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Repository Overview for the PCEHR B2B Gateway Overview

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1.0	2011-12-20	PCEHR Design Authority - Draft for limited release.
1.1	2012-01-13	PCEHR Team - Incorporate stakeholder feedback
1.1	2025-06-20	The document presentation has been enhanced to align with current branding guidelines; however, the content has not been changed.

Transition of terms

Certain terms used within the context of this document have changed. The table provides a clear comparison of the historical terms used in text and their current equivalents for your reference.

Historical term	Current term
Personally controlled electronic health record (PCEHR)	My Health Record (MHR)
National eHealth Transition Authority (NEHTA)	The Australian Digital Health Agency (ADHA)

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Preface

Purpose

This document complements the PCEHR B2B interface specifications by putting the operations exposed in the external interface into a business context and providing references to the PCEHR B2B interface specification documents for easy access to the specific information.
Intended Audience

Intended Audience

This functional overview is intended primarily for:

- Developers and implementers of software products which seek to interact with the PCEHR System
- Developers and implementers of PCEHR Conformant Repositories.

Document Map

This document is to be read in conjunction with the Document Exchange Service logical and technical service specifications and CDA Packaging Specification as highlighted in Figure 1. This document addresses the functional capabilities required for Conformant Repositories to interface with the PCEHR System.

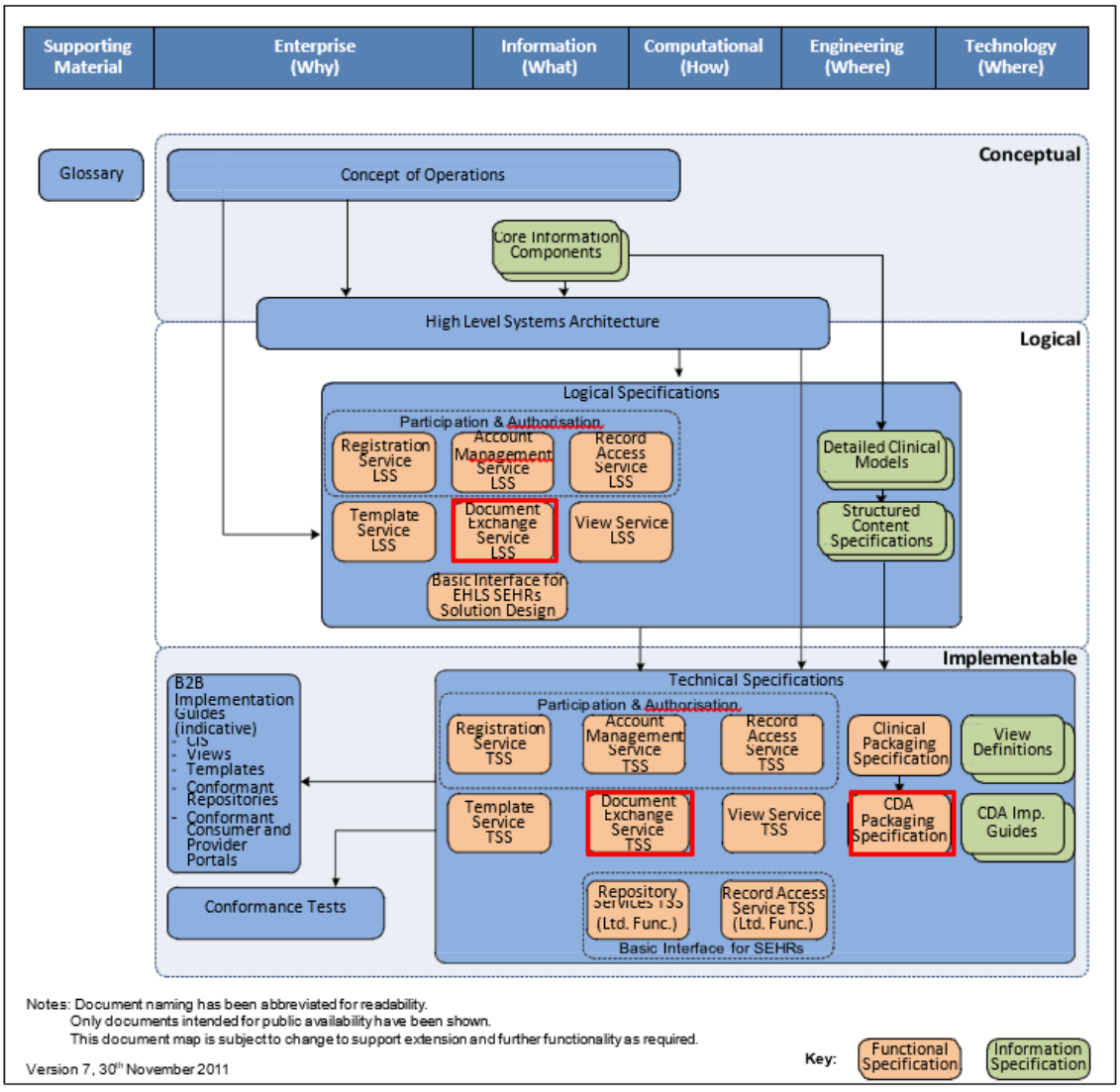

Figure 1 - Document map (related documents)

1 Introduction

1.1 Context

The Personally Controlled Electronic Health Record (PCEHR) System will be launched in July 2012 and will allow individuals, their representatives, healthcare organisations and providers to manage and share electronic health records based on a regime of personally controlled access and user entitlements that promote a high level of maturity and interoperability.

The PCEHR System will expose a number of system interfaces where applications such as Clinical Information Systems, Conformant Portals and Conformant Repositories can connect. The interactions between Conformant Repositories and the PCEHR System are defined in the *PCEHR Document Exchange Service Logical Service Specification* and associated technical service specifications.

This document is intended to supplement the PCEHR Document Exchange Service specifications by describing interactions, operations and their usage within a number of key scenarios for Conformant Repositories when interacting with the PCEHR System. It also provides references to the relevant interface specifications within this context. The detail of the functions and operations in this document are defined in the *PCEHR Document Exchange Service Logical Service Specification*.

For further information on the PCEHR System, please refer to the PCEHR Concept of Operations, available on the Australian Department of Health and Ageing's National Health Reform website.

1.2 Scope

1.2.1 In Scope

The scope of this document is limited to a high level overview of the key interaction scenarios, and the operations used within those scenarios, for interactions between Conformant Repositories and the PCEHR System.

It is intended to help guide and provide context for operations that have been defined across specification documents for interactions between Conformant Repositories and the PCEHR System.

1.2.2 Out of Scope

All other aspects of the PCEHR System, its interfaces and other roles are out of scope for this document. Interactions with service providers and document sources other than the PCEHR System are also out of scope of this document.

This document does not elaborate on the internal workings of a Conformant Repository.

2 PCEHR Eco System

2.1 Third Party Integrated Systems

In the PCEHR eco system, there are several system types that can integrate to the PCEHR System. This document is focused on Conformant Repositories which are a subset of these system types.

Conformant Repositories are systems storing individuals' healthcare-related information where this information can be sent to the PCEHR System as clinical documents. The systems required to operate and manage this information could be run directly by a business entity (such as a pathology provider organisation or registry agency) or by a third-party repository operator acting on behalf of one or more healthcare-related organisations.

2.2 Pre-requisites for Integration to PCEHR

Before a Conformant Repository can interact with the PCEHR System, the Conformant Repository must:

- Ensure that:
  - the subject of care is identified by an Individual Healthcare Identifier (IHI)
  - the authorising provider is identified by a Healthcare Provider Identifier for Individuals (HPI-I)
  - the authoring organisation is identified by a Healthcare Provider Identifier for Organisations (HPI-O).
- Have a local business process to confirm an individual's consent to have a document made available to their PCEHR, or be able to record that an individual who is participating in a scheme or program has consented to their information in the scheme or program being made available to their PCEHR.
- Have a Notice of Connection and a valid Conformant Repository Provider Identifier.
- Provide documents in an agreed form to the PCEHR System on request.

Authentication using a valid digital certificate for the Conformant Repository organisation always precedes an interaction with the PCEHR System.

2.3 Models of Conformant Repositories

Two distinct models of conformant repositories – scheme repository and transactional repository – are envisaged to interact with the PCEHR System and are described in more detail below.

2.3.1 Scheme Repository

A scheme repository[1] is a system storing individuals' healthcare-related information managed by a scheme or program where the individual has consented to be a participant of the scheme or program.

An individual must consent within the PCEHR System for their information in the scheme or program to be available to their PCEHR as shown in Figure 2. All documents related to interactions within the scheme or program would be available for access through the individual's PCEHR on request of the PCEHR System.

If the individual deregisters from the PCEHR System, or removes access to the scheme or program, then access to the documents in the scheme or program would no longer be available to the individual's PCEHR.

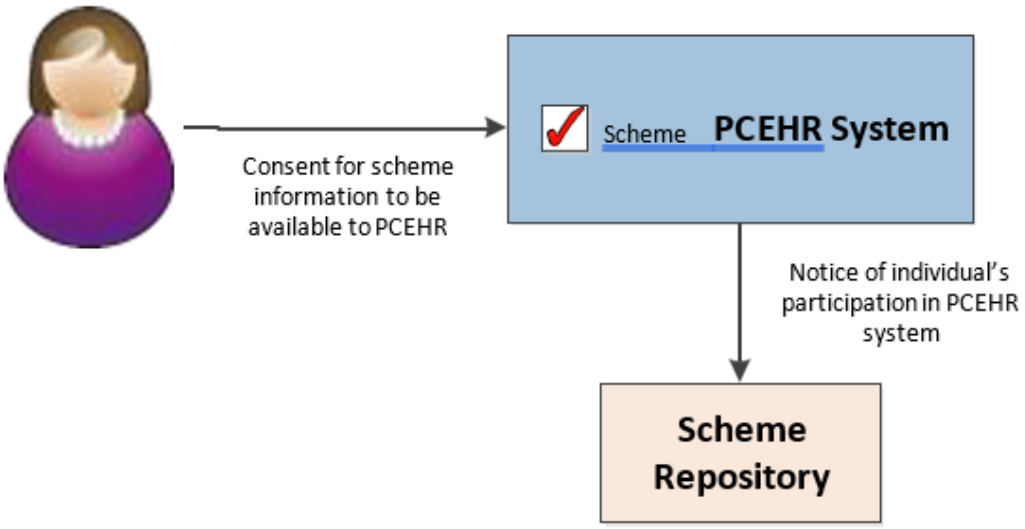

Figure 2
Example process for an individual's scheme information to be available to their PCEHR

[1] An example of a scheme repository is the Medicare Benefits Schedule repository.

2.3.2 Transactional Repository

A transactional repository[2] is a system storing individuals' healthcare-related information where the consent of the individual is required for each document to be available to their PCEHR. Consent may be acquired when the document is sent to the repository or at any later date at the individual's discretion.

Separate requests to the PCEHR System would be required to register each document to the PCEHR as shown in Figure 3. The individual could remove access to a specific document in their PCEHR at any time.

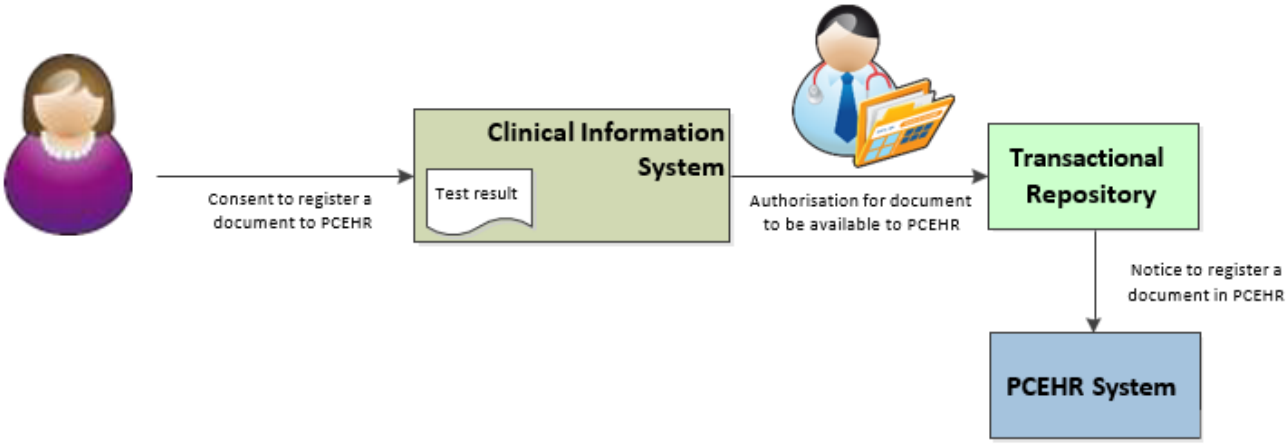

Figure 3
Example process for an individual's clinical document to be available to their PCEHR

[2] An example of a transactional repository is a test result repository.

3 Interactions with the PCEHR System

This section presents a set of interactions between a Conformant Repository and the PCEHR System, illustrating the general interaction models expected. Not all interactions are shown in this overview; however other interactions will follow the same pattern.

NOTE: All interactions described below assume that the Conformant Repository is an entity, certified to interact with the PCEHR System. For each interaction, there is a response from the receiving end of the interface, including confirmation and error responses. These are represented by dashed lines.

Local system actions are denoted as a local sequence. For example 'Identify document to register' in Figure 4. Exactly how Conformant Repository actions and the PCEHR System interactions are sequenced is outside the scope of this document. Conformant Repository actions are shown in the diagrams for illustrative purposes only.

3.1 Register a Document

An individual who has registered for a PCEHR may request their healthcare provider to make information about their healthcare, for example a result report, available via the PCEHR System. The provider may request the individual's information, in the form of a clinical document, to be associated with the individual's PCEHR, via a Conformant Repository.

The request from the provider to associate a document with the individual's PCEHR would be sent to the Conformant Repository from the provider's local system. This action is predicated on a business process to confirm the individual's consent to have the document made available to the PCEHR System.

The following scenario illustrates the interaction where a document is registered in the PCEHR System.

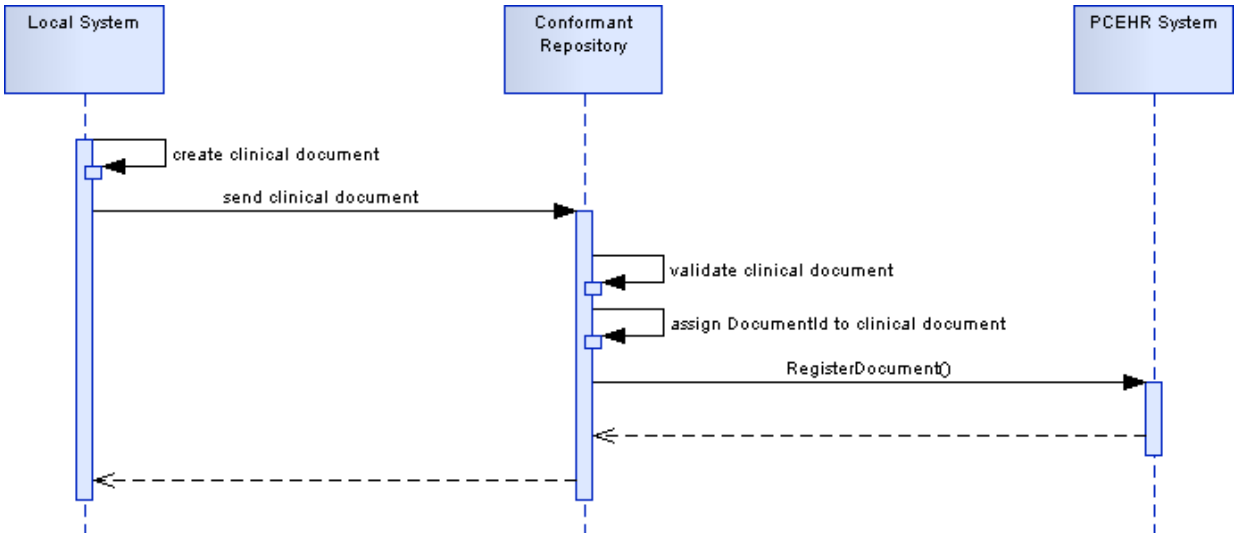

Figure 4 - Register a Document

The sequence to register a document is:

1. The local system sends the clinical document to the Conformant Repository.
2. The Conformant Repository validates the clinical document against the document definition (published by the Template Service).
3. RegisterDocument is invoked by the Conformant Repository to register the document in the individual's PCEHR.

Note: The individual must have an IHI, retrieved from the HI Service, to have the document registered in their PCEHR.

Exactly how a Conformant Repository validates a clinical document is outside the scope of this overview document.

3.2 Deregister a Document

A healthcare provider organisation may request to remove the association of a document stored in a Conformant Repository with an individual's PCEHR. The document must have been authored by this organisation to be able to deregister the document.

The following scenario illustrates an interaction where a document is deregistered in the PCEHR System.

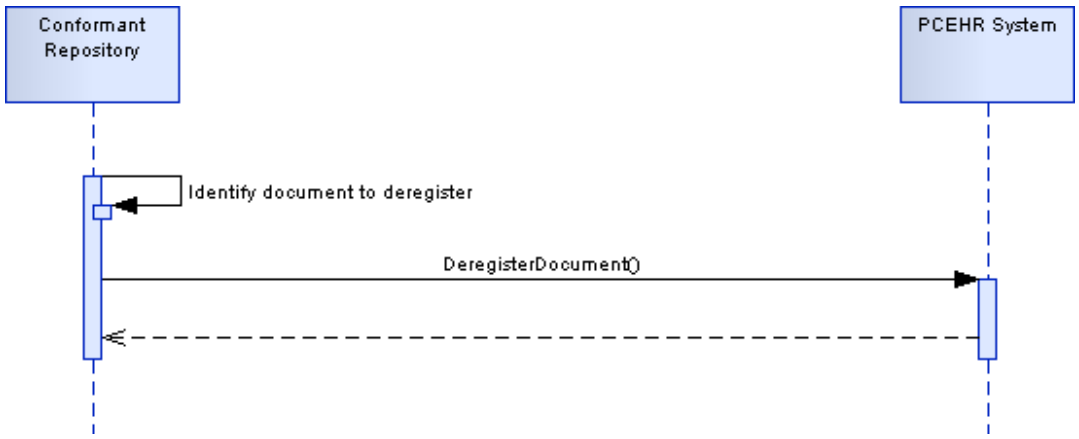

Figure 5 - Deregister a Document

In this scenario, there is an interaction between the PCEHR Conformant Repository and the PCEHR System.

The interaction relating to an individual (IHI) is for the Conformant Repository to invoke the DeregisterDocument operation to deregister the document from the individual's PCEHR on behalf of the document author.

Documents may only be deregistered by the party that registered the document.

This deregister action would logically remove the document registration from the individual's PCEHR.

The unique identifier of the registered document must be submitted by the Conformant Repository to the PCEHR System, to deregister a document.

Note: When a document is deregistered from the individual's PCEHR using the deregisterDocument operation, the document entry will remain in the PCEHR index and a request to retrieve the document will return an error response indicating that the document is no longer available.

3.3 Retrieve a Remote Document

The PCEHR System may request a document from a Conformant Repository on behalf of an individual, document author or other parties who are authorised to access the individual's PCEHR using a Conformant Portal or Clinical Information System.

The following scenario illustrates an interaction where a document is retrieved from a Conformant Repository via the PCEHR System on the request of an individual.

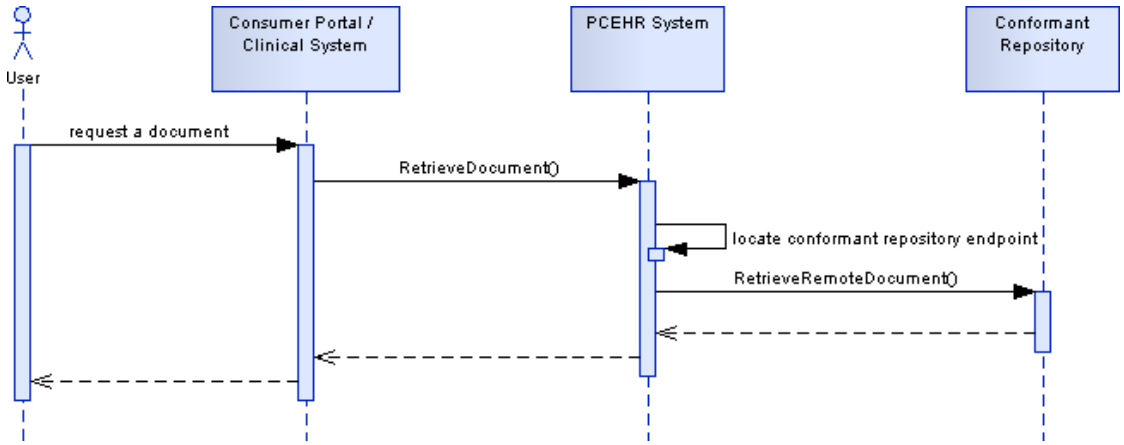

Figure 6 - Retrieve a document

In this scenario, there are interactions for an individual to retrieve a document from a Conformant Repository.

The sequence for retrieval of a document is:

1. The Consumer Portal or local Clinical System invokes the RetrieveDocument operation to the PCEHR System to retrieve a document registered in the individual's PCEHR.
2. The PCEHR System on behalf of the requester invokes the RetrieveRemoteDocument operation to retrieve the selected document from the Conformant Repository and return the document to the requester.

Access to the Conformant Repository is performed centrally by the PCEHR System.

Note: The individual must have an IHI, retrieved from the HI Service, to have their documents retrieved from a Conformant Repository via the PCEHR System.

3.4 Notify Scheme Repository of PCEHR Consent

The PCEHR System will notify a scheme repository of the individual's participation status when an individual has registered for a PCEHR and consented, or removed their consent, for data in the scheme or program to be available to their PCEHR.

The following scenario illustrates an interaction where the individual's consent to participate is notified to the scheme repository.

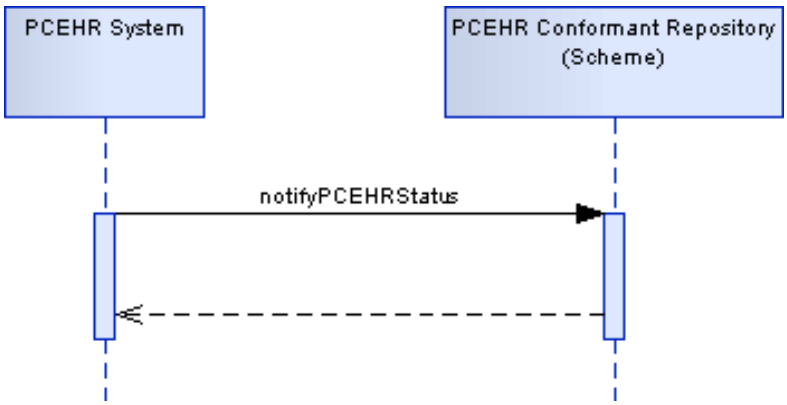

Figure 7 - Notify scheme repository of participation in an individual's PCEHR

The interaction relating to an individual (IHI) is for the PCEHR System to invoke the notifyPCEHRStatus operation to inform the scheme repository of the individual's consent to their data in the scheme being available to their PCEHR.

Access to the scheme repository is performed centrally by the PCEHR System.

4 PCEHR Interface Catalogue

The Document Exchange Service provides operations to exchange documents with the PCEHR System and operations to manage those documents that have already been registered or stored in the PCEHR System.

This section lists the following operations defined in the Document Exchange Service specifications that are specific to interactions between Conformant Repositories and the PCEHR System:

- registerDocument
- deregisterDocument
- retrieveRemoteDocument

Also listed is the notifyPCEHRStatus operation, which is specific to interactions between the PCEHR System and a scheme repository.

4.1 registerDocument

Purpose	This operation registers a document in an individual's PCEHR. The document will be stored locally by the Conformant Repository and be retrievable by the PCEHR System when required.
Called by	PCEHR Conformant Repository
Documented in	PCEHR Document Exchange Service Logical Service Specification PCEHR Document Exchange Service Technical Service Specification

4.2 deregisterDocument

Purpose	This operation logically removes the registration of a document from an individual's PCEHR.
Called by	PCEHR Conformant Repository
Documented in	PCEHR Document Exchange Service Logical Service Specification PCEHR Document Exchange Service Technical Service Specification

4.3 retrieveRemoteDocument

Purpose	This operation is used to allow the PCEHR System to retrieve documents from a Conformant Repository on behalf of an authorised requester.
Called by	PCEHR System
Documented in	PCEHR Document Exchange Service Logical Service Specification PCEHR Document Exchange Service Technical Service Specification

4.4 notifyPCEHRStatus

Purpose	This operation is used to notify a scheme repository of the participation status of an individual who has consented or removed consent to their data in a scheme or program being available to their PCEHR.
Called by	PCEHR System
Documented in	Future release in documents including the PCEHR Document Exchange Service Logical Service Specification