

**VLER Gateway
(Inbound)
Web Services/HTTPS**

Version1.0

Interface Control Document



June 2012

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1. Introduction

This document is the Interface Control Document (ICD) for the interface between the external Disability Benefits Questionnaire (DBQ) Automation Solution application and the internal Virtual Lifetime Electronic Record (VLER) Gateway application.

In this ICD “external” means “external to the Department of Veterans Affairs (VA) network” while “internal” means “on the VA network”.

1.1. Purpose

This ICD serves as a specification of the interface between the external DBQ Automation Solution application and the internal VLER Gateway application. It will be used by:

1. Developers of the internal VLER Gateway application.
2. Developers of the external DBQ Automation Solution application.

This interface is designed to allow the external DBQ Automation Solution to send requests to store Examination Results within VA to the VLER Gateway and to receive back a response for each request specifying the success or failure of the request.

1.2. Scope

This ICD focuses on the software interface between the external DBQ Automation Solution application and the internal VLER Gateway application. It describes the operations (or transaction types), data transfers and communication methods of the service interface supported by the VLER Gateway.

Upon formal approval by each participating application, this ICD shall be incorporated into the requirements baseline for each application.

This document does not specify the software design of the VLER Gateway nor of applications which interact with the VLER Gateway.

1.3. System Identification

1.3.1. DBQ Automation Solution

The DBQ Automation Solution provides functionality as specified in the following document:

PERFORMANCE WORK STATEMENT (PWS)

DEPARTMENT OF VETERANS AFFAIRS
Office of Information & Technology
Enterprise Program Management Office (EPMO)

Compensation Services Disability Benefits Questionnaire (DBQ) Automation Solution

Date: April 27, 2012
TAC-12-04156

The information listed in Table 1-1 must be provided by the DBQ Automation Solution team at contract award.

Table 1-1 - DBQ Automation Solution Identifiers

<i>System</i>	<i>Details</i>
Identification number	
Title	DBQ Automation Solution
Abbreviation	
Version number	1.0
Release number	1.0
Point of Contact	

1.3.2. VLER Gateway

The VLER Gateway serves as a gateway and a processes execution service between the external DBQ Automation Solution and internal VLER applications. The DBQ Automation Solution initiates all requests to store Examination Results within VA and will receive back a response for each request specifying the success or failure of the request.

Table 1-2 identifies the VLER Gateway application for which this ICD defines the communications interface.

Table 1-2 - VLER Gateway Identifiers

<i>System</i>	<i>Details</i>
Identification number	VLER 17
Title	Virtual Lifetime Electronic Record Gateway
Abbreviation	Gateway
Version number	1.0
Release number	1.0
Point of Contact	VA Government Program Manager or Contracting Officer

2. Interface Definition

This ICD specifies the interface between the DBQ Automation Solution and the VLER Gateway, as shown in Figure 2-1. The interface is designed to guarantee processing of every request to store instances of Examination Results.

2.1. System Overview

The VLER Gateway serves as a gateway between the external DBQ Automation Solution and internal VLER applications as shown in Figure 2-1– VLER Gateway Context Diagram (a data flow diagram). The DBQ Automation Solution initiates all requests to store Examination Results within VA and may receive back a response, for each request, specifying the success or failure of the request.

In this version of the ICD, all requests from the DBQ Automation Solution must be requests for asynchronous processing. Synchronous processing of requests is not yet supported.

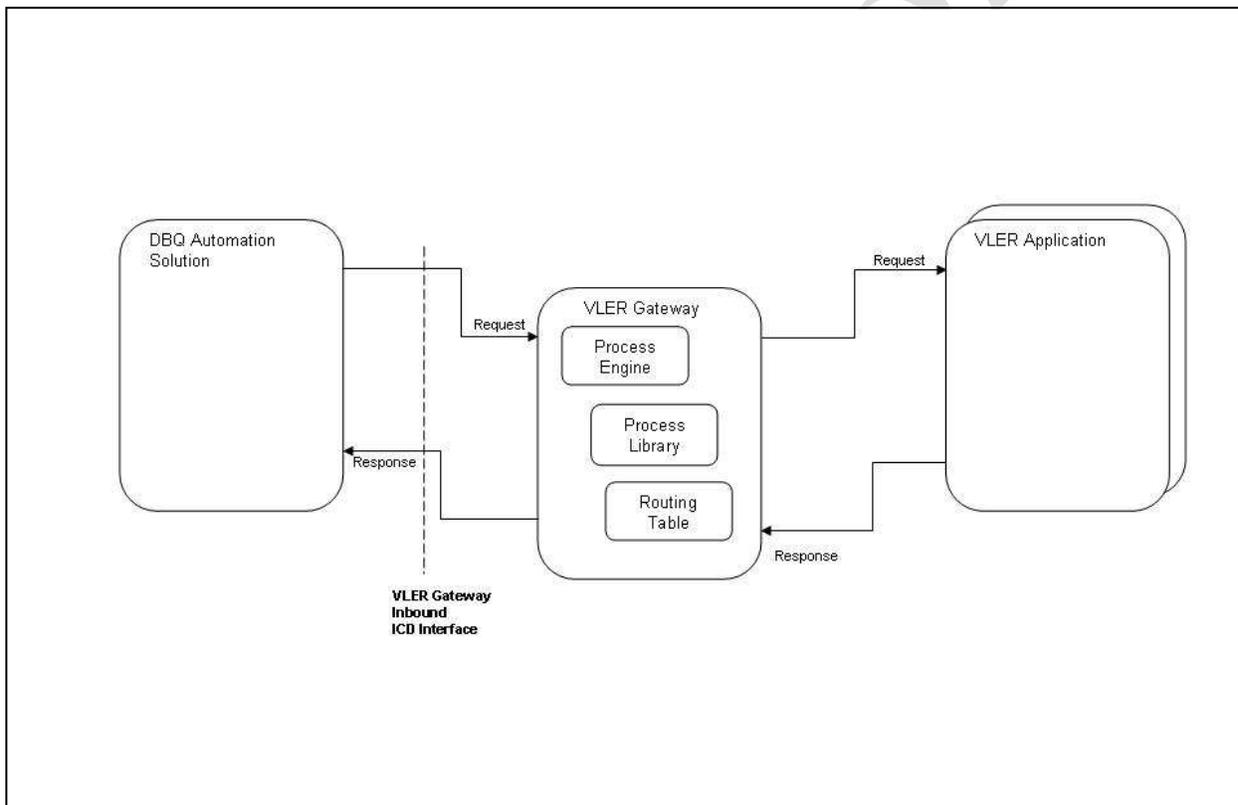


Figure 2-1 – VLER Gateway Context Diagram

2.2. Interface Overview

2.2.1. Exchange Protocol

The communications mechanism selected to operate between the external DBQ Automation Solution and the internal VLER Gateway is SOAP based web services as shown in the extended data flow diagram Figure 2-2 and the web services diagram Figure 2-3.

The external DBQ Automation Solution must use a web service to send requests to store instances of Examination Results to the VLER Gateway, over both the Internet and the VA Network, while the internal VLER Gateway must use a web service to return responses over the same networks.

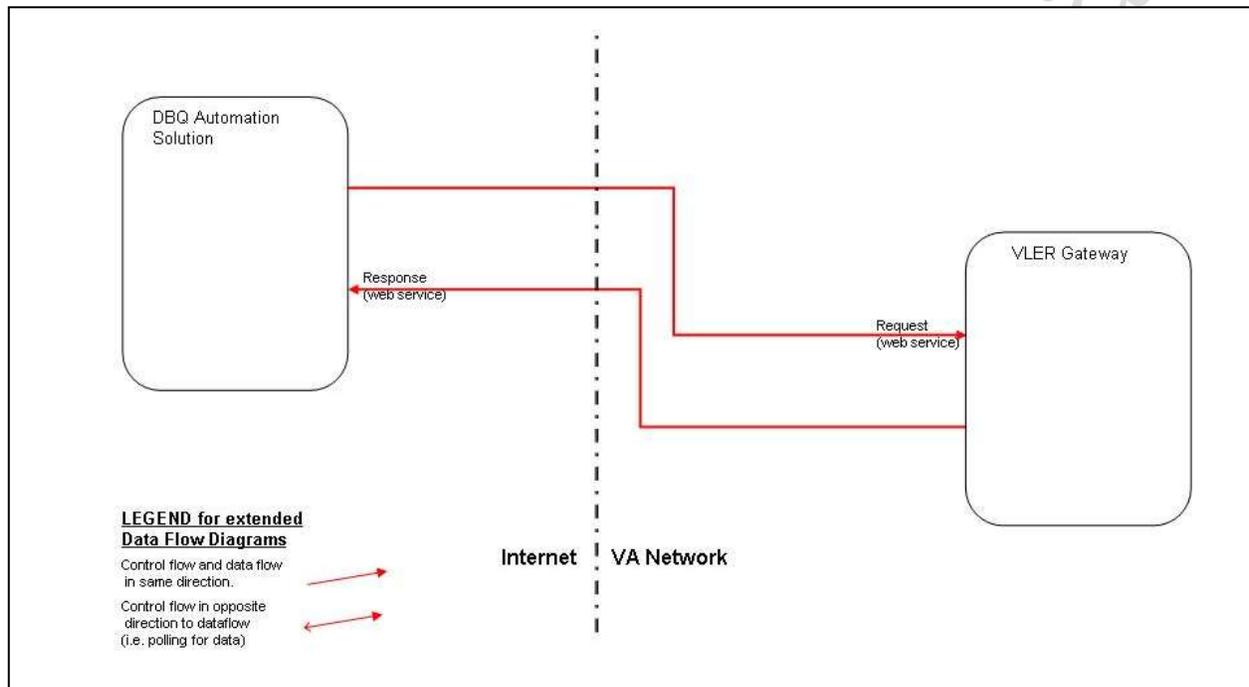


Figure 2-2 – Interface extended-Data-Flow-Diagram showing implementation mechanisms.

The inbound web service allows the DBQ Automation Solution to submit Examination Results to VA, one at a time, for later, asynchronous, processing by VLER applications. The processing includes:

1. Adding the Veteran's Internal Control Number (ICN) to the Examination Results, if possible.
2. Storing the updated instance of Examination Results in a database for later validation and adjudication of a Veteran's claim, if possible.
3. Returning an acknowledgement to the DBQ Automation Solution, indicating the success or failure of storing the Examination Results, if possible.

One instance of Examination Results is assumed to contain:

1. One completed Disability Benefits Questionnaire for a Veteran (in XML format)
2. Optionally, other digital examination results for the same Veteran, included by the examining clinician, e.g., photographs.

The request to store an instance of Examination Results is defined in Section 2.2.2 and the response in Section 2.2.3. The request and response web services are shown in Figure 2-3.

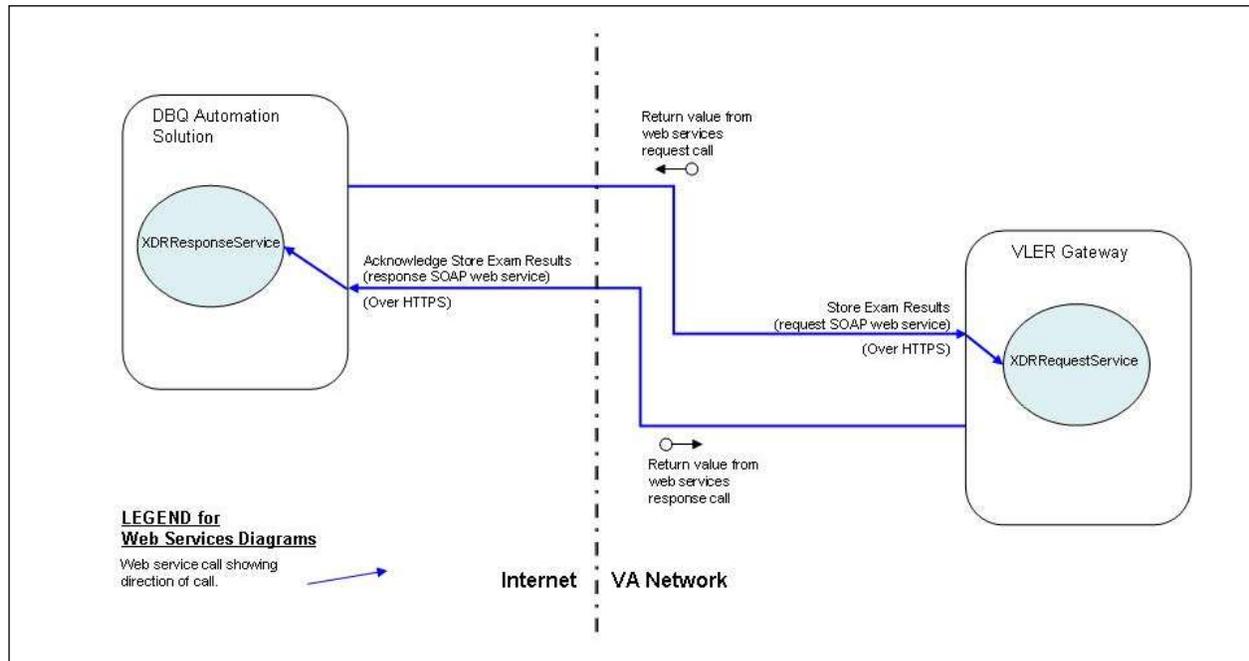


Figure 2-3 – Web Services.

Figure 2-4 shows possible statuses which could be used to track the storing of one instance of Examination Results within VA. The statuses are shown as the states of a State Transition Diagram.

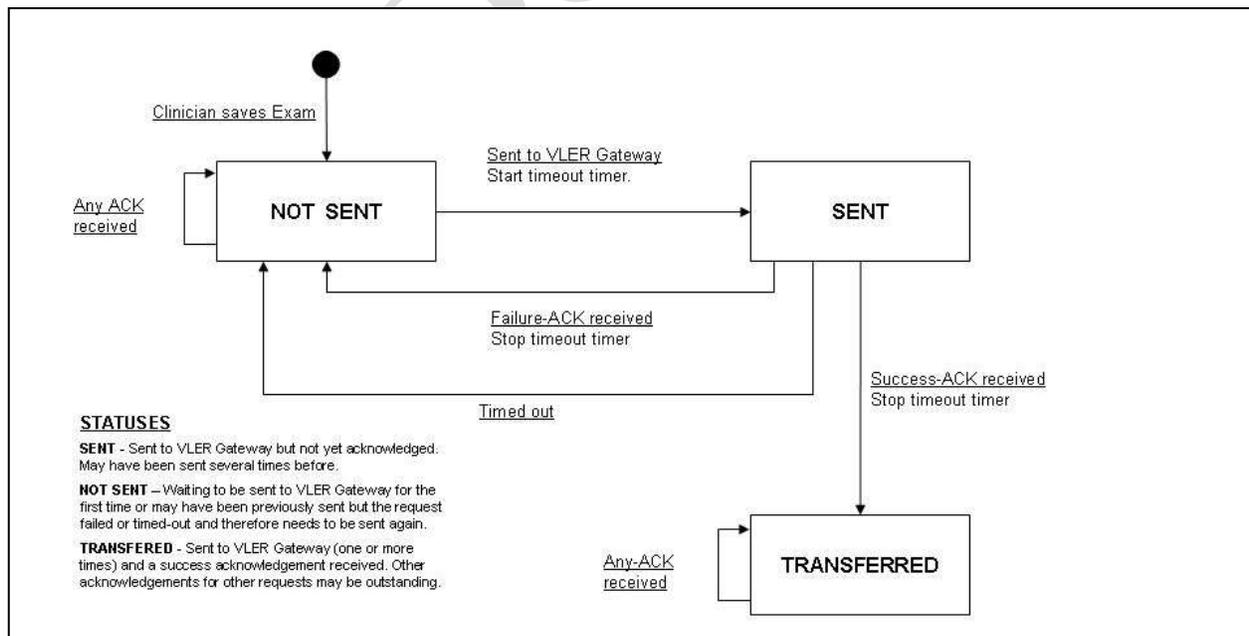


Figure 2-4 – State Transition Dgm of possible statuses of one instance of Examination Results.

The protocol for sending one instance of Examination Results to VA is described by the process below, comprising three threads of individual steps. This process can only take place when all systems involved in the storage operation are operating in a normal production mode. Planned downtimes by internal VLER applications must be allowed for in the DBQ Automation Solution production schedule. See Table 2-1 for details of how to obtain the internal systems planned downtimes (e.g. for VLER Gateway and VLER applications).

The “happy day” sequence of protocol steps (the sending thread) to transfer one instance of Examination Results to VA is as follows:

1. The DBQ Automation Solution selects one instance of Examination Results to transfer to VA. This instance must be selected from the set of stored instances which have not yet been successfully stored by VA. These instances may be “flagged” as “NOT SENT” after their creation (see Figure 2-4). The DBQ Automation Solution may apply a priority ranking to instances when selecting the next one to be sent, e.g. oldest first. The DBQ Automation Solution may keep performance statistics on the number of times an instance has been selected for transmission and sent, the number of times a failure acknowledgement has been received back for an instance, the number of times the transmission has timed out for an instance, etc. If the number of transfer attempts for this instance exceeds the maximum number specified in Table 2-1 then VLER Operations must be contacted to notify them of the production problem. It is suggested that this entire process be ended and transfers stopped until the situation is remedied. See Table 2-1 for details of how to contact VLER Operations.
2. The DBQ Automation Solution must Base64 encode the instance’s XML and insert it into the “Document” element of the request-envelope XML as described in Table 2-2.
3. The DBQ Automation Solution must fill in values for the remaining elements of the request-envelope XML as described in Table 2-2.
4. The DBQ Automation Solution must transfer the request-envelope XML via the request web service call to the VLER Gateway. This web service call constitutes a request to VA to store one instance of Examination Results. See Section 2.2.2 for details of the service. There is no guarantee that (1) requests will be processed and stored, even if accepted by VLER Gateway, (2) requests will be processed in the order they are received by the VLER Gateway and (3) a response will be returned for every request.
5. The return-value of the request web service call (returned synchronously to the sender as shown in Figure 2-3) will indicate whether the request was received successfully by the VLER Gateway, for later asynchronous processing and storage by VLER applications.
6. If the return-value indicates the request was received successfully then:
 - a. The DBQ Automation Solution must start a timeout timer for this transfer, i.e. this particular storage request operation.
 - b. The DBQ Automation Solution may “flag” the instance of Examination Results as being “SENT” (see Figure 2-4).
7. This thread of the process can continue with Step 1 if the DBQ Automation Solution determines all conditions are acceptable, e.g.:
 - a. The VLER Gateway will accept requests up to a maximum rate as defined in Table 2-1.
 - b. Etc.

The “happy day” sequence of protocol steps (the acknowledgement thread) to receive back an acknowledgement (the response) for a request that one instance of Examination Results be stored in VA is as follows:

8. The DBQ Automation Solution receives a web service call containing the response, to an earlier request to store one instance of Examination Results.
9. The DBQ Automation Solution examines the response to determine for which request the response was sent. (See Section 2.2.3 Response Web Service for a description of how to correlate requests with responses).
10. If a response for a given request arrives before the storage operation timeout period expires, then the DBQ Automation Solution:
 - a. Stops the timeout timer for this transfer.
 - b. If the response indicates the instance of Examination Results was successfully stored then:
 - i. The instance of Examination Results may be “flagged” as “TRANSFERRED” (see Figure 2-4) (or may be deleted from the DBQ Automation Solution).
 - ii. End this thread.
 - c. If the response indicates the instance of Examination Results was not successfully stored then:
 - i. *(The overall process will retry sending this instance of Examination Results again when Step 1 is performed in the sending thread.)*
 - ii. The instance of Examination Results may be “flagged” as “NOT SENT” (see Figure 2-4).
 - iii. End this thread.
11. If a response for a given request arrives after the storage operation timeout period expires (i.e. the instance of Examination Results may be “flagged” as “TRANSFERRED” or “NOT SENT” (see Figure 2-4)) then the DBQ Automation Solution:
 - a. Ignores the response.
 - b. *(This situation may arise if the instance has been sent several times without receiving an acknowledgement, each time encountering a timeout because VA systems are running slowly. The requests may be processed a long time after they are sent and acknowledgements generated. The acknowledgements that are not lost as they pass back through VLER applications are returned later to the DBQ Automation Solution but may arrive in any order).*
 - c. Ends this thread.

In the sending thread above, a timeout timer is set for each transfer. It is expected that VA will receive and process a request within this timeout period. However, if the timeout timer for a transfer expires, the following sequence of protocol steps (the timeout thread) will be followed:

12. The DBQ Automation Solution examines the timeout to determine which transfer the timeout was set for.
13. If the instance of Examination Results in this transfer is “flagged” as “SENT” (see Figure 2-4) i.e. having been sent but not yet successfully transferred then:
 - a. The instance of Examination Results may be “flagged” as “NOT SENT” (see Figure 2-4)
 - b. *(The overall process will retry sending this instance of Examination Results again when Step 1 is performed in the sending thread.)*
14. End this thread.

In addition to contacting VLER operations for those situations which arise in the above process, VLER Operations must be contacted to notify them of a production problem if:

1. The DBQ Automation Solution is unable to connect to the VLER Gateway web service for network-related reasons.
2. The VLER Gateway returns error codes for transfers and does not complete inbound or outbound transfers as expected.

See Table 2-1 for details of how to contact VLER Operations.

The VLER Gateway and its supporting applications are designed to accept multiple requests to store the same instance of Examination Results (as identified by the “**id**” attribute of the “**Document**” element in Table 2-2). Only one instance of a given Examination Results will be stored regardless of the number of times it is transferred to VA. If, therefore, one or more of the DBQ Automation Solution computers should fail or a disastrous event occur then the recovered computers should resend any instances of Examination Results for which an uncertainty exists as to whether they were stored by VA or not.

The following is assumed for all transfers:

1. The “**id**” attribute of the “**Document**” element (see Table 2-2) serves as a document ID and identifies a particular instance and state of an instance of Examination Results. If the instance of Examination Results is updated by the DBQ Automation Solution for any reason, a new document ID value must be assigned and its creation date updated to the date on which the modified state was created.
2. The VLER Gateway will accept multiple requests to store a given instance of Examination Results identified by a single document ID value. If the storage operation is successful then a success acknowledgement will be returned every time, even if the instance already exists in the VA database.

Table 2-1 list parameters of the transfer protocol. These parameters are initial values for some parameters and may change in future versions of this ICD.

Table 2-1 – Transfer Protocol Parameters

Protocol Parameter	Value
VLER Gateway Server URL available on the Internet.	Notional value is VLER.VA.GOV/gateway/ Contact VLER Operations for the production and test values.
DBQ Automation Solution storage-operation timeout period.	4 hrs Should be configurable.
VLER Operations contact.	Contact the VA Government Program Manager or Contracting Officer for details of how to contact operations knowledgeable staff.
Internal systems planned downtimes.	Contact the VA Government Program Manager or Contracting Officer for details of how to obtain scheduled downtime periods.
DBQ Automation Solution maximum number of transfer retries for any reason.	3
DBQ Automation Solution maximum request send rate.	25 Hz

2.2.2. Request Web Service

The request web service is implemented by the VLER Gateway as shown in Figure 2-3.

The top level Web Services Description/Definition Language (WSDL) for the service is shown below in Figure 2-5. The files defining the request web service WSDL are attached in Appendix A – Request WSDL Files.

```
<?xml version="1.0" encoding="utf-8"?>
<definitions
  xmlns:tns="http://_2007.request.async.xdr.iti.ihe/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
  name="XDRRequestService"
  targetNamespace="http://_2007.request.async.xdr.iti.ihe/"
  xmlns="http://schemas.xmlsoap.org/wsdl/">
```

Figure 2-5 – Request web service WSDL

The value of the **yellow highlighted** “location” attribute of the “soap:address” element in the WSDL of Figure 2-5 must be specified by VLER Operations in concert with the VLER Gateway team with:

1. “HTTPS” when the communications path is protected by SSL.
2. The fully qualified server URL.
3. The fully qualified VLER Gateway URL path.
4. The port selected for communications with VLER Gateway.

There may be differences between the values for test and production. Contact VLER Operations for the above details (see Table 2-1 for contacting VLER Operations).

An instance of Examination Results sent in a request must satisfy the following:

1. Be valid XML conforming to an XSD provided to VA before the first transfer of such XML in a production environment.
2. Have a character encoding of UTF-8.
3. Contain XML elements for:
 - a. Document ID – a UUID uniquely identifying the instance and state of the Examination Results XML document
 - b. DBQ Document type – the type of DBQ, from a standardized list of DBQ Document types, contained in the Examination Results XML document.
 - c. Examination Results creation date – in XSD:DateTime format
 - d. Facility ID – Physician’s associated facility ID.
 - e. Facility Station Number
 - f. Facility Name
 - g. Patient SSN – without dashes or spaces
 - h. Patient First Name
 - i. Patient Last Name
 - j. Patient Date of Birth – in XSD:DateTime format
 - k. Patient Gender – from HL7 gender codes
 - l. Patient ID – a unique identifier of the patient assigned by the Assigning Authority - can be blank
 - m. Patient ID Assigning-Authority – an identifier of the authority assigning IDs to patients - can be blank
 - n. Patient ID Assigning-Facility – can be blank
 - o. Physician Id
 - p. Physician Id Assigning Facility or Assigning Authority – an identifier of the authority assigning IDs to Physician s
 - q. Physician First Name
 - r. Physician Middle Initial
 - s. Physician Last Name

Table 2-2 lists the elements of the request document which may vary from request to request. The value associated with the `<urn3:Slot name="operationName" >` must not be changed as this value indicates the function to be performed by the VLER Gateway, namely “**StoreExaminationResults**”.

The instance of the Examinations Results to be stored must be Base64 encoded and added as the value of the “Document” element.

Figure 2-6 shows an example completed envelope document. Requests for test and production use can be created from the XML in Figure 2-6 (used as a template) and modified as described in Table 2-2.

Table 2-2 – Request Envelope variable XML Elements

Element	Description of Element
<code><urn1:SubmitObjectsRequest id="RequestID0001"></code>	<p>Required The “id” attribute is the unique identifier of this request. The asynchronous response to this request will have a matching value in the “requestID” attribute of the “RegistryResponse” element. Set the value of this attribute in a request to be the unique identifier of the instance of Examination Results e.g. a UUID. Type: UUID or unique identifier</p>
<code><urn3:Slot name="operationName" ></code>	<p>Required This slot names the operation to be performed by the VLER Gateway for this request.</p>
<code><urn3:Value>StoreExaminationResults</urn3:Value></code>	<p>Required. The name of the operation to be performed by the VLER Gateway for this request. This value must not be modified.</p>
<code><urn3:Slot name="originatingOrganizationName" ></code>	<p>Required This slot names the originating organization making the request.</p>
<code><urn3:Value>Harris Corporation</urn3:Value></code>	<p>Required Set the value of this slot to be the name of the originating organization making the request. An example value is shown in this ICD. Type: Text</p>
<code><urn3:Slot name="originatingApplicationName" ></code>	<p>Required This slot names the originating application making the request.</p>

Element	Description of Element
<urn3:Value>Forms Service</urn3:Value>	<p>Required</p> <p>Set the value of this slot to be the name of the originating application making the request.</p> <p>An example value is shown in this ICD.</p> <p>Type: Text</p>
<urn:Document id="0001">	<p>Required</p> <p>The document "id" attribute is the unique identifier of the instance of the Examination Results.</p> <p>Set the value of this attribute to be a unique identifier of the instance e.g. a UUID.</p> <p>Type: UUID or unique identifier.</p>
<urn:Document >	<p>Required</p> <p>The document element must contain the Base64 encoded value of the instance of an Examination Results.</p> <p>Type: text (Base64)</p>

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Figure 2-6 shows an example request document completed according to the guidelines for elements listed in Table 2-2. The Base64 encoded instance of an Examination Results (highlighted in green) has been truncated to fit the space available on this page.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:urn="urn:ihe:iti:xds-b:2007"
  xmlns:urn1="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
  xmlns:urn2="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
  xmlns:urn3="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0">
  <soapenv:Header/>
  <soapenv:Body>
    <urn:ProvideAndRegisterDocumentSetRequest>
      <urn1:SubmitObjectsRequest id="RequestID0001">
        <urn2:RequestSlotList>
          <!--Zero or more repetitions:-->
          <urn3:Slot name="operationName" >
            <urn3:ValueList>
              <!--Zero or more repetitions:-->
              <urn3:Value>StoreExaminationResults</urn3:Value>
            </urn3:ValueList>
          </urn3:Slot>
          <urn3:Slot name="originatingOrganizationName" >
            <urn3:ValueList>
              <!--Zero or more repetitions:-->
              <urn3:Value>Harris Corporation</urn3:Value>
            </urn3:ValueList>
          </urn3:Slot>
          <urn3:Slot name="originatingApplicationName" >
            <urn3:ValueList>
              <!--Zero or more repetitions:-->
              <urn3:Value>Forms Service</urn3:Value>
            </urn3:ValueList>
          </urn3:Slot>
        </urn2:RequestSlotList>
      </urn1:SubmitObjectsRequest>
      <!--Zero or more repetitions:-->
      <urn:Document id="0001">
        PGdvdI52YS5hZ2VudG9yYW5nZS5mYXN0dHJhY2subW9kZWwuZGJxLmxiay5IYWlyeUNlbGxMZXRr
        ... ..
        aWNhdGlvbN+PC9hbnlPdGhlckNvbXBsaWNhdGlvbN+DQoJCTwvZ292LnZhLmFnZW50b3Jhbmdl
        LmZhc3R0cmFjay5tb2RlbC5kYnEubHVrLkhhaXJ5Q2VsbEklWt1bWlhPg==
      </urn:Document>
    </urn:ProvideAndRegisterDocumentSetRequest>
  </soapenv:Body>
</soapenv:Envelope>

```

Figure 2-6 – Example request which should succeed

The request web service call from the DBQ Automation Solution to the VLER Gateway will receive back a return value from the VLER Gateway indicating the success or failure of the submission of a request. If the call is successful then the request will be processed at some future time by VLER applications and a response returned. If the call fails then the request must be resubmitted.

Figure 2-7 is an example successful return value. The “message” element contains the return value (highlighted in yellow) and will always start with “SUCCESS”.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns9:Acknowledgement
      xmlns:ns9="urn:ihe:iti:xdr:2007"
      xmlns:ns8="urn:ihe:iti:xds-b:2007"
      xmlns:ns7="urn:gov:hhs:fha:nhinc:gateway:samltokendata"
      xmlns:ns6="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
      xmlns:ns5="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
      xmlns:ns4="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
      xmlns:ns3="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0">
      <message>SUCCESS: Request Received</message>
    </ns9:Acknowledgement>
  </S:Body>
</S:Envelope>
```

Figure 2-7 – Example web service success return value for a request

Figure 2-8 is an example failure return value. The “message” element contains the return value (highlighted in yellow) and will always start with “FAILURE”. Additional text will indicate the nature of the failure.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns9:Acknowledgement
      xmlns:ns9="urn:ihe:iti:xdr:2007"
      xmlns:ns8="urn:ihe:iti:xds-b:2007"
      xmlns:ns7="urn:gov:hhs:fha:nhinc:gateway:samltokendata"
      xmlns:ns6="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
      xmlns:ns5="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
      xmlns:ns4="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
      xmlns:ns3="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0">
      <message>FAILURE:
gov.va.integration.core.component.ComponentProcessorException:
gov.va.integration.core.router.RouterException:
gov.va.integration.core.validator.ValidatorException: Subject Objects Request/Id
cannot be null</message>
    </ns9:Acknowledgement>
  </S:Body>
</S:Envelope>
```

Figure 2-8 – Example web service failure return value for a request

2.2.3. Response Web Service

The response web service must be implemented by the DBQ Automation Solution as shown in Figure 2-3.

The top level WSDL for the service is shown below in Figure 2-9. The files defining the request web service WSDL are attached in Appendix B – Response WSDL Files

```
<?xml version="1.0" encoding="utf-8"?>
<definitions
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://_2007.response.async.xdr.iti.ihe/"
  name="XDRResponseService"
  targetNamespace="http://_2007.response.async.xdr.iti.ihe/"
  xmlns="http://schemas.xmlsoap.org/wsdl/">
  <import
    namespace="http://_2007.response.async.xdr.iti.ihe/"
    schemaLocation="http://_2007.response.async.xdr.iti.ihe/2007"
```

Figure 2-9 – Response web service WSDL

The value of the **yellow highlighted** “location” attribute of the “soap:address” element in the WSDL of Figure 2-9 must be specified by the DBQ Automation Solution team with:

1. “HTTPS” when the communications path is protected by SSL.
2. The fully qualified DBQ Automation Solution server URL.
3. The fully qualified DBQ Automation Solution URL path.
4. The port selected for communications with the DBQ Automation Solution.

There may be differences between the values for test and production.

The response document (e.g. Figure 2-10), which may be returned to the DBQ Automation Solution by the VLER Gateway for a request, defines:

1. The original request for which this is the response. A response is the response for a particular request if the value of the **requestID** attribute of the “RegistryResponse” element in the response matches the value of the “id” attribute of the “SubmitObjectsRequest” element in the associated original request document.
2. The success or failure of the request in the **status** attribute of the “RegistryResponse” element.

Figure 2-10 shows an example successful response document indicating that the request was successfully stored by VA.

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header/>
  <env:Body>
    <ns2:RegistryResponse
      xmlns:ns2="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
      xmlns="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
      xmlns:ns4="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
      xmlns:ns3="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
      requestId="a498fb06-43b0-452e-94d7-1776d42ce71e"
      status="urn:oasis:names:tc:ebxml-regrep:ResponseStatusType:Success"/>
  </env:Body>
</env:Envelope>
```

Figure 2-10 - Example “success” response

Figure 2-11 shows an example failure response document indicating that the request was not successfully stored by VA.

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Header/>
  <env:Body>
    <ns2:RegistryResponse
      xmlns:ns2="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
      xmlns="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
      xmlns:ns4="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
      xmlns:ns3="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
      requestId="63101add-a249-49d6-a6bc-026e55a49283"
      status="urn:oasis:names:tc:ebxml-regrep:ResponseStatusType:Failure">
      <ns2:RegistryErrorList>
        <ns2:RegistryError
          codeContext="Something went wrong with the application"
          errorCode="XDSRegistryMetadataError"
          severity="urn:oasis:names:tc:ebxml-
            regrep:ErrorSeverityType:Error"/>
        </ns2:RegistryErrorList>
      </ns2:RegistryResponse>
    </env:Body>
  </env:Envelope>
```

Figure 2-11 - Example “failure” response

The “RegistryErrorList” element provides additional information in the response about the error which caused the failure of the request.

The response web service call from the VLER Gateway to the DBQ Automation Solution must receive back a return value from the DBQ Automation Solution indicating the success or failure of the receipt of the response by the DBQ Automation Solution .

The processing carried out by the DBQ Automation Solution on receipt of the response from the VLER Gateway is outside the scope of this ICD.

Figure 2-12 is an example successful return value. The “message” element contains the return value and will always start with “SUCCESS”.

```
<soapenv:Envelope
  xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:urn="urn:ihe:iti:xdr:2007">
  <soapenv:Header/>
  <soapenv:Body>
    <urn:Acknowledgement>
      <message>SUCCESS</message>
    </urn:Acknowledgement>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 2-12 - Example web service success return value for a response

Figure 2-13 is an example failure return value. The “message” element contains the return value and will always start with “FAILURE”. Additional text will indicate the nature of the failure.

```
<soapenv:Envelope
  xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:urn="urn:ihe:iti:xdr:2007">
  <soapenv:Header/>
  <soapenv:Body>
    <urn:Acknowledgement>
      <!--Optional:-->
      <message>FAILURE: Something went wrong</message>
    </urn:Acknowledgement>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 2-13 - Example web service failure return value for a response

2.3. Operations

Currently this interface supports only one inbound operation, namely a request to store instances of Examination Results within VA, and one outbound operation, namely a response describing the success or failure of a request.

The request to store instances of Examination Results within VA operation is invoked by the DBQ Automation Solution calling a web service on the VLER Gateway.

The response to the request is invoked by the VLER Gateway calling a web service on the DBQ Automation Solution.

2.4. Security

Transfers are protected by HTTPS using certificates which identify computers running the DBQ Automation Solution and the VLER Gateway applications. The certificates for the DBQ Automation Solution and the VLER Gateway computers must be securely exchanged. See Table 2-1 for contact information.

Appendix A – Request WSDL Files

The WSDL files for the request service to be implemented by the VLER Gateway are included below in this ICD.

Embedded File	Embedded File	Description
 C:\XDR\ XDRRequestService\		Top level WSDL file.
 C:\XDR\ XDRRequestService\		Definitions file.
 C:\XDR\ XDRRequestService\	 C:\XDR\ XDRRequestService\	XSD
 C:\XDR\ XDRRequestService\	 C:\XDR\ XDRRequestService\	XSD
 C:\XDR\ XDRRequestService\	 C:\XDR\ XDRRequestService\	XSD
 C:\XDR\ XDRRequestService\		XSD
 C:\XDR\ XDRRequestService\		XSD
 C:\XDR\ XDRRequestService\		XSD

Appendix B – Response WSDL Files

The WSDL files for the response service to be implemented by the DBQ Automation Solution are included below in this ICD.

Embedded File	Embedded File	Description
 C:\XDR\ XDRResponseService		Top level WSDL file.
 C:\XDR\ XDRResponseService		Definitions file.
 C:\XDR\ XDRResponseService	 C:\XDR\ XDRResponseService	XSD
 C:\XDR\ XDRResponseService	 C:\XDR\ XDRResponseService	XSD
 C:\XDR\ XDRResponseService	 C:\XDR\ XDRResponseService	XSD
 C:\XDR\ XDRResponseService		XSD
 C:\XDR\ XDRResponseService		XSD
 C:\XDR\ XDRResponseService		XSD