSubmissionInterface encapsulates the set of operations which support the submission of documents to the PCEHR system.

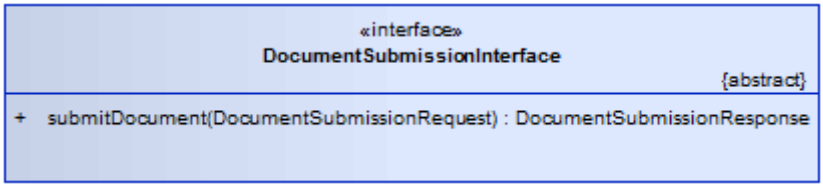


Figure 6 – DocumentSubmissionInterface

This interface provides the following operations.

Table 2 - DocumentSubmissionInterface – Operations

Service Interface – Operations	Mandatory	Comment
submitDocument	Yes	This function is used to submit documents to the PCEHR System.

The following sub-sections provide operation-specific considerations and conformance points for each of the operations defined in the above table.

2.3.1.1 Service Operation – submitDocument

A Service Operation is a specific function which supports communication between two participants.

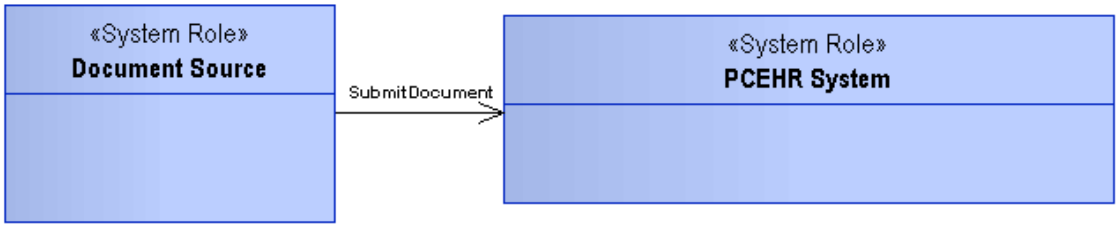


Figure 7 - submitDocument operation

Description

The submitDocument operation is used to submit a document (and the metadata required to support a submission) to the *PCEHR System*. If the request is successful, documents sent across this interface will be stored in the national PCEHR System. Documents which are to be stored in *Conformant Repositories* will be stored directly on these repositories and then registered with the *PCEHR System*. The mechanism for submitting documents to *Conformant Repositories* is not described in this document (although it is suggested that the same interface as that offered by the *PCEHR System* be used).

Systems such as Clinical Information Systems and Consumer Portals may submit documents to the *PCEHR System* in order to allow these documents to be associated with an Individual's record. The role responsible for performing this submission is called *Document Source* and provides a common abstraction across all interacting system types.

Upon successful execution of this operation, the document will be associated with the Individual's record and will be immediately viewable by all appropriately authorised parties.

Preconditions

Conformance Points

DEXS-L 1	The *Document Source* SHALL construct a message conformant with the definition contained within section 3.1.1.
DEXS-L 2	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 3	The *PCEHR System* SHALL validate the Root Document within the Document Package against the definition of the document related to the Template Identifier asserted within the Document Submission.
DEXS-L 4	This operation SHALL only be invoked by systems fulfilling the *Document Source* Role as defined in section 2.10.

Postconditions

Conformance Points

DEXS-L 5	On successful execution, the *PCEHR System* SHALL store the document and associated metadata and return a response message conformant with the response definition contained within section 3.1.11.
DEXS-L 6	The *PCEHR System* SHALL calculate the hash value and size of the Document Package and store these alongside the document submission metadata.

Input, Output and Fault

Operation data fields	Data structures
Input	DocumentSubmissionRequest
Output	GenericServiceResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 7	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.

DEXS-L 8	Upon receipt of a request relating to a PCEHR that does not exist, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 9	Upon receipt of a request relating to a PCEHR that is not active, the *PCEHR System* SHALL return an error and discard the request, other than an amendment to an existing document regardless of the status of the PCEHR.
DEXS-L 10	If the *PCEHR System* receives a DocumentSubmissionRequest containing the same Document ID as a document that has been removed, the PCEHR System SHALL return an error.

Informative note

Documents which have been removed may be amended. Where a removed document is subsequently amended, the DocumentSubmissionRequest providing the amendment will contain a *new* Document ID (and a DocumentVersionInformation entity specifying the relationship to the document being amended).

DEXS-L 11	If the *Document Source* does not receive a response within *n* seconds (where *n* is configurable) then the Document Source SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 12	Upon receipt of a Document Submission containing a Document UUID field which matches the identifier of a document that has already been successfully stored, the *PCEHR System* SHALL return an error and discard the new submission request. The error returned SHALL indicate that the document had been previously stored. The *Document Source* SHALL initiate a process to resolve the conflict.

Informative note

It is likely that this error will occur due to the *Document Source* timing out when waiting for a response to a DocumentSubmissionRequest. As such, the *Document Source* will need to identify this form of error and correlate the response back to previous calls to submitDocument and any associated timeout errors.

DEXS-L 13	Upon receipt of a DocumentSubmissionRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the submission request.

2.3.2 Service Interface – DocumentRetrievalInterface

The Document Retrieval Interface encapsulates the functions supporting searching for and retrieving documents.

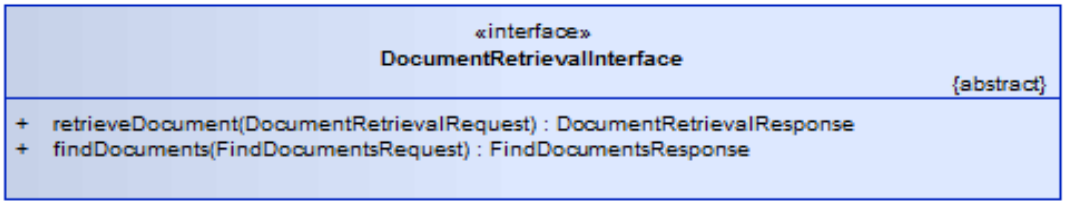


Figure 8 – DocumentRetrievalInterface

A Service Interface is a logical grouping of operations which are offered by a participant within the context of a Service.

Table 3 – Document Retrieval Interface – Operations

Service Interface – Operations	Mandatory	Comment
retrieveDocument	Yes	The retrieveDocument function is used to retrieve documents from the PCEHR System. It may not be used to retrieve documents directly from Conformant Repositories.
findDocuments	Yes	The findDocuments operation is used to find or locate documents which match specified search criteria.

The following sub-sections provide operation-specific considerations and conformance points for each of the operations defined in the above table.

2.3.2.1 Service Operation – retrieveDocument

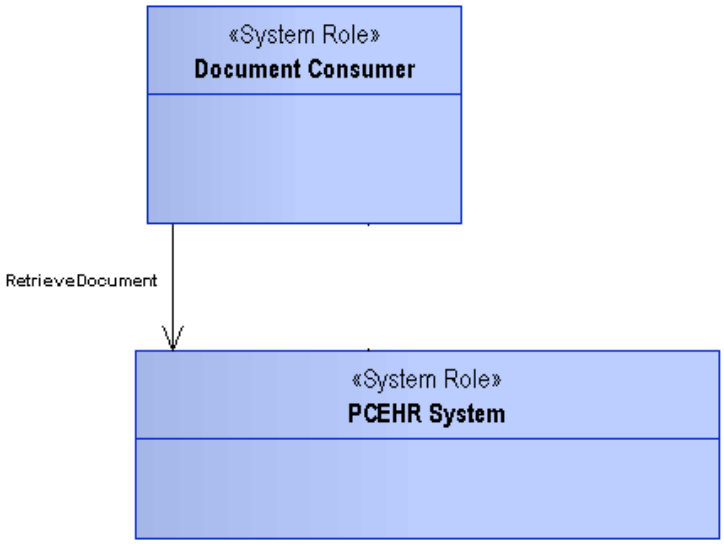


Figure 9 - retrieveDocument operation

Description

The retrieveDocument operation is used to retrieve a specified document from the PCEHR System. All document retrieval is mediated through the PCEHR System, irrespective of whether the document is stored centrally or in a Conformant Repository.

Systems such as Clinical Information Systems, Provider Portals and Consumer Portals may retrieve documents from the PCEHR System. Within the scope of the PCEHR System, all documents associated with PCEHRs may only be retrieved through the central PCEHR System.

This operation allows the retrieval of exactly one document using the document's unique identifier.

The role responsible for retrieving documents is called the *Document Consumer* and provides a common abstraction across all interacting system types.

Once downloaded from the *PCEHR System,* the retrieved document is deemed to be uncontrolled and the *Document Consumer* has no responsibility to monitor and apply any changes in document state which may occur within the PCEHR system.

Preconditions

Conformance Points

DEXS-L 14	The *Document Consumer* SHALL construct a message conformant with the definition contained within section 3.1.4.
DEXS-L 15	This operation SHALL only be invoked by systems fulfilling the *Document Consumer* role as defined in section 2.9.

Postconditions

Conformance Points

DEXS-L 16	On successful execution the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.9.
DEXS-L 17	The *PCEHR System* SHALL validate that the hash of the document retrieved from the PCEHR System or Conformant Repository matches the hash value stored within the document metadata. Where these values do not match, the *PCEHR System* SHALL return an error and SHALL NOT return the document to the *Document Consumer*.

Input, Output and Fault

Operation data fields	Data structures
Input	DocumentRetrievalRequest
Output	DocumentRetrievalResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 18	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 19	Upon receipt of a request relating to a PCEHR that does not exist or is not active, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 20	If the *Document Consumer* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *Document Consumer* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 21	Upon receipt of a DocumentRetrievalRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 22	Upon receipt of a DocumentRetrievalRequest relating to a document that is not associated with the PCEHR or does not exist, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 23	Upon receipt of a DocumentRetrievalRequest from a Document Consumer other than the individual, document author or system operator relating to a document that has been removed or deregistered, the *PCEHR System* SHALL return an error and discard the request.

2.3.2.2 Service Operation – findDocuments

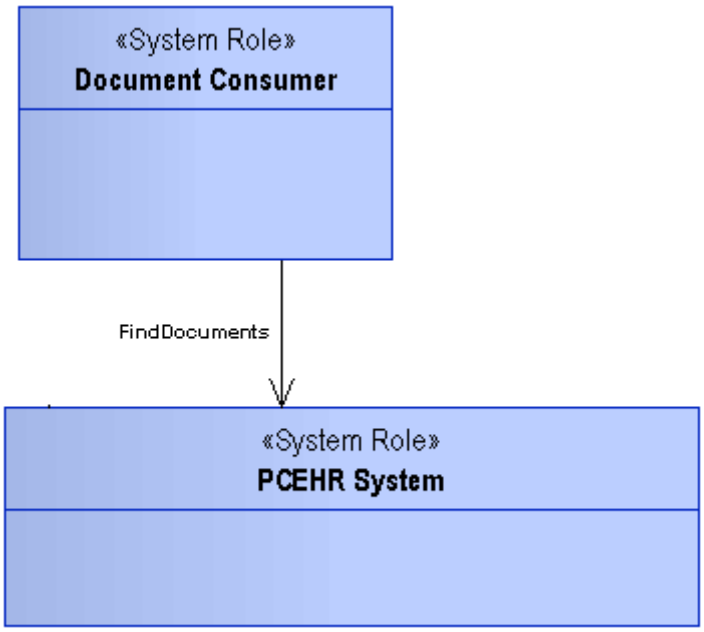


Figure 10 - findDocuments Operation

Description

The findDocuments operation may be used to search for one or more documents associated with a PCEHR within the PCEHR System which match the search criteria provided by the *Document Consumer*. The operation does not return the set of documents themselves, but rather returns the details required to retrieve each document and the metadata which describes each entry.

The search criteria is limited to data extracted from the metadata which was provided when the document was submitted and it is not possible to find documents based on contents within the body of the document. To reflect this there is no Conformant Repository involvement within the execution of the findDocuments operation.

Preconditions

Conformance Points

DEXS-L 24	The *Document Consumer* SHALL construct a message conformant with the definition contained within section 3.1.5.
DEXS-L 25	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 26	This operation SHALL only be invoked by systems fulfilling the *Document Consumer* role as defined in section 2.9.

Postconditions

Conformance Points

DEXS-L 27	On successful execution, the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.10.
DEXS-L 28	If the *PCEHR System* does not find any documents which match the provided search criteria, the *PCEHR System* SHALL return a success response indicating that no matches were found. The *PCEHR System* SHALL NOT return an error.

Input, Output and Fault

Operation data fields	Data structures
Input	FindDocumentsRequest
Output	FindDocumentsResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 29	If an error occurs while processing the request the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 30	Upon receipt of a request relating to a PCEHR that does not exist or is not active the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 31	If the *Document Consumer* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *Document Consumer* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 32	Upon receipt of a FindDocumentsRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the request.

2.3.3 Service Interface - DocumentManagementInterface

The Document Management Interface provides the set of operations required to perform operations such as document deletion and the changing of document access levels.

.

A Service Interface is a logical grouping of operations which are offered by a participant within the context of a Service.

Table 4 – Document Management Interface – Operations

Service Interface – Operations	Mandatory	Comment
setDocumentAccessLevel	Yes	The setDocumentAccessLevel operation is used to change the access level associated with a document.
removeDocument	Yes	The removeDocument operation is used to logically delete the document from the PCEHR.

The following sub-sections provide operation specific considerations and conformance points for each of the operations defined in the above table.

2.3.3.1 Service Operation – setDocumentAccessLevel

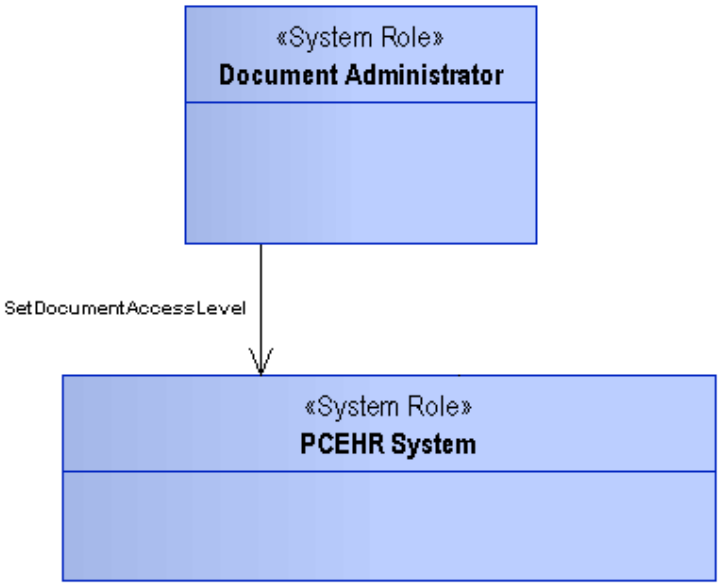


Figure 11 - setDocumentAccessLevel operation

Description

The setDocumentAccessLevel operation may be used to change the access level associated with the document.

The management of this information may only be performed by an Individual or their authorised representatives. The Document Administrator role provides an abstraction of the system role allowed to perform this operation and is expected to only be realised by instances of the Consumer Portal.

Preconditions

Conformance Points

DEXS-L 33	The *Document Administrator* SHALL construct a message conformant with the definition contained within section 3.1.6.
DEXS-L 34	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 35	This operation SHALL only be invoked by systems fulfilling the *Document Administrator* role as defined in section 2.8.

Postconditions

Conformance Points

DEXS-L 36	On successful execution the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.11.

Input, Output and Fault

Operation data fields	Data structures
Input	SetDocumentAccessLevelRequest
Output	GenericServiceResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 37	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 38	Upon receipt of a request relating to a PCEHR that does not exist or is not active, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 39	If the *Document Administrator* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *Document Administrator* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 40	Upon receipt of a SetDocumentAccessLevelIRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 41	Upon receipt of a SetDocumentAccessLevelIRequest containing an invalid access level, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 42	Upon receipt of a SetDocumentAccessLevelIRequest containing the same access level as the one currently assigned to the document, the *PCEHR System* SHALL return a successful response.
DEXS-L 43	Upon receipt of a SetDocumentAccessLevelRequest relating to a document that is not associated with the specified PCEHR, is inactive, or does not exist, the *PCEHR System* SHALL return an error and discard the request.

2.3.3.2 Service Operation – removeDocument

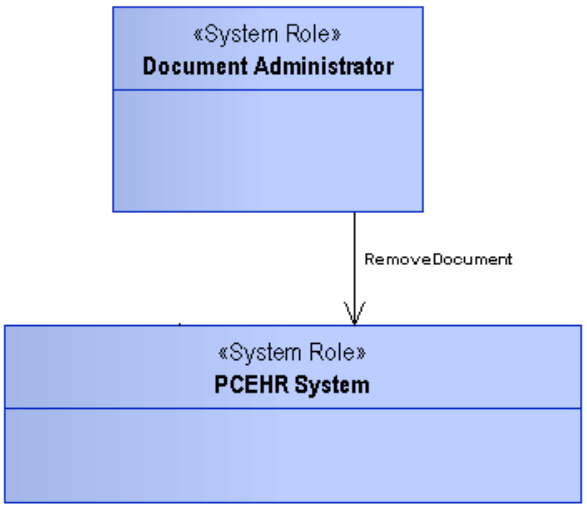


Figure 12 - removeDocument operation

Description

The removeDocument operation may be used to logically remove a document from a PCEHR. The function retains the document and underlying metadata but removes the document from certain views of the PCEHR. The presence of the document may still be seen by the Individual, the document author and system administrators.

While the document is removed from the visible PCEHR, it may still be stored within the National Repository or a Conformant Repository and may still be viewed by actors in other communities who share the underlying repository.

The removal of documents from a PCEHR may only be performed by the Individual or their authorised representatives. The *Document Administrator* role provides an abstraction of the system role allowed to perform this operation and is expected to only be realised by instances of the Consumer Portal.

Preconditions

Conformance Points

DEXS-L 44	The *Document Administrator* SHALL construct a message conformant with the definition contained within section 3.1.7.
DEXS-L 45	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 46	This operation SHALL only be invoked by systems fulfilling the *Document Administrator* role as defined in section 2.8.

Postconditions

Conformance Points

DEXS-L 47	On successful execution, the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.11.

Input, Output and Fault

Operation data fields	Data structures
Input	RemoveDocumentRequest
Output	GenericServiceResponse
Fault	GenericServiceFault

The RemoveDocumentRequest data type is used across all registration and removal data operations.

Exception Conditions

Conformance Points

DEXS-L 48	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 49	Upon receipt of a request relating to a PCEHR that does not exist or is not active, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 50	If the *Document Administrator* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *Document Administrator* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 51	Upon receipt of a RemoveDocumentRequest containing the same Message ID as a message that has been previously received the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 52	Upon receipt of a RemoveDocumentRequest relating to a document that is not associated with the identified PCEHR, has already been removed or does not exist, the *PCEHR System* SHALL return an error and discard the request.

2.4 Conformant Repository Service Contract

2.4.1 Service Interface – PCEHRDocumentRegistrationInterface

The PCEHRDocumentRegistration interface encapsulates the operations required to support the registration and deregistration of documents within the PCEHR System by Conformant Repositories.

Figure 13 - PCEHRDocumentRegistration interface

A Service Interface is a logical grouping of operations which are offered by a participant within the context of a Service.

Table 5 - Service Interface PCEHRDocumentRegistrationInterface – Operations

Service Interface – Operations	Mandatory	Comment
registerDocument	Yes	The registerDocument operation registers a document stored within a Conformant Repository within the PCEHR index.
deregisterDocument	Yes	The deregisterDocument operation allows a conformant repository to logically remove a document from the national PCEHR index on behalf of the document author. Documents may only be deregistered by the party that registered the document.

The following sub-sections provide operation specific considerations and conformance points for each of the operations defined in the above table.

2.4.1.1 Service Operation – registerDocument

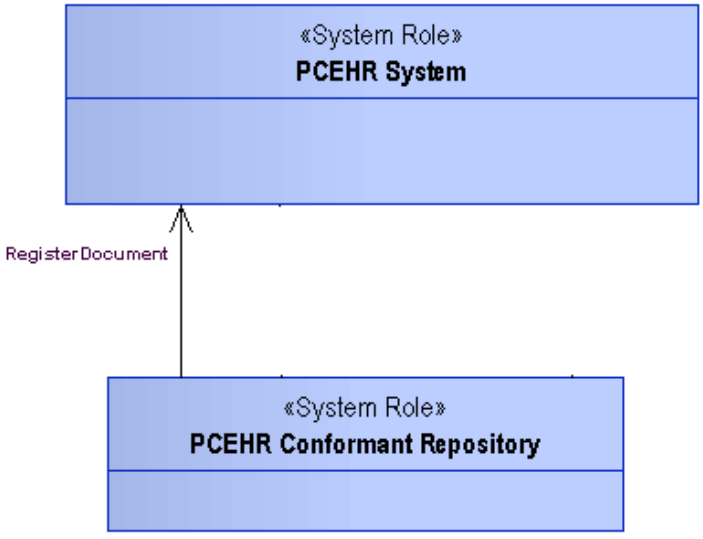


Figure 14 - registerDocument operation

Description

The registerDocument operation allows documents stored within a Conformant Repository to be associated with a PCEHR within the national PCEHR System. Until a document is registered with the PCEHR System, it will not be accessible via the PCEHR System retrieval interfaces.

The entity fulfilling the *PCEHR Conformant Repository* role is responsible for validating the document and creating the PCEHR registration metadata.

Documents may only be registered by systems fulfilling the *PCEHR Conformant Repository* role.

Preconditions

Conformance Points

DEXS-L 53	The *PCEHR Conformant Repository* SHALL construct a message conformant with the definition contained within section 3.1.8.
DEXS-L 54	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 55	The *PCEHR Conformant Repository* SHALL validate the document against the definition of the document type asserted by the Template Identifier.
DEXS-L 56	This operation SHALL only be invoked by systems fulfilling the *PCEHR Conformant Repository* role as defined in section 2.7.

Postconditions

Conformance Points

DEXS-L 57	On successful execution, the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.11.
DEXS-L 58	The *PCEHR Conformant Repository* SHALL retain the document relating to the registration request in accordance with the PCEHR retention policies.

Input, Output and Fault

Operation data fields	Data structures
Input	DocumentRegistrationRequest
Output	GenericServiceResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 59	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 60	Upon receipt of a request relating to a PCEHR that does not exist or is not active, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 61	If the *PCEHR Conformant Repository* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *PCEHR Conformant Repository* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 62	Upon receipt of a DocumentRegistrationRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the request.

DEXS-L 63	Upon receipt of a DocumentRegistrationRequest containing a Document ID field which matches the identifier of a document that has already been successfully stored, the *PCEHR System* SHALL return an error and discard the new submission request. The error returned SHALL indicate that the document had been previously stored. The *PCEHR Conformant Repository* SHALL initiate a process to resolve the conflict.

Informative note

It is likely that this error will occur due to the *Document Source* timing out when waiting for a response to a DocumentRegistrationRequest. As such, the *PCEHR Conformant Repository* will need to identify this form of error and correlate the response back to previous calls to registerDocument and any associated timeout errors.

2.4.1.2 Service Operation – deregisterDocument

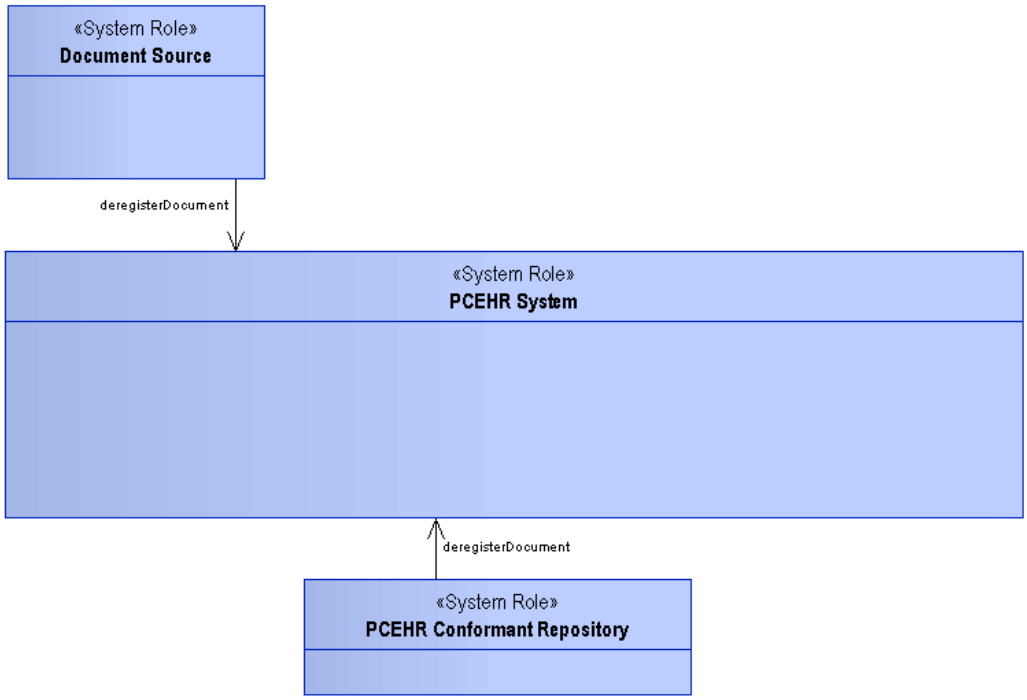


Figure 15 - deregisterDocument operation

Description

The deregisterDocument operation may be used to withdraw a document which has previously been registered with the PCEHR System by a *PCEHR Conformant Repository*.

The function removes the document from some views of the PCEHR. The presence of the document may still be seen by the Individual, the document author and PCEHR System Administrators. While the document is removed from the visible PCEHR using the deregisterDocument operation, it may still be stored within the Conformant Repository and may be viewed by actors in other communities who share the underlying repository.

At the logical level, this function is included in addition to the removeDocument operation in order to illustrate the difference in behaviour between entities fulfilling the *Document Source* and *PCEHR Conformant Repository* roles and an Individual or Representative managing a PCEHR (and fulfilling the *Document Administrator*) role.

A *Document Source* or *PCEHR Conformant Repository* may deregister a document which they have submitted or registered in the PCEHR System, and an Individual or representative fulfilling the Document Administrator role may remove any documents associated with the PCEHR they administrate.

Preconditions

Conformance Points

DEXS-L 64	The *PCEHR Conformant Repository* or *Document Source* SHALL construct a message conformant with the definition contained within section 3.1.7.
DEXS-L 65	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 66	This operation SHALL only be invoked by systems fulfilling the *Document Source* or *PCEHR Conformant Repository* roles as defined in section 2.7 and 2.10 and may only be performed by the organisation that registered or submitted the document.

Postconditions

Conformance Points

DEXS-L 67	On successful execution, the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.11.

Input, Output and Fault

Operation data fields	Data structures
Input	RemoveDocumentRequest
Output	GenericServiceResponse
Fault	GenericServiceFault

The RemoveDoucmentRequest data type is used across all registration and removal data operations.

Exception Conditions

Conformance Points

DEXS-L 68	If an error occurs while processing the request, the *PCEHR System* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 69	If the *PCEHR Conformant Repository or Document Source* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *PCEHR Conformant Repository* or *Document Source* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 70	Upon receipt of a RemoveDocumentRequest containing the same Message ID as a message that has been previously received, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 71	Upon receipt of a RemoveDocumentRequest relating to a document that is not associated with the PCEHR, or does not exist, the *PCEHR System* SHALL return an error and discard the request.
DEXS-L 72	Upon receipt of a RemoveDocumentRequest from an entity asserting an identity other than that used to register the document, the *PCEHR System* SHALL return an error and discard the request.

2.4.2 Service Interface – ConformantRepositoryRetrievalInterface

The ConformantRepositoryRetrieval interface encapsulates the functions required for the PCEHR System to retrieve documents from a Conformant Repository.

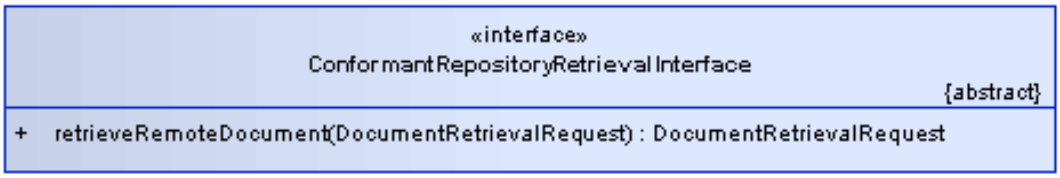


Figure 16 - ConformantRepositoryRetrieval interface

Table 6 – ConformantRepositoryRetrieval interface – Operations

Service Interface – Operations	Mandatory	Comment
retrieveRemoteDocument	Yes	This operation allows the PCEHR System to retrieve a document from a Conformant Repository. This interface is not intended to allow Clinical Information Systems or Portals to retrieve documents directly from a Conformant Repository.

The following sub-sections provide operation specific considerations and conformance points for each of the operations defined in the above table.

2.4.2.1 Service Operation - retrieveRemoteDocument

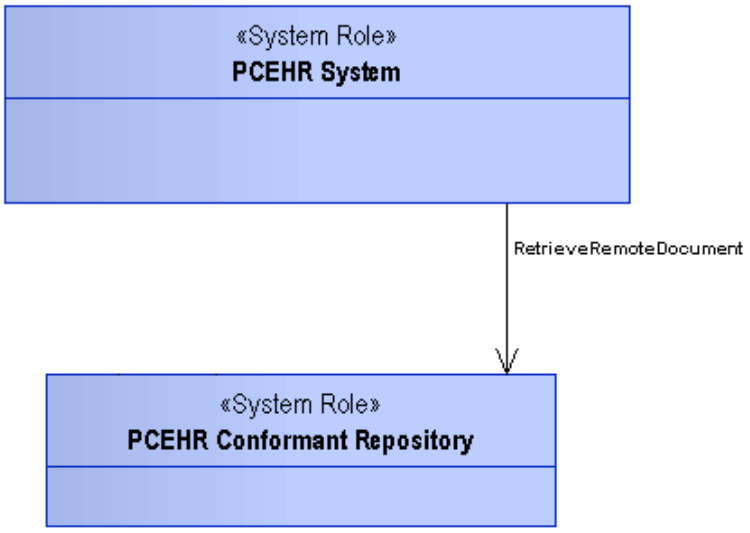


Figure 17 - retrieveRemoteDocument operation

Description

The retrieveRemoteDocument operation is used to allow the PCEHR System to retrieve documents from a Conformant Repository. This interface is not intended to allow Clinical Information Systems or Portals to access conformant repositories directly, as all such interaction will be mediated through the PCEHR System.

The link between the entity fulfilling the PCEHR System role and entities fulfilling the PCEHR Conformant Repository role is deemed to be a trusted connection and all access control is performed centrally by the PCEHR System role.

Preconditions

Conformance Points

DEXS-L 73	The *PCEHR System* SHALL construct a message conformant with the definition contained within section 3.1.4.
DEXS-L 74	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.
DEXS-L 75	This operation SHALL only be invoked by systems fulfilling the *PCEHR System* role as defined in section 2.6.

Postconditions

Conformance Points

DEXS-L 76	On successful execution, the *PCEHR System* SHALL return a response message conformant with the response definition contained within section 3.1.11.
DEXS-L 77	The entity fulfilling the *PCEHR Conformant Repository* role SHALL return the document directly to the entity fulfilling the *PCEHR System* role and SHALL NOT apply any additional policy enforcement or access filtering on the request.
DEXS-L 78	The *PCEHR System* SHALL validate that the hash value of the document retrieved from the *PCEHR Conformant Repository* matches the hash value stored within the document metadata. Where these values do not match, the *PCEHR System* SHALL log an error and initiate a process to inform the *PCEHR Conformant Repository.* Where this operation invocation forms part of a retrieveDocument operation initiated by an entity fulfilling the Document Consumer role, the document SHALL not be returned to the Document Consumer if the document does not match the stored hash value.

Input, Output and Fault

Operation data fields	Data structures
Input	DocumentRetrievalRequest
Output	DocumentRetrievalResponse
Fault	GenericServiceFault

Exception Conditions

Conformance Points

DEXS-L 79	If an error occurs while processing the request, the *PCEHR Conformant Repository* SHALL construct a response message conformant with the fault definition contained within section 3.1.12.
DEXS-L 80	If the *PCEHR System* does not receive a response within *n* seconds (where *n* is agreed with the service operator), the *PCEHR System* SHALL cease waiting for a response and MAY repeat the request. The repeat request SHALL contain a new Message ID.
DEXS-L 81	Upon receipt of a RemoteDocumentRetrievalRequest containing the same Message ID as a message that has been previously received, the *PCEHR Conformant Repository* SHALL return an error and discard the request.
DEXS-L 82	Upon receipt of a RemoteDocumentRetrievalRequest relating to a document that is not stored within the Conformant Repository, the *PCEHR Conformant Repository* SHALL return an error and discard the request.

2.5 Common Specifications

2.5.1 Audit

The auditing of interaction with the PCEHR System is the responsibility of the PCEHR System. The *PCEHR System* will retain a record of all access attempts. Other actors are not required to record audit data, although they may do so to satisfy local requirements.

The *PCEHR System* will not provide a central auditing service.

Conformance Points

DEXS-L 83	The entity fulfilling the *PCEHR System* role SHALL audit all invocation attempts and results.
DEXS-L 84	Entities who are not fulfilling the *PCEHR System* role, but are realising other roles defined within this specification, SHOULD audit all interaction invocation attempts and the associated results. These audit entries SHOULD be logged in alignment with RFC3881 [RFC3881].

2.6 System role – PCEHR System

The PCEHR System role encompasses all of the functionality relating to indexing documents, retrieving documents and managing access through to conformant repositories.

2.6.1 Role Considerations

The National *PCEHR System* is the only provider of the *PCEHR System*.

2.6.1.1 Identification

PCEHR System Identification is deferred to implementable detail within the Technical Service Specification.

2.6.1.2 Authentication and Authorisation

Conformance Points

DEXS-L 85	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.

2.6.2 Services Provided

The PCEHR System performs a service provider role for most of the functions which support the core Document Exchange Service Document Exchange functionality.

Conformance Points

DEXS-L 86	The *PCEHR System* role SHALL provide all of the operations defined within the PCEHR Document Registration interface in accordance with the specification set out in section 2.4.1.
DEXS-L 87	The *PCEHR System* role SHALL provide all of the operations defined within the PCEHR Document Submission interface in accordance with the specification set out in section 2.3.1.
DEXS-L 88	The *PCEHR System* role SHALL provide all of the operations defined within the Document Management interface in accordance with the specification set out in section 2.3.3.

DEXS-L 89	The *PCEHR System* role SHALL provide all of the operations defined within the Document Retrieval interface in accordance with the specification set out in section 2.3.2.

2.6.3 Services Consumed

Conformance Points

DEXS-L 90	The *PCEHR System* role SHALL be able to consume all of the operations defined within the Conformant Repository Retrieval interface in accordance with the specification set out in section 2.4.2.

2.7 System role – PCEHR Conformant Repository

The *PCEHR Conformant Repository* role encompasses the functionality related to storing PCEHR data within repositories external to the PCEHR System.

This role will typically be fulfilled by entities such as eHealth Lead Site Shared EHR Systems, Prescription Exchange Services and Pathology Repositories.

2.7.1 Role Considerations

2.7.1.1 Identification

Conformance Points

DEXS-L 91	The *PCEHR Conformant Repository* SHALL be identified using a Conformant Repository Provider (CRP) Identifier provided by the National HI Service or issued by the PCEHR System Operator.

2.7.1.2 Authentication and Authorisation

Conformance Points

DEXS-L 92	All inter-system communication SHALL occur over a mutually authenticated secure and encrypted communication channel.

2.7.2 Services Provided

Conformance Points

DEXS-L 93	The *PCEHR System* role SHALL provide all of the operations defined within the PCEHR Conformant Repository Retrieval interface in accordance with the specification set out in section 2.4.2.

2.7.3 Services Consumed

Conformance Points

DEXS-L 94	The *PCEHR Conformant Repository* role SHALL be able to consume all of the operations defined within the PCEHR Document Registration interface in accordance with the specification set out in section 2.4.1.

2.8 System Role – Document Administrator

The Document Administrator role encompasses all of the functionality related to managing document confidentiality levels or removing documents within the context of a single PCEHR.

This role will typically be fulfilled by a Consumer Portal.

2.8.1 Role Considerations

Conformance Points

DEXS-L 95	Entities fulfilling the *Document Administrator* role SHALL also fulfil the *Document Consumer* role.

2.8.2 Services Consumed

Conformance Points

DEXS-L 96	The *Document Administrator* role SHALL be able to consume all of the operations defined within the Document Management interface in accordance with the specification set out in section 2.3.3.

2.9 System Role – Document Consumer

The Document Consumer role encompasses the functionality relating to searching for, downloading and viewing documents with a single PCEHR.

This role will typically be fulfilled by Provider Portals, Consumer Portals and Clinical Information Systems.

2.9.1 Services Consumed

Conformance Points

DEXS-L 97	The *Document Consumer* role SHALL be able to consume all of the operations defined within the Document Retrieval interface in accordance with the specification set out in section 2.3.2.

2.10 System Role – Document Source

The *Document Source* role is responsible for submitting documents to the PCEHR System.

This role will typically be fulfilled by a Clinical Information System but may be fulfilled via a Consumer Portal (for documents such as Consumer Entered Notes).

2.10.1 Role Considerations

Conformance Points

DEXS-L 98	Entities fulfilling the *Document Source* role SHALL maintain a copy of all Document Packages submitted to the PCEHR System.

2.10.2 Services Consumed

Conformance Points

DEXS-L 99	The *Document Source* role SHALL be able to consume all of the operations defined within the Document Submission interface in accordance with the specification set out in section 2.3.1.
DEXS-L 100	The *Document Source* role SHALL be able to consume the deregisterDocument operation defined within the Document Registration interface in accordance with the specification set out in section 2.4.1.
DEXS-L 101	The *Document Source* role SHALL NOT consume the registerDocument operation defined within the Document Registration interface shown in section 2.4.1.

3 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 contribution here 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.

3.1 Service Operation Data Types

3.1.1 DocumentSubmissionRequest

The DocumentSubmissionRequest Entity provides a definition for the submitDocument interface input parameter.

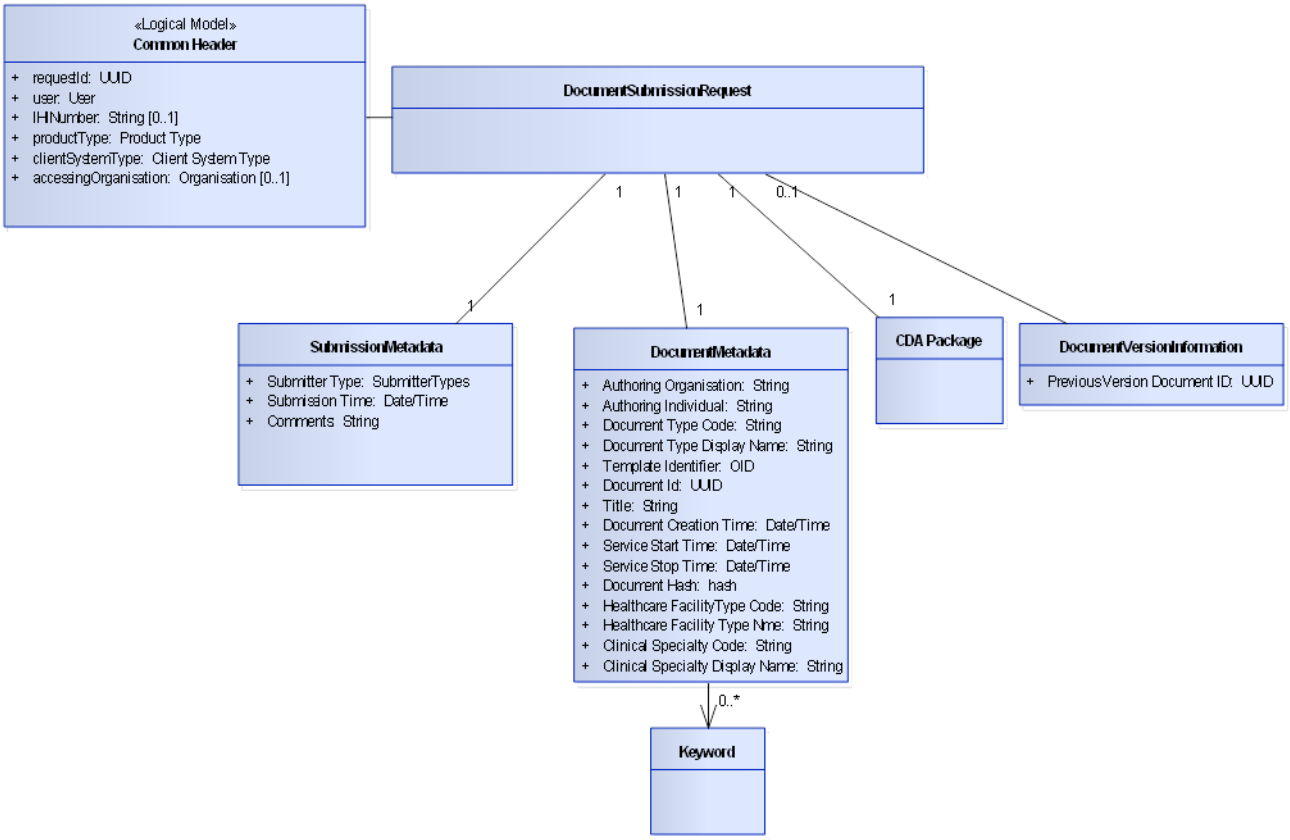


Figure 18 - DocumentSubmissionRequest

Table 7 - DocumentSubmissionRequest

DocumentSubmissionRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header.	1
Submission Request Metadata	SubmissionMetadata	The metadata which relates to the entire the submission.	1

DocumentSubmissionRequest			
Document Metadata	DocumentMetadata	The metadata for the document.	1
Document Package	CDA Package	The entity encapsulating the root document and any related artefacts.	1
Document Version Information	DocumentVersionInformation	This entity encapsulates the relationship between the current document version and previously stored versions.	0..1

Conformance Points

DEXS-L 102 A DocumentSubmissionRequest SHALL contain exactly one Document Package.

DEXS-L 103 A DocumentSubmissionRequest SHALL only contain a Document Version Information entity where the current document is intended to be submitted as a revision to a document already stored within the PCEHR System.

DEXS-L 104 When submitting a document on behalf of a healthcare provider, the Source System User ID within the Common Header SHALL be provided and the Source System User Type SHALL be set to HPI-I.

DEXS-L 105 When submitting a document, the IHI Number field within the Common Header SHALL be provided.

3.1.2 SubmissionMetadata

The SubmissionMetadata encapsulates the set of metadata that describes a Document Submission. Additional data is provided at the document level.

Table 8 - SubmissionMetadata

SubmissionMetadata			
Field	**Data Type**	**Description**	**Cardinality**
Submitter Type	String	This is an enumeration and must be either: ORGANISATION (PCEHR system participant) or INDIVIDUAL	1
SubmissionDateTime	Date time	The date and time that the document was submitted to the PCEHR System.	1
Comments	String	Comments deemed relevant by the entity submitting or registering the document.	0..1

3.1.3 DocumentMetadata

The DocumentMetadata entity encapsulates the set of metadata associated with a document.

Table 9: DocumentMetadata

DocumentMetadata			
Field	**Data Type**	**Description**	**Cardinality**
Authoring Organisation	String	The identifier of the organisation that authored the document.	0..1
Authoring Individual	String	The identifier of the individual that authored the document.	0..1
Document Type Code	String	A code relating to the type of document being submitted.	1
Document Type Display Name	String	A display-friendly name for the document type.	0..1
PCEHR Template Identifier	OID	The identifier of the template this document conforms to.	1
Document ID	UUID	A universally unique identifier relating to the document. This must be unique within the PCEHR System.	1
Title	String	An optional title for the given document.	0..1
Document Creation Time	Date time	The time the document was created.	1
Service Start Time	Date time	The datetime that the service being performed, which caused the document to be created, started.	1
Service Stop Time	Date time	The datetime that the service being performed, which caused the document to be created, stopped. The Service Stop Time may be set to the same value as the Service Start Time in order to indicate the datetime of an event.	1
Document Hash	Hash	A SHA-512 hash representation of the document.	0..1
Keyword	String	One or more keywords which are related to the document submission.	0..*
Healthcare Facility Type Code	String	A code identifying the type of healthcare facility where the event relating to this document submission request initiated.	1
Healthcare Facility Type Name	String	A display friendly name for the above code.	1
Clinical Speciality Code	String	A code identifying the clinical specialty where the event relating to this document submission request initiated.	1
Clinical Specialty Display Name	String	A display friendly name for the above specialty.	1

Conformance Points

DEXS-L 106 The Document ID field SHALL be universally unique within the entire PCEHR system.

DEXS-L 107 The Document Hash field SHALL only be populated when the DocumentMetadata is provided as part of a DocumentRegistrationRequest. If the Document Hash value is provided as part of any other operation, the value SHALL be disregarded.

DEXS-L 108 The Document Hash field SHALL be generated using the SHA-512 hashing algorithm.

DEXS-L 109 The Replacement Document Identifier SHALL be provided where this document is intended to replace an existing document. Where this value is provided, the PCEHR System SHALL associate the new document with the document identified by the replacement document identifier and mark the new document as superseding the document identified by the replacement document identifier.

DEXS-L 110 Where the Replacement Document Identifier does not match a document ID stored within the PCEHR System, the PCEHR System SHALL return an error and discard the submission request.

DEXS-L 111 The *Document Source* SHALL store the Document ID of all documents submitted to the PCEHR system for use when replacing or deregistering documents.

DEXS-L 112 Where the document is submitted on behalf of a Healthcare Provider, the *Document Source* SHALL provide the Authoring Organisation and Authoring Individual.

DEXS-L 113 The Document Type Code SHALL be set to a value specified within the Concept Code column in Table 30 in Appendix B.

DEXS-L 114 The Document Type Display Name SHALL be set to the Display Name in Table 30 in Appendix B, which directly corresponds to the Document Type Code provided within the message.

DEXS-L 115 The Healthcare Facility Type Code SHALL be set to a value specified within the Concept Code column in Table 31 in Appendix B.

DEXS-L 116 The Healthcare Facility Type Name SHALL be set to the Display Name in Table 31 in Appendix B, which directly corresponds to the Healthcare Facility Type Code provided within the message.

DEXS-L 117 The Clinical Specialty Code SHALL be set to a value specified within the Concept Code column in Table 32 in Appendix B.

DEXS-L 118 The Clinical Specialty Name SHALL be set to the Display Name in Table 32 in Appendix B, which directly corresponds to the Clinical Specialty Code provided within the message.

3.1.3.1 Document Version Information

The Document Version Information entity allows a Document Source or Conformant Repository to relate two individual documents as being versions of the same root document.

Table 10: DocumentVersionInformation

DocumentVersionInformation			
Field	**Data Type**	**Description**	**Cardinality**
Previous Version Document ID	UUID	The unique identifier of the document which this document replaces.	1

Conformance Points

DEXS-L 119	The *PCEHR System* SHALL return an error and discard the request where the Previous Version Document ID does not relate to a document associated with the targeted Individual's PCEHR.
DEXS-L 120	A document SHALL be deemed to be the current version of a document if it has not been replaced by another Document Submission or Registration request within the *PCEHR System*.
DEXS-L 121	The *PCEHR System* SHALL return an error and discard the request where the document identified by the Previous Version Document ID does not represent the current version of the document.

Informative note

Situations may occur where all versions of a document are not sent to the PCEHR System. Where this occurs, the Document Source or PCEHR Conformant Repository will be required to provide the identifier of the version previously sent to the PCEHR System in the Previous Document ID field. This may require entities fulfilling the above roles to maintain the state of which document versions have been presented to the PCEHR System and the identifiers used.

Informative note

The PCEHR System will not validate or compare any replacement definitions which may be specified within the CDA Package against those provided within the Document Version Information.

3.1.4 DocumentRetrievalRequest

The DocumentRetrievalRequest entity represents the data associated with the retrieveDocument operation.

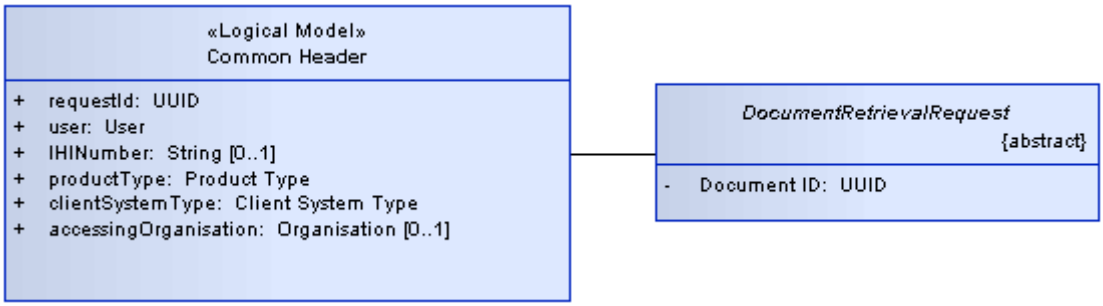


Figure 19 – DocumentRetrievalRequest

Table 11: DocumentRetrievalRequest

DocumentRetrievalRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header.	1
Requested Document ID	UUID	The identifier of the document being retrieved.	1

Conformance Points

DEXS-L 122	The Requested Document ID SHALL exist within the specified PCEHR.
DEXS-L 123	The IHI Number field within the Common Header SHALL be provided.

3.1.5 FindDocumentsRequest

This entity represents the data associated with the findDocuments operation.

Figure 20 – FindDocumentsRequest

Table 12 – FindDocumentsRequest

FindDocumentsRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header. The search is limited to the IHI contained within the header. The remainder of the data is not used to constrain the search results.	1
Search Parameters	SearchParameters	The set of search criteria which should be applied to the search criteria.	1

Table 13 - SearchParameters

SearchParameters				
Field	**Data Type**	**Description**	**Cardinality**	**Wildcards allowed**
SubmissionDateTime	Date time	The date and time that the document was submitted to the PCEHR System. If this parameter is supplied the query will only return documents submitted on or after this time.	0..1	No
Document Type Code	String	A code relating to the type of document being submitted. If this parameter is supplied, the query will only return documents which where asserted as being of this type when submitted.	0..*	No

SearchParameters				
Field	**Data Type**	**Description**	**Cardinality**	**Wildcards allowed**
PCEHR Template Identifier	OID	The identifier of the template this document conforms to. If this parameter is supplied the query will only return documents which where asserted as conforming to this Template ID when submitted.	0..*	No
From Document Creation Time	Date time	The Date time that the document was created. If this parameter is supplied, the query will only return documents created on or after this time.	0..1	No
Keyword	String	One or more keywords which are related to the document submission. If this parameter is supplied, the query will only return documents which contain the specified keyword items on the PCEHR index entry.	0..*	Yes
Organisation Identifier (System Participant Identifier)	String	An assertion of the Organisations (System Participants) identity. This must be an HPI-O of accessing, participating or submitting healthcare organisation. If this parameter is supplied, the query will only return documents which were associated with this HPI-O on submission	0..*	No
Clinical Speciality Code	String	A code identifying the clinical specialty where the event relating to this document submission request initiated. If this parameter is supplied, the query will only return documents which were associated with this Clinical Specialty Type on submission	0..1	No

Conformance Points

DEXS-L 124	Where multiple instances of a repeating field identified within Table 12 occur, the PCEHR System SHALL combine the fields using an OR relationship.

Informative Note

For example, where a request message includes three Document Type entities with values of 'A', 'B' and 'C', the PCEHR System will find documents within the specified PCEHR where (Document Type = 'A' OR Document Type = 'B' OR Document Type = 'C').

DEXS-L 125	The PCEHR System SHALL combine the fields specified in individual rows in Table 12 using an AND relationship. Only those fields that match the criteria set in all fields SHALL be returned.

Informative Note

For example, where a request message includes a Provider Organisation (System Participant) Identifier of 'HPI-O-1' and three Document Type entities with values of 'A', 'B' and 'C', the PCEHR System will find documents within the specified PCEHR where (Provider Organisation (System Participant) Identifier ='HPI-O-1' AND (Document Type = 'A' OR Document Type = 'B' OR Document Type = 'C')).

3.1.6 SetDocumentAccessLevelRequest

This entity represents the interface data associated with the SetDocumentAccessLevel operation.

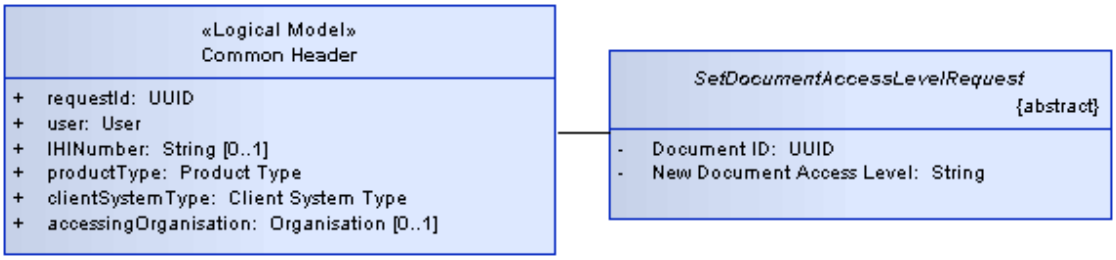


Figure 21 – SetDocumentAccessLevelRequest

Table 14 – SetDocumentAccessLevelRequest

SetDocumentAccessLevelRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header.	1
Document ID	UUID	The identifier of the document being retrieved.	1
New Document Access Level	String	The new value the access level should be set to. The actual values are platform specific and will be specified within the Technical Service Specification.	1

Conformance Points

DEXS-L 126	The IHI Number field within the Common Header SHALL be provided.

3.1.7 RemoveDocumentRequest

The RemoveDocumentRequest entity represents the data associated with the removeDocument and deregisterDocument operations.

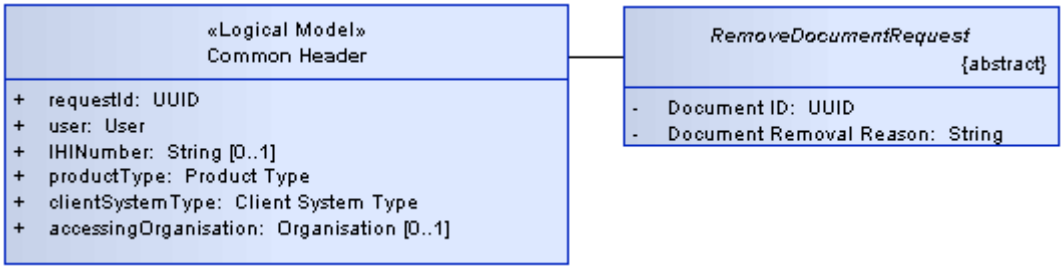


Figure 22 - RemoveDocumentRequest

Table 15 - RemoveDocumentRequest

RemoveDocumentRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header.	1
Document ID	UUID	The identifier of the document to be removed.	1
Document removal reason	String	The reason the document is being removed.	1

Conformance Points

DEXS-L 127	The IHI Number field within the Common Header SHALL be provided.

3.1.8 DocumentRegistrationRequest

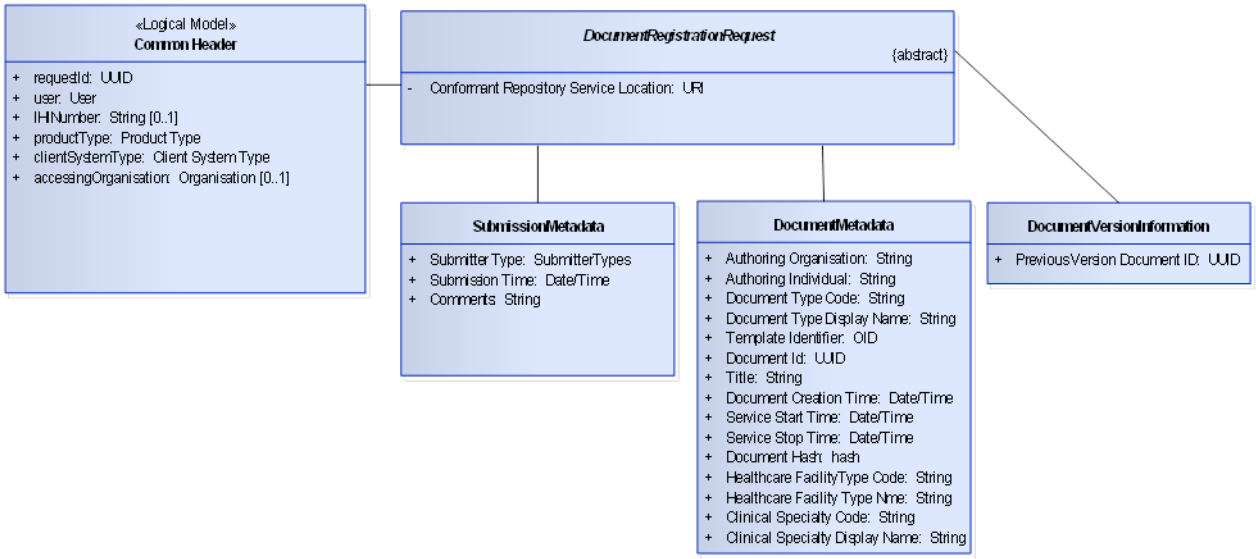


Figure 23 - DocumentRegistrationRequest

The DocumentRegistrationRequest entity encapsulates the data associated with the registerDocument operation request.

Table 16 – DocumentRegistrationRequest

DocumentRegistrationRequest			
Field	**Data Type**	**Description**	**Cardinality**
Common Header	Common Header	An instance of the PCEHR common service header.	1
Submission Request Metadata	SubmissionMetadata	The metadata which relates to the entire the submission.	1
Document Metadata	DocumentMetadata	The metadata for the document.	1
Document Version Information	DocumentVersionInformation	This entity encapsulates the relationship between the current document version and previously stored versions.	0..1
Conformant Repository Service Location	URI	The URI of the Conformant Repository retrieval service. The structure of this reference is platform specific and as such is deferred to a Technical Service Specification.	1

Conformance Points

DEXS-L 128 The Conformant Repository Document ID SHALL be unique within the scope of the Conformant Repository storing the document.

DEXS-L 129 The Conformant Repository Document ID SHALL not be re-used for other documents within a Conformant Repository even if the original document is removed.

DEXS-L 130 The PCEHR Conformant Repository SHALL store the Document ID of all documents submitted to the PCEHR system for use when replacing or deregistering documents.

DEXS-L 131 A DocumentRegistrationRequest SHALL only contain a Document Version Information entity where the current document is intended to be registered as a revision to a document already stored within the PCEHR System.

DEXS-L 132 The IHI Number field within the Common Header SHALL be provided.

3.1.9 DocumentRetrievalResponse

This data type represents the response data associated with the retrieveDocument operation. This operation returns exactly one document and an error is returned if the request matches a number of documents greater or less than one.

This operation does not return the metadata associated with the document.

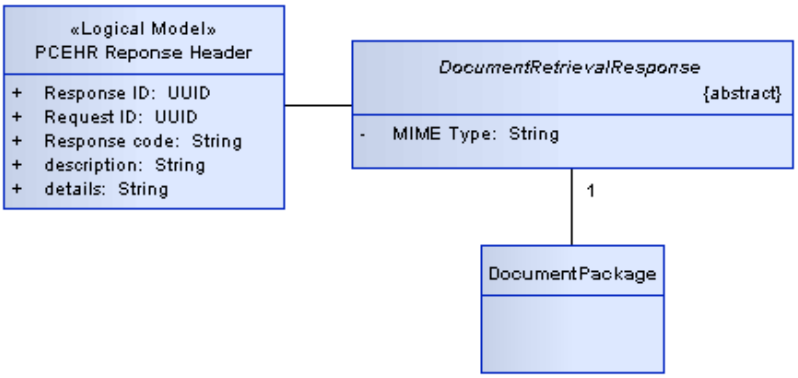


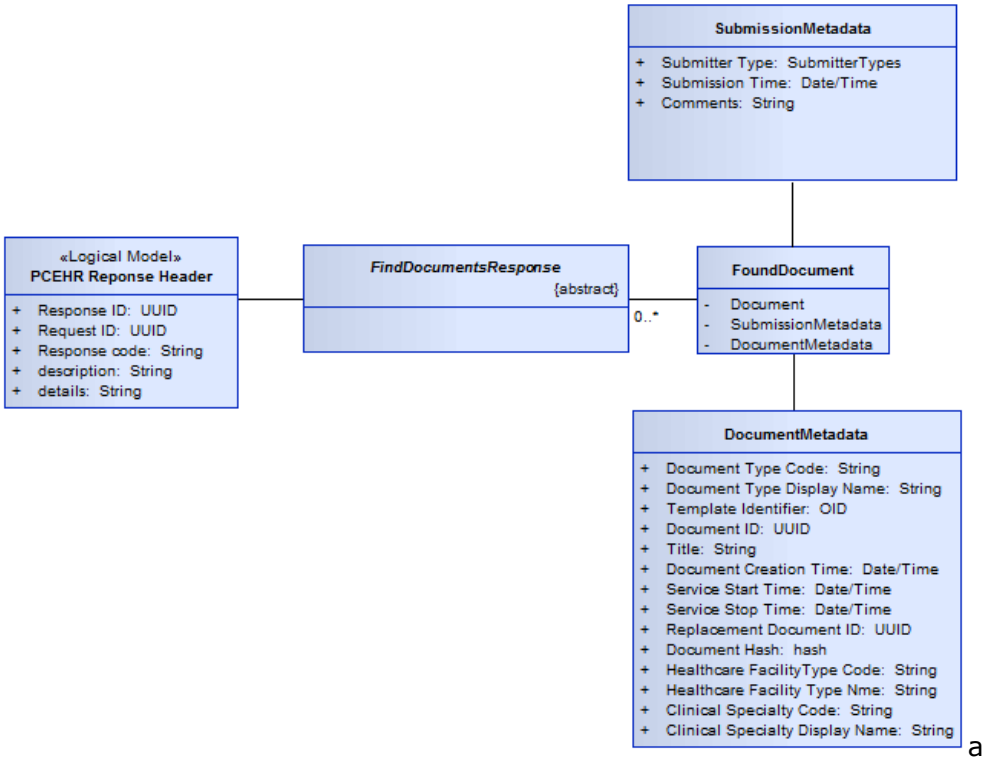
Figure 24 – DocumentRetrievalResponse

Table 17 - DocumentRetrievalResponse

DocumentRetrievalResponse			
Field	**Data Type**	**Description**	**Cardinality**
Common Response Header	PCEHR Response Header	An instance of the PCEHR common service header.	1
MIME Type	String	Multipart Internet Mail Extension. This is a common cross platform code set which allows systems to understand how to process a data item.	1
Document Package	DocumentPackage	The document package being retrieved.	1

3.1.10 FindDocumentsResponse

The FindDocumentsResponse data type represents the data associated with a response to a call to the findDocuments operation. The response returns a list of zero or more document IDs which match the supplied search criteria.



a

Figure 25 - Find Document Response

Table 18 – FindDocumentsResponse

FindDocumentsResponse			
Field	**Data Type**	**Description**	**Cardinality**
Common Response Header	PCEHR Response Header	An instance of the PCEHR common service header.	1
Found Document	FoundDocument	The identifier for a document matching the search criteria,	0..*

Table 19 – FoundDocument

FoundDocument			
Field	**Data Type**	**Description**	**Cardinality**
Submission Request Metadata	SubmissionMetadata	The metadata which relates to the entire submission.	1
Document Metadata	DocumentMetadata	The metadata for the document.	1

Conformance Points

DEXS-L 133 The PCEHR System SHALL return one found document element for each document matching the search results (and policy enforcement criteria).

3.1.11 GenericServiceResponse

The GenericServiceResponse is the default response returned by most operations.

Table 20 - GenericServiceResponse

GenericServiceResponse			
Field	**Data Type**	**Description**	**Cardinality**
Common Response Header	CommonServiceResponseHeader	An instance of the PCEHR common service header.	1

3.1.12 GenericServiceFault

The GenericServiceFault data type represents the data which may be returned by a Service in the event of an error.

Table 21 - GenericServiceFault

GenericServiceFault			
Field	**Data Type**	**Description**	**Cardinality**
Common Response Header	CommonServiceResponseHeader	An instance of the PCEHR common service header.	1

3.1.13 PCEHR Response Header

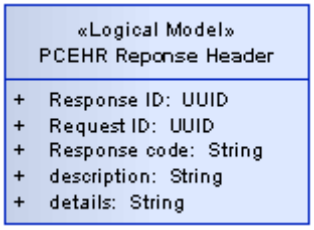


Figure 26 - PCEHR Response Header

Table 22 - PCEHR Response Header

PCEHR Response Header			
Field	**Data Type**	**Description**	**Cardinality**
Response ID	UUID	A unique identifier for this request.	1
Request ID	UUID	The identifier of the original request.	1
Response code	String	A code indicating the processing status of the request.	1
Description	String	String describing the processing status of the request.	0..1
Details	String	A string providing extended details of the response.	0..1

3.2 Common Header

This section encompasses the set of attributes which make up the Common Header used in all PCEHR Service Requests.

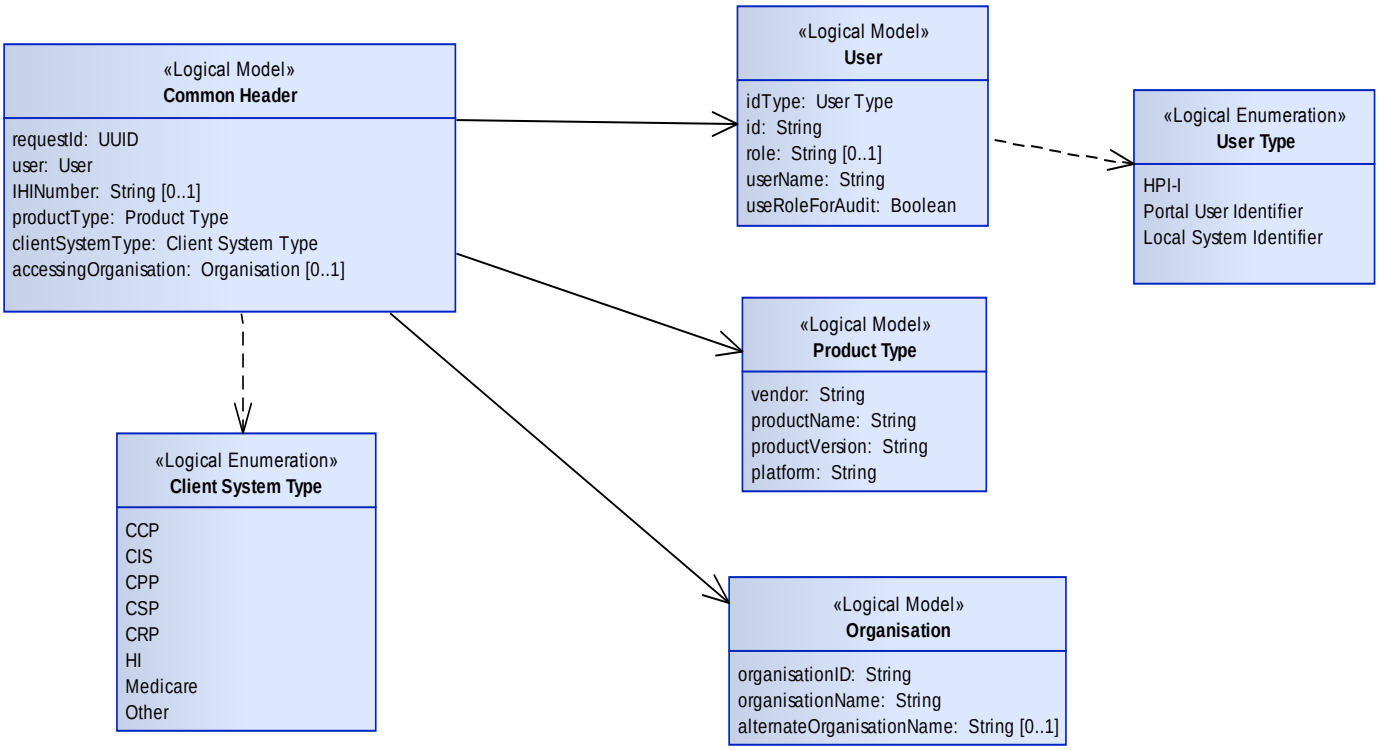


Figure 27 - Common Header

Table 23 – Common Header

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
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 organisation (PCEHR system participant) on behalf of which the request is being made	0..1

Conformance Points

DEXS-L 134 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 service requests from any system.

DEXS-L 135 The `IHI Number` SHALL be supplied for ALL requests specified within this document.

DEXS-L 136 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.

3.2.1 User

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

Table 24 – User

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 to enter the role of the user for use in audit logging if User Name is not appropriate	0..1

User			
Field	**Data Type**	**Description**	**Cardinality**
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

DEXS-L 137 The `Id` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 138 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.

DEXS-L 139 If the `Id Type` value of `Portal User Identity` is supplied, the `Id` SHALL contain a value issued by a trusted identity provider which relates a conformant portal user to a PCEHR identity.

DEXS-L 140 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

DEXS-L 141 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.

DEXS-L 142 If the `Use role for audit` flag is set to True, the `Role` SHALL be a supplied

DEXS-L 143 If the `Role` is supplied it SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 144 The `User Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

3.2.2 Product Type

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

Table 25 – Product Type

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

DEXS-L 145 The `Vendor` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 146 The `Product Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 147 The `Product Version` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 148 The `Platform` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

3.2.3 Organisation

The Organisation entity encompasses the organisation identity information.

Table 26 – Organisation

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

Conformance Points

DEXS-L 149 The `Organisation ID` SHALL contain an identifier applicable to the accessing organisation (PCEHR system participant). This identifier SHALL be either:

- a string 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 for a conformant repository

DEXS-L 150 The `Organisation Name` SHALL NOT contain leading or trailing spaces. It SHALL NOT be a null or zero length string.

DEXS-L 151 The `Organisation Name` SHALL correspond to the name of the organisation asserted by the Organisation (PCEHR system participant)Identifier - contained in the `Organisation ID` field

DEXS-L 152 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.

3.2.4 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 PCEHR.

Table 27 – Client System Type

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

Field	Description
Medicare	DHS Medicare systems
Other	Any other system type

3.2.5 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 PCEHR System.

Table 28 – Source System User Type

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.

3.3 Other data types

3.3.1 CDA Package

The logical document package data model is re-used across both Provider-to Provider and Provider-to-PCEHR interactions.

Conformance Points

DEXS-L 153	A CDA package SHALL be created in conformance with the specification set out in the CDA Packaging Specification [CDA-PACKAGING], but with conformance points DEXS-L 154, DEXS-L 155 and DEXS-L 156 taking precedence.
DEXS-L 154	The CDA Package SHALL ONLY contain the root (i.e. CDA_ROOT.XML), eSignature (i.e. CDA_SIGN.XML) and packaged attachment parts.
DEXS-L 155	The CDA Package SHALL NOT contain the INDEX.HTM, README.TXT or Repository Metadata parts outlined in the CDA-Packaging Specification.
DEXS-L 156	The CDA Package SHALL NOT contain any packaged attachment parts which are themselves CDA Packages or CDA Documents.

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 [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 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.

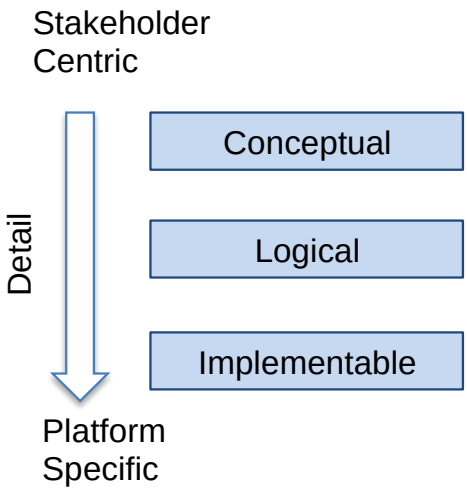


Figure 28 - Layers of abstraction

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.

[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 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 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 29 –Matrix of views

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

Appendix B Code Sets

Table 30 – Document Type Code value set

Coding System	Concept Code	Display Name
LOINC	60591-5	Patient Summary
LOINC	57133-1	Referral note
LOINC	51852-2	Letter
LOINC	18842-5	Discharge Summarisation Note
LOINC	34133-9	Summarisation of episode note
NCTIS	100.16100	e-Prescription
NCTIS	100.16112	Dispense Record
NCTIS	100.16285	Prescription Request

Table 31 – Healthcare Facility Type Code value set

Coding System	Concept Code	Display Name
ANZSIC	8533	Physiotherapy Services
ANZSIC	8520	Pathology and Diagnostic Imaging Services
ANZSIC	8710	Child Care Services
ANZSIC	8790	Other Social Assistance Services
ANZSIC	7294	Call Centre Operation
ANZSIC	8402	Mental Health Hospitals
ANZSIC	5922	Electronic Information Storage Services
ANZSIC	7000	Computer System Design and Related Services
ANZSIC	7291	Office Administrative Services
ANZSIC	6910	Scientific Research Services
ANZSIC	8534	Chiropractic and Osteopathic Services
ANZSIC	8511	General Practice
ANZSIC	8102	Higher Education
ANZSIC	8609	Other Residential Care Services
ANZSIC	6961	Corporate Head Office Management Services
ANZSIC	8591	Ambulance Services
ANZSIC	5921	Data Processing and Web Hosting Services
ANZSIC	7561	General Health Administration
ANZSIC	7531	Local Government Healthcare Administration
ANZSIC	6321	Health Insurance

Coding System	Concept Code	Display Name
ANZSIC	8601	Aged Care Residential Services
ANZSIC	9111	Health and Fitness Centres and Gymnasia Operation
ANZSIC	4623	Transport
ANZSIC	7521	State Government Healthcare Administration
ANZSIC	8599	Other Healthcare Services nec
ANZSIC	4271	Retail Pharmacy
ANZSIC	5910	Internet Service Providers and Web Search Portals
ANZSIC	7562	Provision and administration of public health program
ANZSIC	8401	Hospitals (except Psychiatric Hospitals)
ANZSIC	8539	Other Allied Health Services
ANZSIC	7511	Central Government Healthcare Administration
ANZSIC	6999	Other Professional, Scientific and Technical Services n.e.c.
ANZSIC	8512	Specialist Medical Services
ANZSIC	8531	Dental Services
ANZSIC	8532	Optometry and Optical Dispensing

Table 32 – Clinical Specialty Code value set

Coding System	Concept Code	Display Name
ANZSIC	7000-6	Software installation service
ANZSIC	8401-17	Veterans Affairs Hospital
ANZSIC	8511-2	General medical practitioner service
ANZSIC	8539-11	Midwifery service
ANZSIC	8531-4	Dental practitioner service
ANZSIC	5910-1	Internet access provision
ANZSIC	8539-14	Occupational therapy service
ANZSIC	8532-6	Spectacles dispensing
ANZSIC	8531-6	Endodontic service
ANZSIC	8591-2	Ambulance service
ANZSIC	8609-3	Government nursing home for young disabled
ANZSIC	8790-9	Youth welfare service
ANZSIC	8532-3	Optical dispensing
ANZSIC	8531-9	Orthodontic service
ANZSIC	6999-3	Translation service
ANZSIC	8609-7	Public alcohol and drug treatment centre

Coding System	Concept Code	Display Name
ANZSIC	8539-5	Dental hygiene service
ANZSIC	8601-6	Local government hostel for the aged
ANZSIC	8539-15	Podiatry service
ANZSIC	5921-12	Electronic data processing service
ANZSIC	8599-3	Healthcare service nec
ANZSIC	8102-5	Teachers' college operation
ANZSIC	8520-2	Medical laboratory service
ANZSIC	8511-4	Rural general medical practice service
ANZSIC	8609-2	Private profit nursing home for young disabled
ANZSIC	5921-2	Application service provision
ANZSIC	8401-6	Hospital (except psychiatric or veterinary hospitals
ANZSIC	8401-2	Day Hospital nec
ANZSIC	8599-4	Community Health Facility
ANZSIC	7000-2	Computer programming service
ANZSIC	8532-1	Contact lens dispensing
ANZSIC	8710-1	Before and/or after school care service
ANZSIC	8710-2	Child care service
ANZSIC	8790-3	Aged care assistance service
ANZSIC	8401-14	Private freestanding day surgery centre.
ANZSIC	5921-15	Web hosting
ANZSIC	8512-11	Paediatric service
ANZSIC	7511-1	Divisions of General Practice
ANZSIC	8512-3	Dermatology Service
ANZSIC	8512-14	Specialist medical clinic service
ANZSIC	8539-13	Nursing service
ANZSIC	7000-4	Internet and web design consulting service
ANZSIC	8534-1	Chiropractic
ANZSIC	8102-6	Undergraduate school, university operation
ANZSIC	9111-1	Health and Fitness Centres and Gymnasia Operation
ANZSIC	8512-10	Orthopaedic service
ANZSIC	8102-2	Postgraduate school, university operation
ANZSIC	5922-1	Computer data storage and retrieval service (except library service)
ANZSIC	8532-4	Optician service

Coding System	Concept Code	Display Name
ANZSIC	7562-1	Provision and administration of public health program
ANZSIC	8790-1	Adoption service
ANZSIC	5910-5	Internet service provision (ISP)
ANZSIC	7294-2	Telephone call centre operation
ANZSIC	5921-13	Microfiche or microfilm recording and imaging service
ANZSIC	8401-11	Public day centre/hospital
ANZSIC	8601-3	Private charitable nursing home for the aged
ANZSIC	8512-7	Neurology service
ANZSIC	8401-4	Eye Hospital
ANZSIC	8401-1	Children's Hospital
ANZSIC	7000-5	Software development (customised) service (except publishing)
ANZSIC	8601-4	State government hostel for the aged
ANZSIC	8790-8	Welfare counselling service
ANZSIC	8531-11	Periodontic service
ANZSIC	8599-9	Community health facility ‰ÿ other
ANZSIC	5921-8	Data capture imaging service
ANZSIC	8401-7	Infectious diseases hospital (including human quarantine stations)
ANZSIC	8539-4	Clinical psychology service
ANZSIC	5921-6	Computer time leasing or renting
ANZSIC	5921-3	Audio and visual media streaming service
ANZSIC	5921-1	Application hosting
ANZSIC	8539-6	Dietician service
ANZSIC	5910-3	Internet search portal operation
ANZSIC	8599-1	Blood bank operation
ANZSIC	8601-1	Private profit nursing home for the aged
ANZSIC	8531-12	Prosthodontics service
ANZSIC	8609-6	Other Local government hostel
ANZSIC	8531-3	Dental practice service
ANZSIC	8512-18	Urology service
ANZSIC	8401-5	General Hospital
ANZSIC	8512-16	Specialist surgical service
ANZSIC	8512-19	Emergency Department Services

Coding System	Concept Code	Display Name
ANZSIC	7291-6	Reception service
ANZSIC	8532-5	Orthoptic service
ANZSIC	8601-2	Government nursing home for the aged
ANZSIC	8512-1	Allergy specialist service
ANZSIC	7531-1	Local Government Healthcare Administration
ANZSIC	8532-2	Eye testing (optometrist)
ANZSIC	8512-4	Ear, nose and throat specialist service
ANZSIC	8531-2	Dental hospital (out-patient)
ANZSIC	8512-17	Thoracic specialist service
ANZSIC	8512-9	Ophthalmology service
ANZSIC	8401-15	Public acute care Hospital
ANZSIC	8520-4	X-ray clinic service
ANZSIC	8531-8	Oral surgery service
ANZSIC	8533-1	Physiotherapy Services
ANZSIC	8401-16	Private acute care Hospital
ANZSIC	6321-3	Health insurance provision
ANZSIC	7000-7	Systems analysis service
ANZSIC	8790-7	Operation of soup kitchen (including mobile)
ANZSIC	8401-8	Maternity Hospital
ANZSIC	5921-10	Data processing computer service
ANZSIC	8512-13	Rheumatology service
ANZSIC	5921-11	Disk and diskette conversion and recertification service
ANZSIC	5921-5	Computer input preparation service
ANZSIC	8511-5	Community Health Care
ANZSIC	5921-4	Automated data processing service
ANZSIC	8539-9	Homoeopathic service
ANZSIC	8531-1	Conservative dental service
ANZSIC	8512-6	Hair transplant service (by registered medical practitioner)
ANZSIC	8601-5	Charitable hostels for the aged
ANZSIC	4271-2	Community Pharmacy
ANZSIC	8401-9	Obstetric Hospital
ANZSIC	8401-13	Private day centre/hospital.
ANZSIC	8591-1	Aerial ambulance service

Coding System	Concept Code	Display Name
ANZSIC	8609-8	Private alcohol and drug treatment centre
ANZSIC	7294-3	Voice mailbox service
ANZSIC	8102-4	Specialist institute or college
ANZSIC	8531-5	Dental surgery service
ANZSIC	8539-16	Speech pathology service
ANZSIC	5910-2	Internet access service, on-line
ANZSIC	8539-18	Extended Allied Health services
ANZSIC	8710-6	Children's play programs
ANZSIC	8609-5	Other State government hostel
ANZSIC	7291-4	Office administrative service n.e.c.
ANZSIC	8539-12	Naturopathic service
ANZSIC	5921-14	Optical scanning service
ANZSIC	8534-2	Osteopathic Services
ANZSIC	4623-1	Transport
ANZSIC	5910-6	Portal web search operation
ANZSIC	7561-1	General Health Administration
ANZSIC	8539-7	Hearing aid dispensing
ANZSIC	8512-2	Anaesthetist service
ANZSIC	8512-5	Gynaecology services
ANZSIC	8790-6	Marriage guidance service
ANZSIC	7294-1	Telephone answering service
ANZSIC	8710-5	Family day care service
ANZSIC	6910-1	Medical research service
ANZSIC	8599-5	Public Community Health Centre
ANZSIC	5922-2	Electronic information storage and retrieval service (except library service)
ANZSIC	8401-18	Defence Force Hospital
ANZSIC	7521-1	State Government Healthcare Administration
ANZSIC	8599-8	Community health facility - mental
ANZSIC	8609-4	Other charitable hostel
ANZSIC	6910-2	Social science research service
ANZSIC	6961-1	Corporate head office management
ANZSIC	5910-7	Web search portal operation
ANZSIC	7000-3	Computer software consulting service

Coding System	Concept Code	Display Name
ANZSIC	8710-3	Childminding service
ANZSIC	6999-2	Professional, scientific and technical services n.e.c.
ANZSIC	8531-10	Pedodontics service
ANZSIC	8790-4	Alcoholics anonymous operation
ANZSIC	8520-3	Pathology laboratory service
ANZSIC	8520-1	Diagnostic imaging service
ANZSIC	8539-10	Hydropathic service
ANZSIC	7291-1	Billing and record-keeping service
ANZSIC	8539-2	Aromatherapy service
ANZSIC	7291-3	Clerical service
ANZSIC	8512-8	Obstetrics service
ANZSIC	7291-5	Payroll processing
ANZSIC	8402-2	Private Mental Health Hospital
ANZSIC	8401-3	Ear, nose and throat hospital
ANZSIC	6321-2	Funeral benefit provision
ANZSIC	8512-15	Specialist medical practitioner service nec
ANZSIC	6321-1	Dental insurance provision
ANZSIC	8402-1	Public Mental Health Hospital
ANZSIC	8511-3	General practice medical clinic service
ANZSIC	8790-2	Adult day care centre operation
ANZSIC	8102-7	University operation
ANZSIC	8599-2	Health assessment service
ANZSIC	8531-7	Oral pathology service
ANZSIC	6999-1	Interpretation service
ANZSIC	8599-6	Private (non-profit) Community Health Centre
ANZSIC	8539-17	Therapeutic massage service
ANZSIC	8539-8	Herbalist service
ANZSIC	4271-1	Pharmacy, retail, operation
ANZSIC	8512-12	Psychiatry service
ANZSIC	8102-3	Research school, university operation
ANZSIC	8401-12	Public freestanding day surgery centre.
ANZSIC	8401-10	Women's Hospital
ANZSIC	7000-1	Computer hardware consulting service

Coding System	Concept Code	Display Name
ANZSIC	5921-9	Data entry service (electronic)
ANZSIC	8511-1	Flying doctor service
ANZSIC	8609-1	Private charitable nursing home for young disabled
ANZSIC	8790-5	Disabilities assistance service

Appendix C Acronyms and Terminology

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

C.1 Acronyms

Acronym	Explanation
EHR	Electronic Health Record
ID	Identifier
IETF RFC	Internet Engineering Task Force Request For Comment
IT	Information Technology
MIME	Multipurpose Internet Mail Extensions
PCEHR	Personally Controlled Electronic Health Record
RLUS	Retrieve, Locate and Update Service
RM-ODP	Reference Model of Open Distributed Processing
UML	Unified Modelling Language
UUID	Universally Unique Identifier

C.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 can 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 D References

Tag	Name	Version Release Date
[CDA-PACKAGING]	CDA Packaging Specification	V1.0
[EIF]	eHealth Interoperability Framework Nehta managed publication http://www.nehta.gov.au/connecting-australia/ehealth-architecture	V1.0 02/12/2011
[PCEHR_CON_OPS]	PCEHR Concept of Operations: relating to a Personally Controlled Electronic Health Record System http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/pcehr-document	0.13.6 September 2011
[PCEHR-SYSTEM-GLOSSARY]	PCEHR System - Glossary	1.0 6/05/2011
[RM-ODP]	Reference Model of Open Distributed Processing ISO/IEC 10746-3:2009	2009
[RFC2119]	IETF, *RFC 2119: Keywords for use in RFCs to Indicate Requirement Levels*, S. Bradner, March 1997 http://ietf.org/rfc/rfc2119.txt	03/1997.
[RFC3881]	RFC 3881 http://www.ietf.org/rfc/rfc3881.txt	September 2004
[UML2010]	UML Version 2.3 http://www.omg.org/spec/UML/2.3/	Version 2.3 May 2010