nehta

HIPS Production Release 4.1.0

**HIPS HPI-I Search
Technical and Functional Specification**

14 February 2014

Approved for external use

National E-Health Transition Authority

Document Information

Key Information

Owner   Head of Strategy, Architecture and Informatics

Contact for enquiries NEHTA Help Centre

         t: 1300 901 001

         e: help@nehta.gov.au

Document Version History

Version	Date	Release comments
4.1.0	14/2/2014	Release 4.1.0

Table of Contents

Approved for external use   14 February 2014

1. Purpose

The purpose of this document is to specify the functional logic and the technical interfaces for the HPI-I Search Functionality provided in within HIPS.

2. Service Overview

The functions provided by HIPS for HPI-I Searching include the following services:

- Search for Provider Individual Details – Singular Synchronous
- Search for Provider Individual Details – Batch Asynchronous

Within the document the statement "HPI-I Service" refers to the HPI-I query service that is that is provided by Medicare via the HI (Healthcare Identifier) Service.

3. Search for Provider Individual Details - Synchronous

3.1 Functional Logic

This service is used to search for the Provider Details for an individual in a synchronous process. A provider search can be performed as either an identifier search to validate a known HPI-I, or to retrieve the HPI-I using the registration id (for example the AHPRA number) thus verifying the provider or perform a demographic search to find the provider.

3.2 Technical Structure

3.2.1 Classes and Enumerations

The "HpiiService" class in the "HIPS.AppServer.ServiceHost" project implements this web service.

The "HpiiSearch" class in the "HIPS.PcehrHiBusinessLogic" project implement the business logic.

3.2.1.1 HpiiIdentifierQuery

Class "HpiiIdentifierQuery" is located in the "HIPS.HpiiSchemas" project. This object represents the identifier request query structure for the HPI-I service.

This class is used for Identifier Queries with either the HPI-I and/or the Registration Number (AHPRA number)

The HpiiIdentifierQuery class contains the following properties:

Property	Data Type	Description
hpioNumber	string	The HPIO number against which the search is performed.

Property	Data Type	Description
hpiiNumber	string	A qualified identifier which will be searched for in the HI Service's Provider individual.
registrationId	string	The registration Id that is prescribed by the registration authority for the individual to practice in this field. For example: AHPRA. Defined Length [1-20]
familyName	string	Family name of the provider Defined Length [1-40]
givenName	Array of strings	Given name of the provider. There may be more than one given name provided. Defined Length [1-40]
onlyNameIndicator	boolean	When true, indicates that the provider is an individual who identifies by a single name. This single name must be provided in the familyName field and the givenName field must be left empty.
dateOfBirth	datetime	Date of birth of the provider (Nullable)
sex	enum SexType (Nullable)	Gender of the provider • N: Not stated/inadequately described • I: Intersex or indeterminate • F: Female • M: Male
state	enum State (Nullable)	An identifier of the Australian State or Territory in where the provider is located.
postcode	string	Australia Post postal delivery area where the provider is located Defined Length [1-4]

3.2.1.2   HpiiDemographicQuery

Class "HpiiDemographicQuery" is located in the "HIPS.HpiiSchemas" project. This object represents the demographic request query structure for the HPI-I service.

The HpiiDemographicQuery class contains the following properties:

Property	Data Type	Description
hpioNumber	string	The HPIO number against which the search is performed.
familyName	string	Family name of the provider Defined Length [1-40]

Approved for external use
14 February 2014

Property	Data Type	Description
givenName	Array of strings	Given name of the provider. There may be more than one given name provided. Defined Length [1-40]
onlyNameIndicator	boolean	When true, indicates that the provider is an individual who identifies by a single name. This single name must be provided in the familyName field and the givenName field must be left empty.
dateOfBirth	datetime	Date of birth of the provider
sex	enum Sex (Nullable)	Sex of the provider • N: Not stated/inadequately described • I: Intersex or indeterminate • F: Female • M: Male
australianAddress	AustralianAddress	An element which is provided where an Australian address is being specified. This element is mutually exclusive of the internationalAddressCriteria element.
internationalAddress	InternationalAddress	An element which is provided where an international address is being specified. This element is mutually exclusive of the australianAddressCriteria element.

3.2.1.2.1   AustralianAddress

Class "AustralianAddress" is located in the "HIPS.HpiiSchemas" project. This object represents the Australian Address request query structure for the HPI-I service.

The AustralianAddress class contains the following properties:

Property	Data Type	Description
unitType	enum UnitType (Nullable)	The type of a separately identifiable portion within a building/complex, marina etc. to clearly distinguish it from another. *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
unitNumber	string	Number of the defined unit type. Defined Length [1-6]
siteName	string	Name used to identify the physical building or property. Defined Length [1-30]

Property	Data Type	Description
levelType	enum LevelType (Nullable)	Descriptor used to classify the type of floor or level of a multi-storey building/complex *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
levelNumber	string	Descriptor used to identify the floor or level of a multi-storey building/complex. Defined Length [1-30]
streetNumber	string	Street Number of the Property Defined Length [1-12]
lotNumber	string	Lot reference number allocated in the absence of the street number Defined Length [1-15]
streetName	string	Name of the public thoroughfare Defined Length [1-30]
streetType	enum StreetType (Nullable)	A code that identifies the type of public thoroughfare. (For example, Street, Road, Avenue, etc.) *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
streetSuffix	enum StreetSuffix (Nullable)	Term used to qualify Street Name used for directional references. (For example, NE, South, etc.) *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
postalDeliveryType	enum PostalDeliveryType (Nullable)	Identification for the channel of postal delivery. (For example, PO Box, GPO Box, g, etc.) *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
postalDeliveryNumber	string	Identification number for the channel of postal delivery. Defined Length [1-11]
suburb	string	Suburb of the location of the provider Defined Length [1-50]
state	enum State (Nullable)	An identifier of the Australian State or Territory in which a provider is located. *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*
postCode	string	Postcode of the provider's location. Defined Length [1-4]

3.2.1.2.2   InternationalAddress

Class "InternationalAddress" is located in the "HIPS.HpiiSchemas" project. This object represents the International Address request query structure for the HPI-I service.

The InternationalAddress class contains the following properties:

Property	Data Type	Description
internationalAddressLine	string	A composite of address details comprising low level geographic/physical description of a location that, used in conjunction with other high-level address components i.e. 'internationalStateProvince', 'internationalPostcode', and 'country', forms a complete geographical/physical address. Defined Length [1-120]
internationalStateProvince	string	The designation applied to an internal, political or geographic division of a country other than Australia that is officially recognised as a country. Defined Length [1-40]
internationalPostcode	string	The numeric descriptor for a postal delivery area Defined Length [1-10]
country	enum Country (Nullable)	Country of the international Address. Defined by the ABS "1269.0 - Standard Australian Classification of Countries (SACC) V1" *As defined by the "TECH.SIS.HI.02 Common Field Processing Document"*

3.2.1.3   HpiiQueryResponse

Class "HpiiQueryResponse" is located in the "HIPS.HpiiSchemas" project. This object represents the response query structure for an individual search request from the HPI-I service.

The HpiiQueryResponse class contains the following properties:

Property	Data Type	Description
hpioNumber	string	The HPIO number against which the search is performed.
hpiiNumber	string *Where a match is returned the hpiiNumber will be returned*	A qualified identifier which will be searched for in the HI Service's Provider individual.

Property	Data Type	Description
registrationId	string *Where a match is returned the hpiiNumber and registrationId will be returned.*	The registration Id that is prescribed by the registration authority for the individual to practice in this field. For example: AHPRA. Defined Length [1-20]
HpiiStatus	enum HpiiStatus	An identifier of the HPI-I status • A: Active • D: Deactivated • R: Retired • U: Undefined
familyName	string *Element returned when a match is found*	Family name of the provider Defined Length [1-40]
givenName	string *Element returned when a match is found*	Given name of the provider. Only one name will be returned regardless of the request. Defined Length [1-40]
onlyNameIndicator	boolean	When true, indicates that the provider is an individual who identifies by a single name. This single name will be provided in the familyName field and the givenName field will be left empty.
dateOfBirth	datetime *Element returned when used as search criteria and a match is found*	Date of birth of the provider
sex	enum Sex (Nullable) *Element returned when used as search criteria and a match is found*	Sex of the provider • N: Not stated/inadequately described • I: Intersex or indeterminate • F: Female • M: Male
state	enum State (Nullable) *Element returned when used as search criteria and a match is found*	An identifier of the Australian State or Territory in where the provider is located.
postcode	string *Element returned when used as search criteria and a match is found*	Australia Post postal delivery area where the provider is located Defined Length [1-4]
australianAddress	AustralianAddress *Element returned when used as search criteria and a match is found*	An element which is provided where an Australian address is being specified. This element is mutually exclusive of the internationalAddressCriteria element.

Approved for external use 14 February 2014

Property	Data Type	Description
internationalAddress	InternationalAddress *Element returned when used as search criteria and a match is found*	An element which is provided where an international address is being specified. This element is mutually exclusive of the australianAddressCriteria element.
serviceMessages	ServiceMessageType	An element list which contains overall messages that outline the results of processing a request. These are specific message returned from the HPI-I Service.

3.2.2   Class Diagrams

Figure 1: HpiiIdentifierQuery and HpiiDemographicQuery Class Diagrams

Figure 2: HpiiQueryResponse Class Diagram

3.2.3 Methods

3.2.3.1 *HpiiValidation*

This method is used to validate a single known HPI-I with the provider details.

This method is within the class "HpiiService" which is located in the "HIPS.AppServer.ServiceHost" project and accessible via the HpiiService web service.

This service method takes the following parameters:

Input Parameter	Data Type	Description	Required/ Optional
hpiiIdentifierQuery	HpiiIdentifierQuery	Hpii Indentfier Query object	Required
User	UserDetails	The interactive user, authorised employee or health provider individual responsible for this action.	Required

Return Parameter	Data Type	Description
response	HpiiQueryResponse	HPI-I Response returned from the HPI-I Service

3.2.3.2 HpiiDemographicSearch

This method is used to search for an HPI-I with the demographic details of the provider.

This method is within the class "HpiiService" which is located in the "HIPS.AppServer.ServiceHost" project and accessible via the HpiiService web service.

This service method takes the following parameters:

Input Parameter	Data Type	Description	Required/ Optional
hpiiDemographicQuery	HpiiDemographicQuery	Hpii Demographic Query object	Required
User	UserDetails	The interactive user, authorised employee or health provider individual responsible for this action.	Required

Return Parameter	Data Type	Description
response	HpiiQueryResponse	HPI-I Response returned from the HPI-I Service

3.2.3.2.1 Business Rules / Functional Business Logic

1) Following a HPI-I number/registration Id or Demographic HPI-I record search, if the HI Service finds a single match to an HPI-I record which is a 'Resolved' duplicate as a status, the HI Service will return information message (WSE0134) and the primary HPI-I record with search criteria details.

2) HpiiIdentifierQuery:

    a. The hpiiNumber and registrationId and number are conditionally mandatory and thus only one of the two items must be provided for a single search.

    b. The hpioNumber is a mandatory requirement and must be provided for auditing requirements.

    c. The familyName is also a mandatory requirement.

    d. The familyName and givenName must not provide invalid characters. Only alpha and numeric characters, apostrophes, full stops and hyphens are acceptable. Spaces are also acceptable but must not appear immediately before or after apostrophes and hyphens.

    e. When searching by registrationId the search will be case sensitive.

3) hpiiDemographicQuery:

a. The hpioNumber is a mandatory requirement and must be provided for auditing requirements.

b. The familyName is a mandatory requirement.

c. The familyName and givenName must not provide invalid characters. Only alpha and numeric characters, apostrophes, full stops and hyphens are acceptable. Spaces are also acceptable but must not appear immediately before or after apostrophes and hyphens.

d. The dateOfBirth is a mandatory requirement.

e. The sex is a mandatory requirement.

f. The australianAddress and internationalAddress are conditionally mandatory and thus only one of the two items must be provided for a single search.

    i. If the australianAddress is provided then the following are mandatory:

        1. streetName

        2. suburb

        3. postcode

        4. state

    ii. If the internationalAddress is provided then the following is mandatory:

        1. country

Figure 3: HPI-I Search Operations Synchronous and Asynchronous

4. Search for Provider Individual Details - Asynchronous

4.1 Functional Logic

This service is used to search for the Provider Details for an individual in an asynchronous process.

4.2 Technical Structure

4.2.1 Classes and Enumerations

The "HpiiService" class in the "HIPS.AppServer.ServiceHost" project implements this web service.

The "HpiiSearch" class in the "HIPS.PcehrHiBusinessLogic" project implement the business logic.

4.2.1.1 HpiiBatchAsyncSubmitRequest

Class "HpiiBatchAsyncSubmitRequest" is located in the "HIPS.HpiiSchemas" project. This object represents a group of batched identifier request query structures (either validation or demographic) for the HPI-I service.

The HpiiBatchAsyncSubmitRequest class contains the following properties:

Property	Data Type	Description
hpioNumber	string	The HPIO number against which the search is performed.
hpiiIdentifierQueries	IList <HpiiIdentifierQuery>	List of HpiiIdentifierQuery objects that are to perform validation queries within the submitted batch.
hpiiDemographicQueries	IList <HpiiDemographicQuery>	List of HpiiDemographicQuery objects that are to perform demographic queries within the submitted batch.

+ HpiiDemographicQueries : IList<HpiiDemographicQuery>[0..1]
+ HpiiIdentifierQueries : IList<HpiiIdentifierQuery>[0..1]

Figure 4:HpiiBatchAsyncSubmitRequest Class Diagram

4.2.1.2 HpiiBatchAsyncSubmitResponse

Class "HpiiBatchAsyncSubmitResponse" is located in the "HIPS.HpiiSchemas" project. This object represents the response from the HPI-I service once an HpiiBatchAsyncSubmitRequest has been submitted to the HPI-I Service.

The HpiiBatchAsyncSubmitResponse class contains the following properties:

Property	Data Type	Description
batchIdentifier	string	Element containing a unique identifier used to identify the batch
hipsResponse	HipsResponse	Common Response Object
serviceMessages	ServiceMessageType	An element list which contains overall messages that outline the results of processing a request. These are specific message returned from the HPI-I Service.

Figure 5:HpiiBatchAsyncSubmitResponse Class Diagram

 14 February 2014

4.2.1.3   HpiiBatchAsyncRetrieveRequest

Class "HpiiBatchAsyncRetrieveRequest" is located in the "HIPS.HpiiSchemas" project. This object represents the request that is passed to the HPI-I Service to retrieve the results from a previous HpiiBatchAsyncSubmitRequest. Thus, a known Batch Identifier that was previously retrieved from a successfully retuned HpiiBatchAsyncSubmitResponse must be provided.

The HpiiBatchAsyncRetrieveRequest class contains the following properties:

Property	Data Type	Description
hpioNumber	string	The HPIO number against which the search is performed.
batchIdentifier	string	Unique identifier that is used to identify the batch when retrieving the asynchronous response.

Figure 6: HpiiBatchAsyncRetrieveRequest Class Diagram

4.2.1.4   HpiiBatchAsyncRetrieveResponse

Class "HpiiBatchAsyncRetrieveResponse" is located in the "HIPS.HpiiSchemas" project. This object represents the results of the group of batched identifier request queries returned from the HPI-I service once an HpiiBatchAsyncRetrieveRequest has been submitted to the HPI-I Service.

The HpiiBatchAsyncRetrieveResponse class contains the following properties:

Property	Data Type	Description
batchIdentifier	string	Element containing a unique identifier used to identify the batch
hpiiBatchQueryResponses	IList <HpiiBatchQueryResponse>	List of HpiiBatchQueryResponse objects that contain the individual results for each batched identifier request query.
hipsResponse	HipsResponse	Common Response Object

Property	Data Type	Description
serviceMessages	ServiceMessageType	An element list which contains overall messages that outline the results of processing a request.
		These are specific message returned from the HPI-I Service.

4.2.1.5   HpiiBatchQueryResponse

Class "HpiiBatchQueryResponse" is located in the "HIPS.HpiiSchemas" project. This represents the response object for a single batched identifier search within the retrieved HpiiBatchAsyncRetrieveResponse object (see above). It encapsulates an HpiiQueryResponse object (see "3.2.1.3 HpiiQueryResponse" on page 9) and is required primarily to expose the requestIdentifier that has been given to each single batched identifier query with an HpiiBatchAsyncSubmitRequest.

The HpiiBatchQueryResponse class contains the following properties:

Property	Data Type	Description
requestIdentifier	string	Unique identifier used to identify a request within a batch
hpiiQueryResponse	HpiiQueryResponse	Response query structure for an individual search request

Approved for external use

+ HpiiBatchQueryResponses : IList<HpiiBatchQueryResponse>

Figure 7: HpiiBatchAsyncRetrieveResponse and HpiiBatchQueryResponse Class Diagram

4.2.2 Methods

4.2.2.1 *HpiiBatchSubmit*

This method is used to submit a batched request of HPI-I validation queries HPI-I demographic queries to the HPI-I service.

This method is within the class "HpiiService" which is located in the "HIPS.AppServer.ServiceHost" project and accessible via the HpiiService web service.

This service method takes the following parameters:

Input Parameter	Data Type	Description	Required/ Optional
hpiiBatchAsyncSubmitRequest	HpiiBatchAsyncSubmitRequest	Submitting HPI-I Asynchronous Batch request object	Required
User	UserDetails	The interactive user, authorised employee or health provider individual responsible for this action.	Required

Return Parameter	Data Type	Description
response	HpiiBatchAsyncSubmitResponse	Response HPI-I Asynchronous Batch request object, containing the Batch Identifier

4.2.2.2 *HpiiBatchRetrieve*

This method is used to retrieve a previously submitted batch request to the HPI-I service.

This method is within the class "HpiiService" which is located in the "HIPS.AppServer.ServiceHost" project and accessible via the HpiiService web service.

This service method takes the following parameters:

Input Parameter	Data Type	Description	Required/ Optional
hpiiBatchAsyncSubmitRequest	HpiiBatchAsyncSubmitRequest	Submitting HPI-I Asynchronous Batch request object	Required
User	UserDetails	The interactive user, authorised employee or health provider individual responsible for this action.	Required

Return Parameter	Data Type	Description
response	HpiiBatchAsyncSubmitResponse	Response HPI-I Asynchronous Batch request object, containing the Batch Identifier

4.2.2.2.1 Business Rules / Functional Business Logic

1) All rules for the HpiiIdentifierQuery and HpiiDemographicSearch apply for all validation and search requests.
2) HpiiBatchSubmit:
    a. Asynchronous batch searching allows provider individuals to search for up to 50 search requests per message. A badlyFormedMsg will be returned in the response file when the batch file size is greater than 50 requests.
3) HpiiBatchRetrieve
    a. The HPI-I Service will only permit the requestor (HPI-O) of the HPI-I batch search to retrieve the details of the HPI-I batch search. The HI Service will validate the requestor for the services: and a not authorised error will be returned when the requestor is invalid – error WSE9050.
    b. The HPI-I Service will hold the completed search results for a period of exactly 14 calendar days from the date the batch request has reached a COMPLETED status. The results will be deleted after the timeframe has elapsed for searches when the status of the batch request is 'Completed', 'Retrieved' or 'Error'.