



Nationwide Health Information Network (NHIN)

Service Interface Specification

CAQH CORE X12 Document Submission Service Interface Specifications

V 1.0
3/6/2012



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Specification
v 1.0

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1 Preface

2

3 1.1 Introduction

4

5 This NHIN CAQH CORE X12 Document Submission Service Interface Specifications
6 constitute the core services of an operational Nationwide Health Information Network
7 (NHIN) with Accredited Standards Committee (ASC) ANSI X12 Transactions. They are
8 intended to provide a standard set of service interfaces that enable the exchange of
9 interoperable health information amongst a group of peer nodes referred to as
10 Nationwide Health Information Exchanges (NHIEs).

11

12 NHIN already defines services such as Document Submission service for IHE XDR Specification. This
13 specification will add the ASC ANSI X12 Document Submission Service in addition to XDR Document
14 Submission Service and these other services. It is important to note that the functional services of this
15 specification rest on a foundational set of defined core services that includes the following:

16

- 17 1. NHIN Trial Implementations Message Platform Service Interface Specification,
- 18 2. NHIN Trial Implementations Authorization Framework Service Interface Specification,
- 19 3. NHIN Trial Implementations Audit Log Query Service Interface Specification,
- 20 4. NHIN Trial Implementations NHIE Service Registry Interface Specification,
- 21 5. NHIN Trial Implementations Authorized Case Follow-Up Service Interface Specification.

22

23 1.2 Intended Audience

24

25 The primary audiences for the NHIN CAQH CORE X12 Document Submission Service
26 Interface Specifications are the individuals responsible for implementing software
27 solutions that realize these interfaces for a NHIE that will exchange ASC ANSI X12
28 transactions. After reading this specification, one should have an understanding of the
29 context in which the service interface is meant to be used, the behavior of the interface,
30 the underlying reference standards and specifications, the Web Services Description
31 Language (WSDLs) used to define the service, any Extensible Markup Language (XML)
32 schemas used to define the content, and what “compliance” means from an
33 implementation testing perspective.

34

35 1.3 Focus of this Specification

36

37 This document defines the NHIN X12 Document Submission Service Interface
38 Specification. The purpose of this specification is to provide the ability to exchange
39 ASC X12 Administrative Transactions between one or more NHIEs via the Internet
40 using the Phase II CAQH CORE Connectivity Rule web services over SOAP envelope
41 configuration with ASC X12 submission payload. While the CAQH CORE Connectivity



42 Rule supports the exchange of any ASC X12 Administrative Transaction between any
43 two organizations, this specification is limited to the use of the Phase II CAQH CORE
44 Connectivity Rule between any two NHIEs. This is a different model of exchange than
45 subscription (see the NHIN Trial Implementations Health Information Event Messaging
46 Service Specification for details on this approach) because the sender decides to whom
47 the data should go and the receiver receives data on an appropriate available endpoint
48 from the sources it authorizes (refer to the Authorization Framework Service Interface
49 Specification). Also, this uses a different payload and model of exchange compared to
50 IHE XDR Document Submission based on ASC X12 Transactions.
51

52 1.4 Referenced Documents and Standards

53
54 The following documents and standards were referenced during the development of this specification.
55 Specific deviations from or constraints upon these standards are identified below.

56 1) **Org/SDO name:** CAQH CORE

57 **Reference # / Spec Name:** Phase II CORE 270¹: Connectivity Rule Version 2.2.0

58 **Version #:** v2.2.0 (March 28, 2011)

59 **NHIN Deviations or Constraints:**

- 60 ▪ Use of TLS 1.0 as per Messaging Platform Specification
- 61 ▪ Use of SAML Assertions as per NHIN Authorization Framework Specification
- 62 ▪ Use of SOAP 1.1+WSDL Envelope Standard (i.e., Envelope B standard)

63 **Underlying Specs:**

- 64 • CAQH CORE Phase I and II Connectivity Operating Rules

65 **Link:** <http://www.caqh.org/COREv5010.php>

66
67

68 1.5 Deviations from Standards

69
70 Specific deviations or constraints from the above-mentioned standards are identified.
71

72 1.6 Relationship to Other NHIN Specifications

73
74 In some cases, the data exchanged between NHIEs will involve the communication of
75 individually identifiable health information (defined in 45 CFR Parts 160, 162, and 164).
76 When individually identifiable information is exchanged, then each NHIE must have a
77 common understanding of the claim/patient's identity.
78

¹ **Note:** Phase II CORE 270: Connectivity Rule Version 2.2.0 name is the rule number and not a reference to X12 270 eligibility transaction. The Phase II CORE 270: Connectivity Rule Version 2.2.0 is payload agnostic, and is designed to carry any X12 administrative transaction payload as well as any other non-X12 payload.



79 This specification is related to other NHIN specifications as described below:

- 80 • **Messaging Platform** – specifies a base set of messaging standards and web
81 service protocols which must be implemented by each NHIN node and applies to
82 all transactions including this transaction. All NHIN messages sent between
83 NHIN systems are Simple Object Access Protocol (SOAP) messages over
84 Hypertext Transfer Protocol (HTTP) using web services and all messages must
85 be encrypted and digitally signed.
- 86 • **Authorization Framework** – defines the exchange of metadata used to
87 characterize each NHIN request. The purpose of that exchange is to provide the
88 responder with the information needed to make an authorization decision for the
89 requested function.
- 90 • **Services Registry** – enables computer systems to discover and consume
91 services. For NHIN, the Services Registry is a Universal Description Discovery
92 and Integration (UDDI) web-services registry. This registry lists NHIN services
93 which, in this case, will consist of a single entry for endpoints that will respond to
94 X12 messages as defined herein.
95

96 **2 Interface Description**

97 **2.1 Definition**

98 In this interface specification, a “document” refers to the format of clinical data as it is
99 transferred between NHIEs, and not as it is stored within an NHIE or electronic health
100 record (EHR) system. A NHIE and its participating organizations may store clinical data
101 in whatever format or repository it chooses. Specifically, a “document” transferred
102 between NHIEs need not meet the criteria for persistence, stewardship, etc.

103 “Initiating NHIE” refers to a document source NHIE that initiates X12 document
104 submission transaction for one or more available documents on a particular patient.

105 “Receiving NHIE” refers to document recipient NHIE that receives X12 document
106 submission transaction.
107

108 **2.2 Transaction Standard**

109
110 This interface identifies the Phase II CAQH CORE 270 Connectivity Rule Version 2.2.0
111 as the standard for NHIN X12 Document Submission Service Specification.
112

113 **2.3 Assumptions**

114 The following assumptions underlie this specification:

- 116 • There is no central or federated service that performs transactions across
117 multiple HIOs/HIHs.



- 118 • The requesting NHIN Gateway shall be responsible for using the UDDI Services
119 Registry to determine which of these Services they will call for any specific X12
120 transaction request message.
- 121 • Security Assertion Markup Language (SAML) Authorization assertion(s) will be
122 included in the request message as specified by the Messaging Platform
123 specification.
124

125 **2.4 Technical Pre-conditions** 126

127 The following technical pre-conditions exist for this interface specification:

- 128 • The initiating HIH/HIOs must publish in the NHIN UDDI Services Registry data
129 containing descriptive and technical information about their NHIN CAQH CORE
130 X12 Document Submission Service representing their Response endpoints.
- 131 • The receiving HIH/HIOs must publish in the NHIN UDDI Services Registry data
132 containing descriptive and technical information about their NHIN CAQH CORE
133 X12 Document Submission Service representing their Request endpoints.
- 134 • The initiating and receiving HIH/HIO to which the query will be directed have
135 been selected, and applicable service end points have been identified using the
136 NHIN UDDI Services Registry.
- 137 • The Initiating and receiving HIH/HIOs must include SAML assertions containing
138 user-level credentials sufficient to enable authentication and/or authorization by
139 the receiving HIH/HIO system.
140

141 **2.5 Technical Post-conditions** 142

143 The following technical post-conditions will result after the execution of this interface
144 specification:

- 145 • Errors encountered will be handled and included in the response as specified in
146 Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0.
- 147 • The response to this request is a payload containing an X12 Transaction
148 message and some metadata describing the transaction such as Payload ID,
149 Sender ID, Receiver ID, etc. (required CAQH CORE Metadata will be described
150 in section 3.3.2 in detail).
151

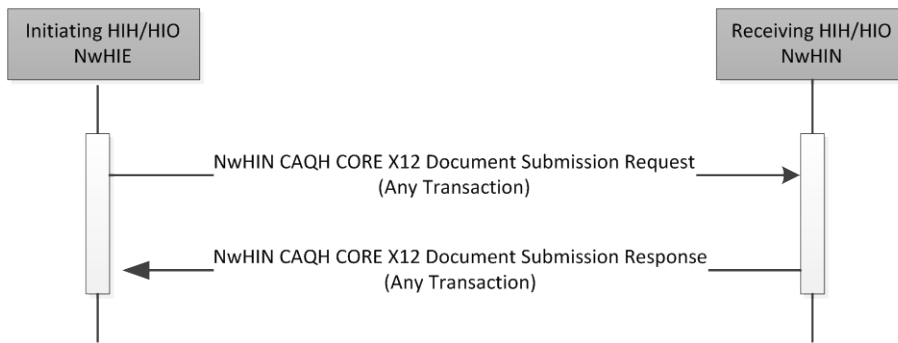
152 **3 Interface Definition**

153 **3.1 Phase II CAQH CORE 270: Connectivity Rule with ASC X12 Transactions:** 154



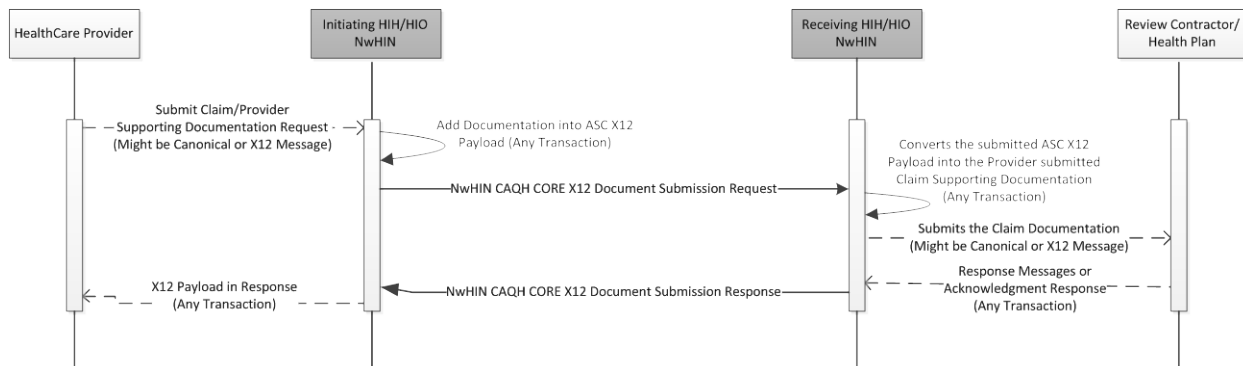
155 This transaction is described in Phase II CAQH CORE 270: Connectivity Rule Version
156 2.2.0 section 4.2.2. The figure below illustrates the actors and transaction (Any
157 Transactions) involved in in this specification service Request/Response transaction.

158
159 **Figure 1: Actors and Transaction (Any Transactions) involved in this specification service**
160



161
162
163 Following is the sample end to end flow between the systems behind the initiating and
164 receiving HIH/HIO's.

165
166 **Figure 2: End to End message flow**



168
169
170 **3.2 Multiple Documents Submission**
171
172 This interface supports the ability to include multiple documents for a single patient in a single Submission
173 Transaction by adding multiple documents in the bin segments of any ASC X12 transaction.
174

175 **3.3 CAQH CORE Real-time mode (Synchronous) and CAQH CORE Generic Batch Mode**
176 **(Deferred) Messaging**
177



178 Receiving NHIEs must support asynchronous deferred document submission
179 transactions in Batch Mode of Phase II CAQH CORE 270: Connectivity Rule Version
180 2.2.0; however, synchronous (immediate) document submission transactions may also
181 be optionally supported with in Real-time Mode of CAQH CORE 270: Connectivity Rule
182 Version 2.2.0, or may restrict submissions to use either Batch or Real-time messaging
183 mode based on agreements with its trading partners.

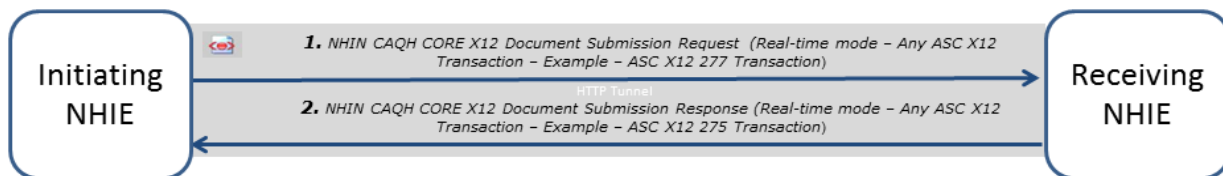
184
185 When not restricted by the Receiving NHIE, the Initiating NHIE may choose whether to
186 use Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 Batch mode or Real-
187 time mode interactions. A Receiving NHIE that supports both Phase II CAQH CORE
188 270: Connectivity Rule Version 2.2.0 Batch mode and Real-time modes would set up
189 two services: One for Batch and one for Real-time. Additionally, the Initiating NHIE
190 would provide a response service entry point by which the Batch mode response is
191 delivered from Receiving NHIE in a separate HTTP Session to the Initiating NHIE. The
192 Synchronous (Real-Time mode) and Deferred (Batch mode) Messaging Workflow are
193 defined in the NHIN Messaging Platform Specification and Phase II CAQH CORE 270:
194 Connectivity Rule Version 2.2.0 implementation guide documents.
195

196 3.3.1 CAQH CORE Real-time mode (Synchronous) Messaging Workflow

197
198 The Initiating NHIE and Receiving NHIE handle the CAQH CORE Real-time mode Document Submission
199 transaction in a single in-out message exchange pattern as defined in the NHIN Messaging Platform
200 Specification document.

201
202 In a CAQH CORE Real-time mode - the NHIN CAQH CORE X12 Document Submission is a request and
203 synchronous response message as shown in the diagram below:

204
205
206 **Figure 3: CAQH CORE Real-time mode (Synchronous) Messaging workflow**
207



208
209
210
211 In other words, the Initiating NHIE sends a CAQH CORE Real-time mode Document submission request
212 to the Receiving NHIE and waits for a response to come back on the same HTTP connection. The
213 receiving NHIE receives the CAQH CORE Real-time mode Document submission request and processes
214 it in real-time and sends back the response to the Initiating NHIE on that same HTTP connection.
215

216 CAQH CORE SOAP Real-time interaction does not support Message Transmission Optimization
217 Mechanism (MTOM) -only Batch interactions support MTOM. For Real-time using SOAP envelope, the
218 payload is a string, or if binary (that contain non-printable characters) must be Base64 encoded.



219 **3.3.2 CAQH CORE Generic Batch Mode Messaging Workflow**

220

221 CAQH CORE Generic Batch mode Messaging workflow is supported by this
222 specification to solve the issues of extreme latency involved in processing of ASC X12
223 Document Submission request and the attached payload(s) associated with the request.

224

225 In the message interaction diagram below, each request and corresponding response
226 (e.g., 1 and 1a) is a CAQH CORE Generic Batch. The combination of three Generic
227 Batch message interactions shown below is equivalent to IHE's Deferred Document
228 Submission interaction.

229

230 The Initiating NHIE and Receiving NHIE handle the CAQH CORE Batch mode ASC X12 Document
231 Submission transaction in a separate in-out message exchange pattern as defined in the NHIN
232 Messaging Platform Specification document.

233

234 In a CAQH CORE Generic Batch mode, the NHIN CAQH CORE X12 Document Submission is a two-way
235 message as shown in the diagram below:

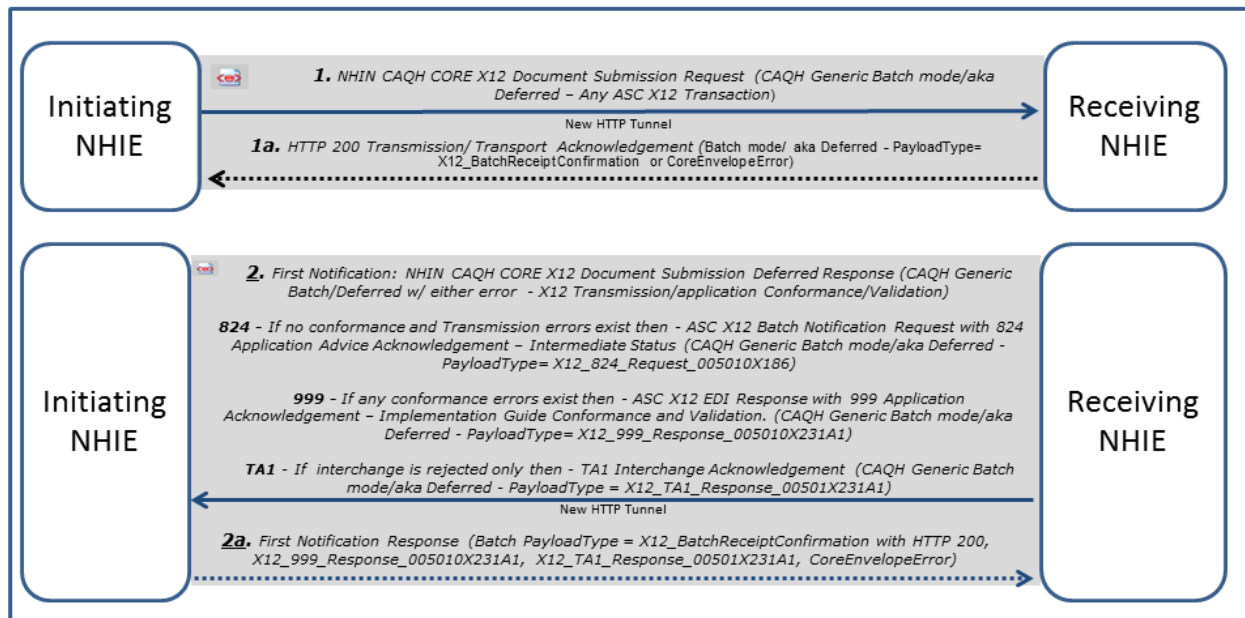
236

237

238

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Figure 4: CAQH CORE Generic Batch Mode Messaging workflow



240

241

242 In other words, Initiating NHIE sends a CAQH CORE Generic Batch mode ASC X12 Document
243 submission request message to the Receiving NHIE and waits for only the HTTP status
244 acknowledgement.

245

246 Asynchronously, the responding NHIE receives the CAQH CORE Generic Batch mode ASC X12
247 Document submissions request message and processes it in Batch mode and sends the CAQH CORE
248 Generic Batch mode ASC X12 Document Submission transaction response message to the initiating
249 NHIE in a separate HTTP connection. The initiating NHIE receives the CAQH CORE Generic Batch mode



250 ASC X12 Document Submission response message and sends back the corresponding HTTP status
 251 acknowledgement message to the responding NHIE using the same HTTP Connection.
 252 .
 253 It should be noted that the Action names and namespaces in the CAQH CORE Generic Batch mode
 254 (deferred/asynchronous) and the CAQH CORE Batch mode (deferred) versions of the WSDLs would
 255 need to be different so that generation of the web service code in a gateway supporting both
 256 (synchronous and deferred/ asynchronous) do not have conflicts.
 257
 258 CAQH CORE SOAP Batch mode interaction supports MTOM (i.e., For Batch mode using SOAP
 259 envelope, the payload is an MTOM attachment).

260 **3.4 CAQH CORE Connectivity Metadata Elements**

261
 262 The required CAQH CORE Connectivity Metadata is described in the table below. CAQH CORE
 263 Connectivity metadata elements are used in several ways in NHIN. The primary uses of the metadata are:

- 264 • Message routing
- 265 • Transaction auditing
- 266 • Transaction Scheduling
- 267 • Resource Allocation
- 268 • Backward compatibility
- 269 • Error handling
- 270 • Audit logging

271 **Table 1: CAQH CORE Connectivity Metadata Elements**

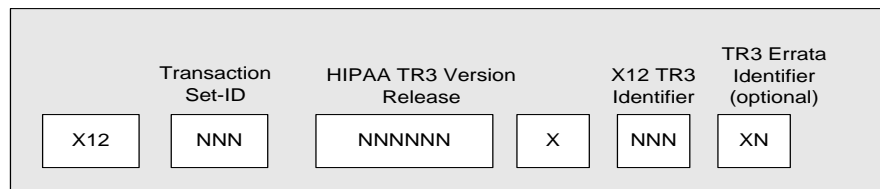
Element	Description	Field Name	Optionality	Data Type
Payload Type	The type of payload included within a request/response. This shall be "X12_NNN_NNNNNXNNNXN" for a request and "X12_NNN_NNNNNXNNNXN" for a response See diagram for Payload Type Components below for details on the numeric and alpha characters. CAQH CORE SOAP Real-time interaction does not support MTOM (only Batch interactions support MTOM). For Real-time using SOAP envelope, the payload is a string, or if binary (that contain non-printable characters), must be Base64 encoded.	PayloadType	R	Coded Set
Processing Mode	The mode of processing. This shall be "Batch Mode".	ProcessingMode	R	Coded Set
Payload ID	A payload ID assigned by the sender. This shall conform to International Organization for Standardization (ISO) universally unique identifier (UUID) standards with hexadecimal notation, generated using a combination of local timestamp as	PayloadID	R	String



Element	Description	Field Name	Optionality	Data Type
	well as the hardware (MAC) address.			
Time Stamp	A single coordinated Universal Time (UTC) time stamp including time zone. This does not require a shared time server.	TimeStamp	R	dateTime
Sender Identifier	A unique business entity (trading partner) identifier.	SenderID	R	String
Receiver Identifier	A unique business entity (trading partner) identifier.	ReceiverID	R	String
CORE Rule Version	The CORE Rule version that the envelope is using.	CORERuleVersion	R	Coded Set
Error Code	The error code indicating the error when processing the envelope.	ErrorCode	R	Coded Set
Error Message	Text error message.	ErrorMessage	R	String

274
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276

Figure 5: (Table 1-1) Payload Type and Description of Components



277
278

3.5 Connectivity Rule

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The Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 is described in detail at URL: <http://www.caqh.org/COREv5010.php>

3.6 SOAP + WSDL based Message Envelope

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The SOAP + WSDL based method requires SOAP version 1.2 as specified by the NHIN Messaging Platform specification. There is no normative requirement for the SOAP header² in CORE Connectivity Rule. Within this specification, the NHIN Messaging Platform specification and Authorization Framework Service Interface Specification SOAP Headers will be used. The SOAP body contains the remaining metadata defined by Phase II CAQH CORE 270: Connectivity rule Version 2.2.0 compliant XML Schema Specification (see Appendix C). The message envelope structure is defined in the CAQH CORE Phase II Connectivity rule WSDL file. (See Appendix)

² Phase II CAQH CORE 270: Connectivity Rule requires that WS-Security Username and Password token must be added to the SOAP Header in the request for user authentication/authorization. This requirement is replaced with SAML Assertion based user authentication/authorization described in section 3.6 in this specification.



295 **3.7 SAML Assertion based User Authentication and Authorization**

296
297 For submitter authentication/authorization³, the SAML Assertion needs to include additional <Attribute>
298 elements required by Health Information Technology (HIT) systems. The additional <Attribute> elements
299 required by this specification include 1) National Provider Identifier (NPI) Attribute and 2) NPI Provider
300 Name Attribute. Other elements required by this specification include 1) User Organization ID Attribute, 2)
301 User Role Attribute, and 3) Purpose of Use Attribute which are defined in NHIN Authorization Framework
302 Service Interface Specification. User Authentication will be performed on an NPI Attribute and NPI
303 Provider Name Attribute pair against the National Plan and Provider Enumeration System (NPPES). The
304 receiving system will validate requests per NPI Attribute, User Role Attribute, and Purpose of Use
305 Attribute.
306

307 **4 Error Handling**

308 This section follows error handling specified in the Section 4.3.3 of the Phase II CAQH
309 CORE 270: Connectivity Rule Version 2.2.0. The error codes relevant to the esMD are
310 listed in the following table:

311 **Table 2: Error Handling**

312

Error Codes	Description
<FieldName>Illegal	Illegal value provided for <FieldName>.
<FieldName>Required	The field <FieldName> is required but was not provided.
<FieldName>NotUnderstood	The field <FieldName> is not understood at the receiver. In the case of SOAP, this error is returned as a NotUnderstood SOAP fault.
VersionMismatch	The version of the envelope sent is not acceptable to the receiver. If the SOAP version is not valid at the receiver, a SOAP fault is returned with this fault code.
Unauthorized	The username/password or Client certificate could not be verified.
Sender	The envelope sent by the sender did not conform to the expected format. In the case of SOAP, this error should be sent as a SOAP fault with "Sender" fault code.
Receiver	The message could not be processed for reasons attributable to the Receiver (e.g., upstream process is not reachable). In the case of SOAP, this error should be sent as a SOAP fault with "Receiver" fault code.

313

314

315 **5 Auditing**

316 This transaction shall be audited as specified in the Section 4.3.4 of the Phase II CAQH
317 CORE 270: Connectivity Rule Version 2.2.0 and NHIN Audit specifications.
318

³ Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 specifies two methods for submitter authentication: 1) Username/Password based authentication and 2) X.509 Certificate based authentication over TLS. This specification will use SAML Assertion.



319

320 6 Appendix A: Sample Messages

321 6.1 CAQH CORE Connectivity Real-time mode

322 6.1.1 Sample CORE SOAP + WSDL Real-time Request

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```
POST /core/esMDBatch HTTP/1.1
Content-Type: multipart/related; boundary=MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614;
type="application/xop+xml"; start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
start-info="application/soap+xml"; action="BatchSubmitTransaction"

--MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
Content-Transfer-Encoding: binary

<?xml version='1.0' encoding='UTF-8'?>
<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-
1.0.xsd"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:wsse11="http://docs.oasis-open.org/wss/oasis-wss-wssecurity-secext-1.1.xsd"
xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
<soapenv:Header>
<To xmlns="http://www.w3.org/2005/08/addressing"
>https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12BatchDeferredDocumentSubmiss
ionRequest_Service </To>
<Action xmlns="http://www.w3.org/2005/08/addressing"
>urn:ihe:iti:xdr:2007:Deferred:X12BatchDeferredDocumentSubmissionRequestMessage</Action>
<ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
<Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
</ReplyTo>
<MessageID xmlns="http://www.w3.org/2005/08/addressing"> uuid:7a580843-6871-4e01-8db4-
963c9912345678</MessageID>
<wsse:Security S:mustUnderstand="true">
<wsu:Timestamp
xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" wsu:Id="_1">
<wsu:Created>2011-09-12T19:27:18Z</wsu:Created>
<wsu:Expires>2011-09-12T19:32:18Z</wsu:Expires>
</wsu:Timestamp>
<saml2:Assertion xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#"
xmlns:saml2="urn:oasis:names:tc:SAML:2.0:assertion"
xmlns:xenc="http://www.w3.org/2001/04/xmenc#"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
ID="149fbbe8-d116-471c-91f3-5ebc01756b31" IssueInstant="2011-09-12T19:27:19.094Z"
Version="2.0">
<saml2:Issuer Format="urn:oasis:names:tc:SAML:1.1:nameid-format:X509SubjectName"
>CN=SAML User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
<saml2:Subject>
<saml2:NameID Format="urn:oasis:names:tc:SAML:1.1:nameid-
format:X509SubjectName"
>UID=610</saml2:NameID>
<saml2:SubjectConfirmation Method="urn:oasis:names:tc:SAML:2.0:cm:holder-of-
key">
<saml2:SubjectConfirmationData>
<ds:KeyInfo>
```




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```
381         <ds:KeyValue>
382             <ds:RSAKeyValue>
383
384 <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKV1bf/DoMTX81aMO45P6rlEarxQiOYrgzuYp+snzz2XM0S6o3JGQtXQu
385 zDwcwPkH55bHFwHgtOMzxG4SQ653a5Dzh04nsmJvxxvbnCNH/XNaWfHaC0JHBEfNCMwRebYocxYM92pq/G5OGyE=</ds:Modul
386 us>
387             <ds:Exponent>AQAB</ds:Exponent>
388         </ds:RSAKeyValue>
389     </ds:KeyValue>
390 </ds:KeyInfo>
391 </saml2:SubjectConfirmationData>
392 </saml2:SubjectConfirmation>
393 </saml2:Subject>
394 <saml2:AuthnStatement AuthnInstant="2009-04-16T13:15:39.000Z" SessionIndex="987">
395     <saml2:SubjectLocality Address="158.147.185.168" DNSName="cs.myQSSI.net" />
396     <saml2:AuthnContext>
397
398 <saml2:AuthnContextClassRef>urn:oasis:names:tc:SAML:2.0:ac:classes:X509</saml2:AuthnContextClassR
399 ef>
400         </saml2:AuthnContext>
401     </saml2:AuthnStatement>
402 <saml2:AttributeStatement>
403     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:subject-id">
404         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
405 instance"
406             xmlns:ns7="http://www.w3.org/2001/XMLSchema"
407 ns6:type="ns7:string">Karl
408             S Skagerberg</saml2:AttributeValue>
409     </saml2:Attribute>
410     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization">
411         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
412 instance"
413             xmlns:ns7="http://www.w3.org/2001/XMLSchema"
414 ns6:type="ns7:string">QSSI
415             esMD OID</saml2:AttributeValue>
416     </saml2:Attribute>
417     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization-id">
418         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
419 instance"
420             xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
421 >123.456.657.123</saml2:AttributeValue>
422     </saml2:Attribute>
423     <saml2:Attribute Name="urn:nhin:names:saml:homeCommunityId">
424         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
425 instance"
426             xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
427 >123.456.657.123</saml2:AttributeValue>
428     </saml2:Attribute>
429     <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:subject:role">
430         <saml2:AttributeValue>
431             <hl7:Role xmlns:hl7="urn:hl7-org:v3"
432                 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
433                 code="307969004" codeSystem="2.16.840.1.113883.6.96"
434                 codeSystemName="SNOMED_CT" displayName="Public Health"
435                 xsi:type="hl7:CE" />
436         </saml2:AttributeValue>
437     </saml2:Attribute>
438     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:purposeofuse">
439         <saml2:AttributeValue>
440             <hl7:PurposeForUse xmlns:hl7="urn:hl7-org:v3"
441                 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
442                 code="esMD Code" codeSystem="2.16.840.1.113883.3.18.7.1"
443                 codeSystemName="nhin-purpose" displayName="esMD Display name"
444                 xsi:type="hl7:CE" />
445         </saml2:AttributeValue>
446     </saml2:Attribute>
447     <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:resource:resource-id">
448         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
449 instance">
```



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```
450         xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
451         >urn:oid:2.16.840.1.113883.13.34.110.1.110.9</saml2:AttributeValue>
452     </saml2:Attribute>
453 </saml2:AttributeStatement>
454 <saml2:AuthzDecisionStatement Decision="Permit"
455
456 Resource="https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/XDRRequest_Service">
457     <saml2:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwedc"
458     >Execute</saml2:Action>
459     <saml2:Evidence>
460         <saml2:Assertion ID="40df7c0a-ff3e-4b26-baeb-f2910f6d0mc24091165"
461         IssueInstant="2009-04-16T13:10:39.093Z" Version="2.0">
462             <saml2:Issuer
463             Format="urn:oasis:names:tc:SAML:1.1:nameid-
464 format:X509SubjectName"
465             >CN=SAML User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
466             <saml2:Conditions NotBefore="2009-04-16T13:10:39.093Z"
467             NotOnOrAfter="2009-12-31T12:00:00.000Z"/>
468             <saml2:AttributeStatement>
469                 <saml2:Attribute Name="AccessConsentPolicy"
470                 NameFormat="http://www.hhs.gov/healthit/nhin">
471                     <saml2:AttributeValue
472                     xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
473                     xmlns:ns7="http://www.w3.org/2001/XMLSchema"
474                     ns6:type="ns7:string">Claim-Ref-
475 1234</saml2:AttributeValue>
476                     </saml2:Attribute>
477                     <saml2:Attribute Name="InstanceAccessConsentPolicy"
478                     NameFormat="http://www.hhs.gov/healthit/nhin">
479                         <saml2:AttributeValue
480                         xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
481                         xmlns:ns7="http://www.w3.org/2001/XMLSchema"
482                         ns6:type="ns7:string"
483                         >Claim-Instance-1</saml2:AttributeValue>
484                     </saml2:Attribute>
485                 </saml2:AttributeStatement>
486             </saml2:Assertion>
487         </saml2:Evidence>
488     </saml2:AuthzDecisionStatement>
489     <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
490         <ds:SignedInfo>
491             <ds:CanonicalizationMethod
492             Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
493             <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-
494 sha1"/>
495             <ds:Reference URI="#149fbb8e-d116-471c-91f3-5ebc01756b31">
496                 <ds:Transforms>
497                     <ds:Transform
498                     Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-
499 signature"/>
500                     <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-
501 c14n#" />
502                 </ds:Transforms>
503                 <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
504                 <ds:DigestValue>ZBdsOnlMryEtB2U6Iizt04V1UQM=</ds:DigestValue>
505             </ds:Reference>
506         </ds:SignedInfo>
507
508 <ds:SignatureValue>WHaeJEhzDjrBpf4/EEqmtWhYjGptjJVp7/YXhpMsVO9Sqc8zUosTJoHjG1/luroA8GUvGI8T6iBV
509
510 n56/ahzxq8+qMcqV4Kwx9yJLdZ7iNkBr6QLiVekd5Btmxwbl2R3VI9U5zskI0AdbAsGEeW/wu/
511 3bW7Rov78hxPMdfALYc=</ds:SignatureValue>
512     <ds:KeyInfo>
513         <ds:KeyValue>
514             <ds:RSAKeyValue>
515
516 <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKVlbf/DoMTX8laMO45P6r1EarxQiOYrgzuYp+snzz2XM0S6
517
518 o3JGQtXQuzDwcwPkH55bHFwHgtOMzxG4SQ653a5Dzh04nsmJvxxvbnCNH/XNaWfHaC0JHBEfNCmWR
```



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```
519         ebYocxYM92pg/G5OGyE=</ds:Modulus>
520         <ds:Exponent>AQAB</ds:Exponent>
521         </ds:RSAKeyValue>
522     </ds:KeyValue>
523 </ds:KeyInfo>
524 </ds:Signature>
525 </saml2:Assertion>
526 <ds:Signature xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-
527 secureconversation/200512"
528     xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" Id="_2">
529 <ds:SignedInfo>
530 <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-
531 c14n#">
532 <excl4n:InclusiveNamespaces PrefixList="wsse S"/>
533 </ds:CanonicalizationMethod>
534 <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
535 <ds:Reference URI="#_1">
536 <ds:Transforms>
537 <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
538 <excl4n:InclusiveNamespaces PrefixList="wsu wsse S"/>
539 </ds:Transform>
540 </ds:Transforms>
541 <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
542 <ds:DigestValue>
543 <Include xmlns="http://www.w3.org/2004/08/xop/include"
544 href="cid:984d42f8-3ec8-4708-9a48-
545 53d8283db4d7@example.jaxws.sun.com"
546 />
547 </ds:DigestValue>
548 </ds:Reference>
549 </ds:SignedInfo>
550 <ds:SignatureValue>
551 <Include xmlns="http://www.w3.org/2004/08/xop/include"
552 href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com"/>
553 </ds:SignatureValue>
554 <ds:KeyInfo>
555 <wsse:SecurityTokenReference
556 wsse11:TokenType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
557 profile-1.1#SAMLV2.0">
558 <wsse:KeyIdentifier
559 Value="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
560 profile-1.1#SAMLID"
561 >149fbbe8-d116-471c-91f3-5ebc01756b31</wsse:KeyIdentifier>
562 </wsse:SecurityTokenReference>
563 </ds:KeyInfo>
564 </ds:Signature>
565 </wsse:Security>
566 </soapenv:Header>
567 <soapenv:Body>
568 <ns1:COREEnvelopeRealTimeRequest
569 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd ">
570 <PayloadType>X12_270_Request_005010X279A1</PayloadType>
571 <ProcessingMode>RealTime</ProcessingMode>
572 <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
573 <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
574 <SenderID>HospitalA</SenderID>
575 <ReceiverID>PayerB</ReceiverID>
576 <CORERuleVersion>2.2.0</CORERuleVersion>
577 <Payload>
578 PD94bWwgdmVyc2l2bj0iMS4wIiBlbmNvZGluc2l0eVVRGLTgiPz4NCjxDbGluaWNhbERvY3VtZW50
579 IG1vb2RDb2RlPSJFVWk4iIHhtbG5zPSJlc46aGw3LW9yZzpz2MyINCiAgICB4bWxuczp4c2k9Imh0
580 </Payload>
581 </ns1:COREEnvelopeRealTimeRequest>
582 </soapenv:Body>
583 </soapenv:Envelope>
```



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584 6.1.2 Sample CORE SOAP + WSDL Real-time Response

```
585 HTTP/1.1 200 OK
586 Server: Apache-Coyote/1.1
587 Content-Type: multipart/related; boundary=MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339;
588 type="application/xop+xml"; start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-
589 info="application/soap+xml"; action="BatchSubmitAckRetrievalTransaction"
590
591 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
592 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
593 Content-Transfer-Encoding: binary
594 Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>
595
596 <?xml version='1.0' encoding='UTF-8'?>
597 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
598 <soapenv:Header>
599 <To xmlns="http://www.w3.org/2005/08/addressing"
600 >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12999BatchSubmissionAcknowledge
601 mentRetrievalResponse_Service</To>
602 <Action xmlns="http://www.w3.org/2005/08/addressing"
603 >urn:ihe:iti:xdr:2007:Deferred:Deferred:X12999BatchSubmissionAcknowledgementRetrievalResponseMess
604 age</Action>
605 <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
606 <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
607 </ReplyTo>
608 <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-
609 963c99147avds</MessageID>
610 <RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-
611 963c9912345678</RelatesTo>
612 </soapenv:Header>
613 <soapenv:Body>
614 <ns1:COREEnvelopeRealTimeResponse
615 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
616 <PayloadType>X12_271_Response_005010X279A1</PayloadType>
617 <ProcessingMode>RealTime</ProcessingMode>
618 <PayloadID>a81d44ae-7dec-11d0-a765-00a0c91e6ba0</PayloadID>
619 <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
620 <SenderID>PayerB</SenderID>
621 <ReceiverID>HospitalA</ReceiverID>
622 <CORERuleVersion>2.2.0</CORERuleVersion>
623 <Payload>
624 PD94bWwgdmVyc2lvcj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4NCjxDbGluaWNhbERvY3VtZW50
625 IG1vb2RDb2RlPSJFVjk4iIHhtbG5zPSJ1cm46aGw3LW9yZz0yMyINCiAgICB4bWxuczp4c2k9Imh0
626 </Payload>
627 <ErrorCode>Success</ErrorCode>
628 <ErrorMessage></ErrorMessage>
629 </ns1:COREEnvelopeRealTimeResponse>
630 </soapenv:Body>
631 </soapenv:Envelope>
632
633
634
```

635 6.2 CAQH CORE Connectivity Generic Batch mode

636 6.2.1 Sample CORE SOAP + WSDL Batch mode Request

```
637 POST /core/esMDBatch HTTP/1.1
638 Content-Type: multipart/related; boundary=MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614;
639 type="application/xop+xml"; start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
640 start-info="application/soap+xml"; action="BatchSubmitTransaction"
641
642 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
643 Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
644 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
645 Content-Transfer-Encoding: binary
646
647
```



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```
648 <?xml version='1.0' encoding='UTF-8'?>
649 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
650   xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-
651   1.0.xsd"
652   xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
653   1.0.xsd"
654   xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
655   xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
656   xmlns:wssell="http://docs.oasis-open.org/wss/oasis-wss-wssecurity-secext-1.1.xsd"
657   xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
658   <soapenv:Header>
659     <To xmlns="http://www.w3.org/2005/08/addressing"
660 >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12BatchDeferredDocumentSubmiss
661 ionRequest_Service </To>
662     <Action xmlns="http://www.w3.org/2005/08/addressing"
663 >urn:ihe:iti:xdr:2007:Deferred:X12BatchDeferredDocumentSubmissionRequestMessage</Action>
664     <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
665       <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
666     </ReplyTo>
667     <MessageID xmlns="http://www.w3.org/2005/08/addressing"> uuid:7a580843-6871-4e01-8db4-
668 963c9912345678</MessageID>
669     <wsse:Security S:mustUnderstand="true">
670       <wsu:Timestamp
671         xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
672         xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" wsu:Id="_1">
673         <wsu:Created>2011-09-12T19:27:18Z</wsu:Created>
674         <wsu:Expires>2011-09-12T19:32:18Z</wsu:Expires>
675       </wsu:Timestamp>
676       <saml2:Assertion xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
677         xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#"
678         xmlns:saml2="urn:oasis:names:tc:SAML:2.0:assertion"
679         xmlns:xenc="http://www.w3.org/2001/04/xmenc#"
680         xmlns:xs="http://www.w3.org/2001/XMLSchema"
681         ID="149fbbe8-d116-471c-91f3-5ebc01756b31" IssueInstant="2011-09-12T19:27:19.094Z"
682         Version="2.0">
683         <saml2:Issuer Format="urn:oasis:names:tc:SAML:1.1:nameid-format:X509SubjectName"
684           >CN=SAML User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
685         <saml2:Subject>
686           <saml2:NameID Format="urn:oasis:names:tc:SAML:1.1:nameid-
687 format:X509SubjectName"
688             >UID=610</saml2:NameID>
689           <saml2:SubjectConfirmation Method="urn:oasis:names:tc:SAML:2.0:cm:holder-of-
690 key">
691             <saml2:SubjectConfirmationData>
692               <ds:KeyInfo>
693                 <ds:KeyValue>
694                   <ds:RSAKeyValue>
695                     <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKV1bf/DoMTX81aMO45P6rlEarxQiOYrgzuYp+snzz2XM0S6o3JGQtXQu
696 zDwcwPkH55bHFWHgtOMzxG4SQ653a5Dzh04nsmJvxvbnCNH/XNaWfHaC0JHBEfNCMwRebYocxYM92pq/G50GyE=</ds:Modul
697 us>
698                     <ds:Exponent>AQAB</ds:Exponent>
699                   </ds:RSAKeyValue>
700                 </ds:KeyValue>
701               </ds:KeyInfo>
702             </saml2:SubjectConfirmationData>
703           </saml2:SubjectConfirmation>
704         </saml2:Subject>
705         <saml2:AuthnStatement AuthnInstant="2009-04-16T13:15:39.000Z" SessionIndex="987">
706           <saml2:SubjectLocality Address="158.147.185.168" DNSName="cs.myQSSI.net"/>
707           <saml2:AuthnContext>
708             <saml2:AuthnContextClassRef>urn:oasis:names:tc:SAML:2.0:ac:classes:X509</saml2:AuthnContextClassRef>
709           </saml2:AuthnContext>
710         </saml2:AuthnStatement>
711       </wsse:Security>
712     </soapenv:Header>
713     <saml2:AttributeStatement>
714     </saml2:AttributeStatement>
715   </soapenv:Envelope>
716
```




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```
717     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:subject-id">
718     <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
719 instance"
720     xmlns:ns7="http://www.w3.org/2001/XMLSchema"
721 ns6:type="ns7:string">Karl
722     S Skagerberg</saml2:AttributeValue>
723 </saml2:Attribute>
724 <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization">
725 <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
726 instance"
727     xmlns:ns7="http://www.w3.org/2001/XMLSchema"
728 ns6:type="ns7:string">QSSI
729     esMD OID</saml2:AttributeValue>
730 </saml2:Attribute>
731 <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization-id">
732 <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
733 instance"
734     xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
735 >123.456.657.123</saml2:AttributeValue>
736 </saml2:Attribute>
737 <saml2:Attribute Name="urn:nhin:names:saml:homeCommunityId">
738 <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
739 instance"
740     xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
741 >123.456.657.123</saml2:AttributeValue>
742 </saml2:Attribute>
743 <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:subject:role">
744 <saml2:AttributeValue>
745 <hl7:Role xmlns:hl7="urn:hl7-org:v3"
746     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
747     code="307969004" codeSystem="2.16.840.1.113883.6.96"
748     codeSystemName="SNOMED_CT" displayName="Public Health"
749     xsi:type="hl7:CE"/>
750 </saml2:AttributeValue>
751 </saml2:Attribute>
752 <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:purposeofuse">
753 <saml2:AttributeValue>
754 <hl7:PurposeForUse xmlns:hl7="urn:hl7-org:v3"
755     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
756     code="esMD Code" codeSystem="2.16.840.1.113883.3.18.7.1"
757     codeSystemName="nhin-purpose" displayName="esMD Display name"
758     xsi:type="hl7:CE"/>
759 </saml2:AttributeValue>
760 </saml2:Attribute>
761 <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:resource:resource-id">
762 <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
763 instance"
764     xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
765 >urn:oid:2.16.840.1.113883.13.34.110.1.110.9</saml2:AttributeValue>
766 </saml2:Attribute>
767 </saml2:AttributeStatement>
768 <saml2:AuthzDecisionStatement Decision="Permit"
769
770 Resource="https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/XDRRequest_Service">
771 <saml2:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwdc"
772 >Execute</saml2:Action>
773 <saml2:Evidence>
774 <saml2:Assertion ID="40df7c0a-ff3e-4b26-baeb-f2910f6d0mc24091165"
775     IssueInstant="2009-04-16T13:10:39.093Z" Version="2.0">
776 <saml2:Issuer
777     Format="urn:oasis:names:tc:SAML:1.1:nameid-
778 format:X509SubjectName"
779     >CN=SAML User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
780 <saml2:Conditions NotBefore="2009-04-16T13:10:39.093Z"
781     NotOnOrAfter="2009-12-31T12:00:00.000Z"/>
782 <saml2:AttributeStatement>
783 <saml2:Attribute Name="AccessConsentPolicy"
784     NameFormat="http://www.hhs.gov/healthit/nhin">
785 <saml2:AttributeValue
```



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```
786         xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
787         xmlns:ns7="http://www.w3.org/2001/XMLSchema"
788         ns6:type="ns7:string">Claim-Ref-
789 1234</saml2:AttributeValue>
790         </saml2:Attribute>
791         <saml2:Attribute Name="InstanceAccessConsentPolicy"
792           NameFormat="http://www.hhs.gov/healthit/nhin">
793           <saml2:AttributeValue
794             xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
795             xmlns:ns7="http://www.w3.org/2001/XMLSchema"
796             ns6:type="ns7:string"
797             >Claim-Instance-1</saml2:AttributeValue>
798           </saml2:Attribute>
799         </saml2:AttributeStatement>
800       </saml2:Assertion>
801     </saml2:Evidence>
802   </saml2:AuthzDecisionStatement>
803 <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
804   <ds:SignedInfo>
805     <ds:CanonicalizationMethod
806       Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
807     <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-
808 sha1" />
809     <ds:Reference URI="#149fbbe8-d116-471c-91f3-5ebc01756b31">
810       <ds:Transforms>
811         <ds:Transform
812           Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-
813 signature" />
814         <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-
815 c14n#" />
816       </ds:Transforms>
817       <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1" />
818       <ds:DigestValue>ZBdsOnlMryEtB2U6Iizt04VlUQM=</ds:DigestValue>
819     </ds:Reference>
820   </ds:SignedInfo>
821   <ds:SignatureValue>WHaeJEhzDjrBpf4/EEqmtWhYjGptjVp7/YXhpMsVO9SQC8zUostJoHjG1/luroA8GUvGI8T6iBV
822 n56/ahzxxq8+qMcqV4Kwx9jYJLdZ7iNkBr6QLiVekd5Btmxwbl2R3VI9U5zskI0AdbAsGEEw/wu/
823 3bw7Rov78hxpMdfALYc=</ds:SignatureValue>
824   <ds:KeyInfo>
825     <ds:KeyValue>
826       <ds:RSAKeyValue>
827         <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKV1bf/DoMTX8laMO45P6rlEarxQiOYrgzuYp+snzz2XM0S6
828 o3JGQtXQuzDwcwPkH55bHFwHgtOMzxG4SQ653a5Dzh04nsmJvxxvbnCNH/XNaWfHaC0JHBEfNCMwR
829 ebYocxYM92pg/G5OGyE=</ds:Modulus>
830         <ds:Exponent>AQAB</ds:Exponent>
831       </ds:RSAKeyValue>
832     </ds:KeyValue>
833   </ds:KeyInfo>
834 </ds:Signature>
835 </saml2:Assertion>
836 <ds:Signature xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-
837 secureconversation/200512"
838 xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" Id="_2">
839   <ds:SignedInfo>
840     <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-
841 c14n#">
842       <excl4n:InclusiveNamespaces PrefixList="wsse S" />
843     </ds:CanonicalizationMethod>
844     <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1" />
845     <ds:Reference URI="#_1">
846       <ds:Transforms>
847         <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
848           <excl4n:InclusiveNamespaces PrefixList="wsu wsse S" />
849         </ds:Transform>
850       </ds:Transforms>
```



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```
855     <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1" />
856     <ds:DigestValue>
857         <Include xmlns="http://www.w3.org/2004/08/xop/include"
858             href="cid:984d42f8-3ec8-4708-9a48-
859 53d8283db4d7@example.jaxws.sun.com"
860             />
861     </ds:DigestValue>
862 </ds:Reference>
863 </ds:SignedInfo>
864 <ds:SignatureValue>
865     <Include xmlns="http://www.w3.org/2004/08/xop/include"
866         href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com" />
867 </ds:SignatureValue>
868 <ds:KeyInfo>
869     <wsse:SecurityTokenReference
870         wssell:TokenType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
871 profile-1.1#SAMLV2.0">
872     <wsse:KeyIdentifier
873         ValueType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
874 profile-1.1#SAMLID"
875         >149fbbe8-d116-471c-91f3-5ebc01756b31</wsse:KeyIdentifier>
876     </wsse:SecurityTokenReference>
877 </ds:KeyInfo>
878 </ds:Signature>
879 </wsse:Security>
880 </soapenv:Header>
881 <soapenv:Body>
882     <ns1:COREEnvelopeBatchSubmission
883 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
884     <PayloadType>X12_275_Request_005010X210E1</PayloadType>
885     <ProcessingMode>Batch</ProcessingMode>
886     <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
887     <PayloadLength>1551254</PayloadLength>
888     <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
889     <SenderID>HospitalA</SenderID>
890     <ReceiverID>PayerB</ReceiverID>
891     <CORERuleVersion>2.2.0</CORERuleVersion>
892     <Checksum>43B8485AB5</Checksum>
893     <Payload>
894         <xop:Include href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
895             xmlns:xop="http://www.w3.org/2004/08/xop/include" />
896     </Payload>
897     </ns1:COREEnvelopeBatchSubmission>
898 </soapenv:Body>
899 </soapenv:Envelope>
900
901 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
902 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
903 Content-Type: application/octet-stream
904 Content-Transfer-Encoding: binary
905
906 ISA*00*           *00*           *28*SSSSSS      *28*PPPPP
907 *100811*1213*^*00501*10000001*0*P*>~
908 .....
909
910 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
```

911

912 6.2.2 Sample CORE SOAP + WSDL Batch mode Response

```
913
914 HTTP/1.1 200 OK
915 Server: Apache-Coyote/1.1
916 Content-Type: multipart/related; boundary=MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339;
917 type="application/xop+xml"; start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-
918 info="application/soap+xml"; action="BatchSubmitAckRetrievalTransaction"
919
```




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```
920 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
921 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
922 Content-Transfer-Encoding: binary
923 Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>
924
925 <?xml version='1.0' encoding='UTF-8'?>
926 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
927   <soapenv:Header>
928     <To xmlns="http://www.w3.org/2005/08/addressing"
929 >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12999BatchSubmissionAcknowledge
930 mentRetrievalResponse_Service</To>
931     <Action xmlns="http://www.w3.org/2005/08/addressing"
932 >urn:ihe:iti:xdr:2007:Deferred:Deferred:X12999BatchSubmissionAcknowledgementRetrievalResponseMess
933 age</Action>
934     <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
935       <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
936     </ReplyTo>
937     <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-
938 963c99147avds</MessageID>
939     <RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-
940 963c9912345678</RelatesTo>
941   </soapenv:Header>
942   <soapenv:Body>
943     <ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse
944     xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
945       <PayloadType>X12_999_Response_005010X231A1</PayloadType>
946       <ProcessingMode>Batch</ProcessingMode>
947       <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
948       <PayloadLength>1551254</PayloadLength>
949       <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
950       <SenderID>PayerB</SenderID>
951       <ReceiverID>HospitalA</ReceiverID>
952       <CORERuleVersion>2.2.0</CORERuleVersion>
953       <Checksum>43B8485AB5</Checksum>
954       <Payload>
955         <xop:Include href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
956         xmlns:xop="http://www.w3.org/2004/08/xop/include"/>
957       </Payload>
958       <ErrorCode>Success</ErrorCode>
959       <ErrorMessage/>
960     </ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse>
961   </soapenv:Body>
962 </soapenv:Envelope>
963
964 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
965 Content-Type: application/pdf
966 Content-Transfer-Encoding: binary
967 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
968
969 ISA*00*          *00*          *28*PPPPP          *28*SSSSSS
970 *100811*1600**00501*10000001*1*P*>~
971 .....
972
973 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339-
```

975
976



977 **7 Appendix B: WSDL**
978

979 **7.1 Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 WSDL**

980 Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 provides a WSDL definition.

981 The original CORE Phase II Connectivity WSDL can be downloaded at

982 <http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.wsdl>

983

984 **8 Appendix C: XML Schema (XSD)**
985

986 **8.1 Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 compliant XML Schema**
987 **Specification**

988

989 Phase II CAQH CORE 270: Connectivity Rule Version 2.2.0 provides schema definition

990 at <http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd>