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## **e-Referrals**

### **Technical Service Specification**

Version 1.0 — 17 December 2010

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# Document Information

## Change History

Version	Date	Contributor	Comments
1.0 draft	2009-04-27	Kevin Lin	Initial draft
1.0	2010-08-30	Hoylen Sue	Release

## Document Authorisation

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# Preface

## Document Purpose

The purpose of this document is to define the service interfaces and associated conformance points for the e-Referrals package.

It consists of two main parts:

- The logical service specification; and
- A technical service specification that satisfies the logical service specification.

For historical reasons, the logical service specification is in the main part of this document and the technical service specification appears in an appendix. In future releases, these will be separated into two documents.

## Intended Audience

This is a technical document. The reader is expected to understand XML, SOAP Web services and the Secure Message Delivery specification defined by [ATS 5822—2010]:

- Solution Architects:
  - To understand the service specifications to incorporate them into their designs.
- Developers:
  - To implement the design so that it conforms to the service specifications.
- Testers:
  - To evaluate whether an implementation conforms to the service specifications.

This document is to be read in conjunction with the *e-Referrals: Solution Design* and the other documents listed in the references section.

## Definitions, Acronyms and Abbreviations

For a list of acronyms and abbreviations, see the [Definitions section](#) on page 5.

## References and Related Documents

For a list of referenced documents, see the [References](#) on page 6.

## Conformance

The keywords MUST, MUST NOT, SHOULD, SHOULD NOT, and MAY in this document are to be interpreted as described in the Internet Engineering Task Force's (IETF) Request for Comments (RFC) 2119 [RFC2119].

# 1 Logical Service Specification

## 1.1 Introduction

The logical service specification for the e-Referrals package is documented in terms of the roles, artefacts, business services, interactions and states. Non-functional aspects, such as security are also documented.

The logical service specification is complemented by one or more technical service specifications that map the logical functions described here to invocations of operations on platform-specific interfaces. One such technical service specification is defined in Appendix A.

## 1.2 Artefacts

In the e-Referrals community there is one artefact:

- Ref-Document.

### 1.2.1 Ref-Document

A Ref-Document is a structured representation of a referral.

## 1.3 Roles

In the e-Referrals community, two roles have been identified:

- Ref-Producer; and
- Ref-Consumer.

### 1.3.1 Ref-Producer

A Ref-Producer has referrals to send to the Ref-Consumers.

This role is played by the referrer.

How the Ref-Producer obtains the Ref-Document is outside the scope of this specification.

### 1.3.2 Ref-Consumer

A Ref-Consumer receives the referrals from Ref-Producers.

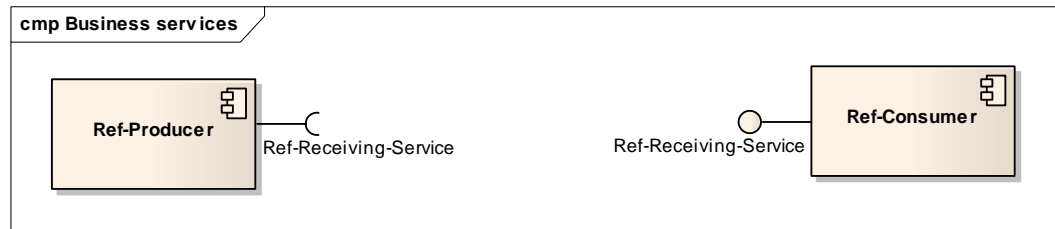
This role is played by the referee's system.

What the Ref-Consumer does with the Ref-Document after it has received it is outside the scope of this specification.

## 1.4 Business Services

In the e-Referrals community, there is a single service:

- Ref-Receiving-service.



**Figure 1: Business services**

### 1.4.1 Ref-Receiving-Service

This business service is provided by DS-Consumers who want to receive Ref-Documents.

This business service is invoked by DS-Providers who have a Ref-Document to deliver.

The *Ref-Receiving-Service* provides a single logical function:

- Ref-Deliver

#### 1.4.1.1 Ref-Deliver

This function is used to receive a Ref-Document.

Input: Ref-Document

Output: none

Quality of service: the invoker must be able to determine whether the operation succeeded or not.

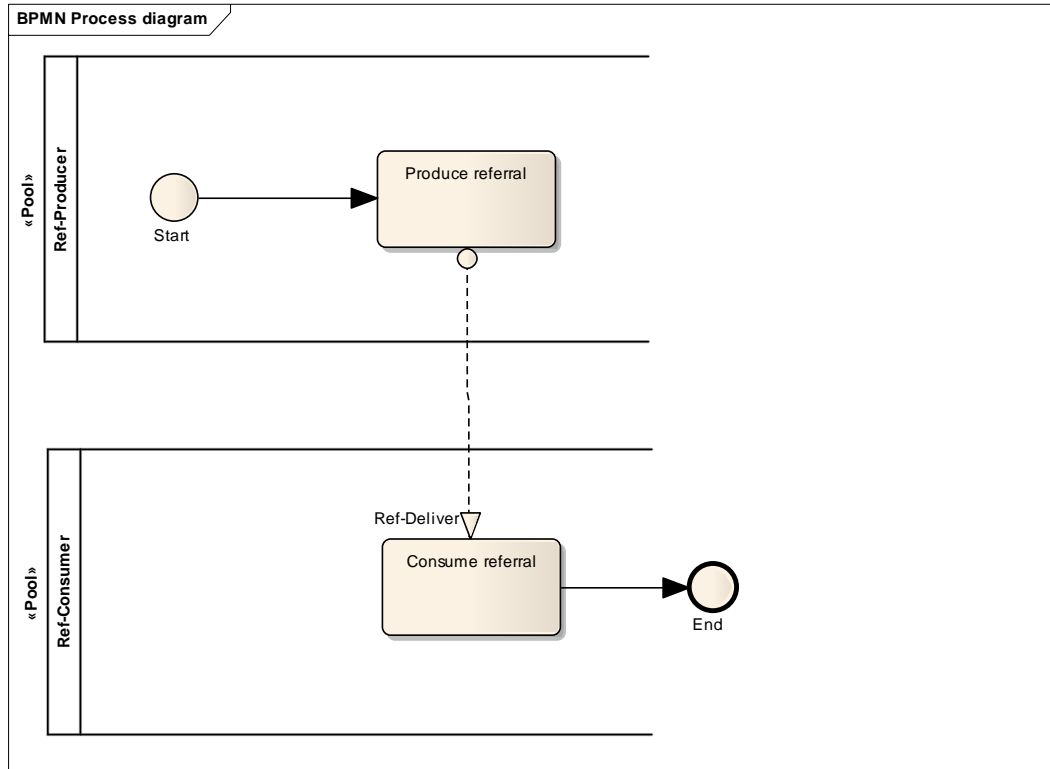
## 1.5 Interactions

There is one interaction:

- Ref-Delivery-Interaction

### 1.5.1 Ref-Delivery-Interaction

This interaction is used to deliver a Ref-Document from a Ref-Producer to a Ref-Consumer.



**Figure 2: Ref-Delivery-Interaction**

## 1.6 Security

For the Ref-Deliver function:

- The confidentiality of the Ref-Document must be preserved between the Ref-Producer and Ref-Consumer.
- The integrity of the Ref-Document must be preserved between the Ref-Producer and Ref-Consumer.
- The Ref-Producer must be authenticated by the Ref-Consumer.

# Definitions

This section explains the terminology used in this document.

## Abbreviations

Term	Description
CDA	Clinical Document Architecture
HL7	Health Level 7
IETF	Internet Engineering Task Force
SMD	Secure Message Delivery
XML	Extensible Markup Language

# References

The following referenced documents are indispensable for the application of this document. Only the version cited applies.

## Package Documents

The documents listed below are part of the suite delivered in the e-Referrals Package.

e-Referrals Package Documents			
[REF]	Document Name	Publisher	Link
[ER-ES2010]	e-Referrals s Release 1.0 - Executive Summary v0.4	NEHTA 2010	<a href="http://www.nehta.gov.au/e-communications-in-practice/ereferral">http://www.nehta.gov.au/e-communications-in-practice/ereferral</a>  Open menu: e-Referrals Package
[ER-RN2010]	e-Referrals Release 1.0 -Release Notification v0.1		
[ER-BRS2010]	e-Referrals Release 1.0 -Business Requirements Specification v1.0		
[ER-SD2010]	e-Referrals: Solution Design v1.0		
[ER-CIC2010]	e-Referrals Release 1.0 - Core Information Components v1.0		
[ER-TSS2010]	e-Referrals: Technical Service Specification v1.0		

## References

The documents listed below are non-package documents that have been cited in this document.

Reference Documents			
[REF]	Document Name	Publisher	Link
[RFC2119]	RFC 2119: Keywords for use in RFCs to Indicate Requirement Levels	IETF 1997	<a href="http://ietf.org/rfc/rfc2119.txt">http://ietf.org/rfc/rfc2119.txt</a>
[ATS 5822—2010]	Australian Technical Specification – E-Health Secure Message Delivery	Standards Australia 2010	<a href="http://infostore.saiglobal.com/store/Details.aspx?productID=1391035">http://infostore.saiglobal.com/store/Details.aspx?productID=1391035</a>

## Related Reading

The documents listed below may provide further information about the issues discussed in this document.

Related Documents			
[REF]	Document Name	Publisher	Link
[IF2007]	Interoperability Framework v2.0	NEHTA 2007	<a href="http://www.nehta.gov.au/">http://www.nehta.gov.au/</a> Search "interoperability 2.0".
[ATS 5820—2010]	Australian Technical Specification - E-Health Web Services Profiles	Standards Australia 2010	<a href="http://www.e-healthstandards.org.au/Home/Publications.aspx">http://www.e-healthstandards.org.au/Home/Publications.aspx</a>
[ATS 5821—2010]	Australian Technical Specification – E-Health XML Secured Payload Profiles	Standards Australia 2010	<a href="http://www.e-healthstandards.org.au/Home/Publications.aspx">http://www.e-healthstandards.org.au/Home/Publications.aspx</a>
[TR 5823—2010]	Technical Report – Endpoint Location Service	Standards Australia 2010	<a href="http://www.e-healthstandards.org.au/Home/Publications.aspx">http://www.e-healthstandards.org.au/Home/Publications.aspx</a>

# Appendix A: Technical Service Specification

## A.1 Overview

This appendix contains a technical service specification for the e-Referrals package.

This technical service specification is designed to satisfy the requirements of the logical service specification (Chapter 1). A mapping between that logical service specification and this technical service specification is shown in Appendix B.

This technical service specification is specified as a profile of Secure Message Delivery [ATS 5822—2010].

This document defines the following endpoints:

- Ref CDA Sender
- Ref CDA Receiver

## A.2 Reference Values

### A.2.1 Payloads

The following payloads are used by the endpoint definition:

- [PAYLOAD-Ref-CDA] as defined in *e-Referrals: Core CDA Implementation Guide* Release 1.0
- [PAYLOAD-EMPTY]: is an empty XML element. The element has a local name of "null" from the <http://ns.electronichealth.net.au/null/xsd/Null/1.0> namespace, and contains no attributes and no content model.

### A.2.2 Service Categories

The following service category is used by the endpoint definitions:

- [SC-Ref-CDA]  
<http://ns.electronichealth.net.au/er/sc/e-Referrals/cda/1.0>

## A.3 Endpoints

### A.3.1 Ref CDA Sender

#### A.3.1.1 Payload Behaviour

- CP.1 The *Ref CDA Sender* shall create and deliver a [PAYLOAD-Ref-CDA] payload to a *Ref CDA Receiver*.

#### A.3.1.2 Implementation

- CP.2 The *Ref CDA Sender* shall implement the *Sender* endpoint as specified by [ATS 5822—2010].

### A.3.1.3 Send: CDA e-Referrals

#### A.3.1.3.1 *Deferred mode*

- CP.3 The *Ref CDA Sender* shall be capable of sending messages containing a [PAYLOAD-Ref-CDA] payload by invoking a *Sealed Message Delivery* interface as specified by [ATS 5822—2010] of an Ref CDA Receiver. Such invocations shall use the service category [SC-Ref-CDA].

#### A.3.1.3.2 *Immediate mode*

- CP.4 If the *Ref CDA Sender* is capable of sending messages containing a [PAYLOAD-Ref-CDA] payload by invoking a *Sealed Immediate Message Delivery* interface as specified by [ATS 5822—2010] then it shall be capable of receiving a [PAYLOAD-EMPTY] payload in the immediate response. Such invocations shall use the service category [SC-Ref-CDA].

## A.3.2 Ref CDA Receiver

### A.3.2.1 Payload Behaviour

- CP.5 The *Ref CDA Receiver* shall be capable of receiving and processing a message containing a [PAYLOAD-Ref-CDA] payload.
- CP.6 The *Ref CDA Receiver* shall be capable of accepting and processing a [PAYLOAD-Ref-CDA] payload of size up to 10MB.

### A.3.2.2 Implementation

- CP.7 The *Ref CDA Receiver* shall implement the *Receiver* endpoint as specified by [ATS 5822—2010].

### A.3.2.3 Receive: CDA e-Referrals

#### A.3.2.3.1 *Deferred Mode*

- CP.8 The *Ref CDA Receiver* shall be capable of receiving messages containing a [PAYLOAD-Ref-CDA] payload either through implementation of a *Sealed Message Delivery* interface as specified by [ATS 5822—2010] or through retrieval of [PAYLOAD-Ref-CDA] messages from a *Receiver Intermediary* endpoint as specified by [ATS 5822—2010].
- CP.9 The *Ref CDA Receiver* shall use the service category [SC-Ref-CDA] when publishing a *Sealed Message Delivery* interface for receiving [PAYLOAD-Ref-CDA] messages in a service directory as specified by [ATS 5822—2010].

#### A.3.2.3.2 *Immediate Mode*

- CP.10 If the *Ref CDA Receiver* is capable of receiving messages containing a [PAYLOAD-Ref-CDA] payload on a *Sealed Immediate Message Delivery* interface as specified by [ATS 5822—2010], then it shall return a [PAYLOAD-EMPTY] payload back as the immediate response.
- CP.11 The *Ref CDA Receiver* shall use the service category [SC-Ref-CDA] when publishing a *Sealed Immediate Message Delivery* interface for receiving

[PAYLOAD-Ref-CDA] messages in a service directory as specified by [ATS 5822—2010].

# Appendix B: Mapping to the logical service specification

This appendix describes how the technical service specification (Appendix A: Technical Service Specification) maps to the logical service specification (Chapter 1).

## B.1 Roles

The producer role corresponds to the Ref CDA Sender endpoint.

The consumer role corresponds to the Ref CDA Receiver endpoint.

## B.2 Artefacts

The Ref-Document corresponds to the CDA Referral document.

## B.3 Business services

The Ref-Receiving-Service corresponds to any of the Secure Message Delivery modes of operation for delivery of a sealed message from the sender to the receiver. This includes both deferred mode and immediate mode operations. It also includes the optional use of intermediaries.

## B.4 Interactions

The Ref-Delivery-Interaction can be provided by any of the Secure Message Delivery secured payload delivery interactions.

See [ATS 5022—2010] for a full list of these interactions.

## B.5 Security

Confidentiality of the Ref-Document from producer to consumer is provided by the secured payload feature in SMD.

Integrity of the Ref-Document from producer to consumer is provided by the secured payload feature in SMD.

Authentication of the Ref-Producer is provided by the secure payload feature in SMD.