

Digital Imaging and Communications in Medicine (DICOM)

Supplement 234: DICOMweb Storage Commitment Service

Prepared by: Working Group 27

DICOM Standards Committee, Working Group 6

1300 N. 17th Street, Suite 900

Rosslyn, Virginia 22209 USA

Status: 14 January 2024, Final Text

Developed pursuant to DICOM Work Item 2022-04-A

Table of Contents

Scope and Field of Application.....	5
2 Normative References.....	6
2.3 Other References.....	6
13 Storage Commitment Service and Resources.....	6
13.1 Overview.....	6
13.1.1 Resource Descriptions.....	7
13.1.2 Common Query Parameters.....	7
13.1.3 Common Media Types.....	8
13.2 Conformance.....	8
13.3 Transactions Overview.....	9
13.4 Request Transaction.....	9
13.4.1 Request.....	9
13.4.1.1 Target Resource.....	9
13.4.1.2 Query Parameters.....	9
13.4.1.3 Request Header Fields.....	9
13.4.1.4 Request Payload.....	10
13.4.2 Behavior.....	10
13.4.3 Response.....	10
13.4.3.1 Status Codes.....	10
13.4.3.2 Response Header Fields.....	11
13.4.3.3 Response Payload.....	11
13.5 Result Check Transaction.....	11
13.5.1 Request.....	12
13.5.1.1 Target Resource.....	12
13.5.2.2 Query Parameters.....	12
13.5.2.3 Request Header Fields.....	12
13.5.1.4 Request Payload.....	12
13.5.2 Behavior.....	12
13.5.3 Response.....	12
13.5.3.1 Status Codes.....	12
13.5.3.2 Response Header Fields.....	13
13.5.3.3 Response Payload.....	13
B Examples (Informative).....	13
B.27 Request Storage Commitment for Multiple Instances with JSON.....	13
B.28 Request Storage Commitment for Multiple Instances with XML and Referenced Study and Series Instance UIDs.....	15
B.29 Request Storage Commitment with HTTP Multipart Request for Instances from Multiple Studies 17	
B.30 Bi-directional Proxy for Storage Commitment.....	19
H Capabilities Description.....	24
J Storage Commitment Modules.....	25
J.1 Storage Commitment Request Module.....	25
J.2 Storage Commitment Response Module.....	26
N DICOM Conformance Statement Template (Normative).....	29
N.1 Overview.....	29
N.1.3 DICOM Web Services.....	29

N.1.3.5	Storage Commitment Service	29
N.5	Service and Interoperability Description	29
N.5.3	Supported DICOM Web Services	29
N.5.3.6	Storage Commitment Web Service.....	29
N.5.3.6.1	Request Transaction – Storage Commitment Service	29
N.5.3.6.1.1	User Agent	29
N.5.3.6.1.2	Origin Server	30
N.5.3.6.2	Result Check Transaction – Storage Commitment Service	31
N.5.3.6.2.1	User Agent	31
N.5.3.6.2.2	Origin Server	31
N.6	Configuration	31
N.6.3	Configuration of DICOM Web Services	31
N.6.3.5	Storage Commitment Service Configuration.....	31
N.6.3.5.1	Request Transaction Configuration	31
N.6.3.5.2	Result Check Transaction Configuration	32
N.7	Network and Media Communication Details	32
N.7.3	Status Codes	33
N.7.3.3	DICOM Web Services	33
N.7.3.3.6	Storage Commitment Service	33
N.7.3.3.6.1	Request Transaction as Origin Server	33
N.7.3.3.6.2	Request Transaction as User Agent	33
N.7.3.3.6.3	Result Check Transaction as Origin Server	34
N.7.3.3.6.4	Result Check Transaction as User Agent	34
J.1.1	Scope	35
6	Registry of DICOM Data Elements	36

1

Scope and Field of Application

2 This supplement defines the means to perform storage commitment in DICOMweb. The Storage Commit-
3 ment Service enables a user agent to arrange the safekeeping of Instances on an origin server.

4 The DICOMweb Storage Commitment Service is an extension to the existing DICOMweb services, mim-
5 icking the storage commitment service that is already available using DIMSE. Furthermore, it has been
6 designed such that it is relatively easy to create proxies from/to DIMSE to/from DICOMweb Storage Com-
7 mitment Service.

8 The DICOMweb variant of Storage Commit extends the DIMSE variant. In DICOMweb it is possible to
9 provide the study and series context to the referenced instances; this provides more information for find-
10 ing these instances at the server side.

Changes to NEMA Standards Publications PS 3.18

Add a new reference to section 2.

2 Normative References

...

2.3 Other References

...

[Ekuan] Ekuan M. *Asynchronous Request-Reply pattern*. Azure Architecture Center. 2022. Available from: <http://learn.microsoft.com/en-us/azure/architecture/patterns/async-request-reply>

...

Add new Section on Storage Commitment Service and Resources

13 Storage Commitment Service and Resources

13.1 Overview

The Storage Commitment Service enables a user agent to request the safekeeping of Instances on an origin server. It corresponds to the DIMSE Storage Commitment Service Class as defined in Annex J of PS3.4 and has the same semantics.

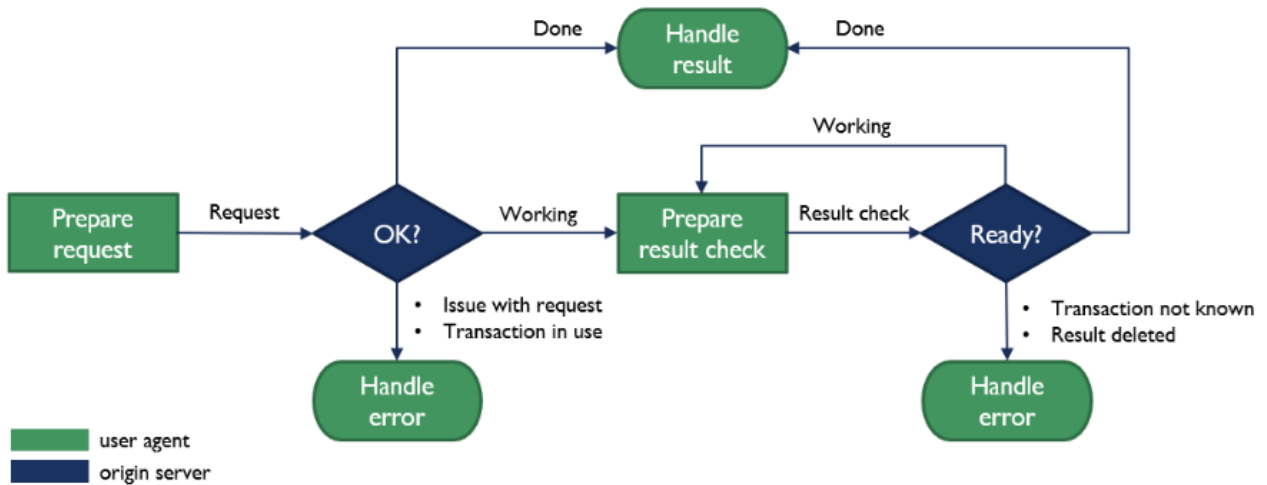
As committing to storage of Instances is often a long-running operation on the origin server, the use of this service may be split into two transactions, at the discretion of the origin server: 1) requesting the commitment, and – when the origin server cannot give the result yet – 2) checking for the result, in line with the Asynchronous Request-Reply (ARR) pattern [Ekuan].

Note A PACS may wait with a response to the storage commitment request it receives, for instance until the VNA that it uses for long term storage has given commitment for the referenced Instances.

Figure 13.1-1 shows the possible scenarios of requesting storage commitment.

35

Figure 13.1-1. Process of the Storage Commitment Service



36

37 This starts when the user agent sends a Request to the origin server. This requests the origin server's
38 commitment to safekeep a set of SOP Instances, specified by their respective UIDs.

39 In case the origin server responds to the Request with Done, it behaves synchronously and returns, for
40 each instance, whether it commits to safekeeping that instance or not. The user agent can handle this re-
41 sult appropriately, for example by deleting the local copies of the instances that now are safely kept by
42 the origin server.

43 In case the origin server responds to the Request with Working, it behaves asynchronously, and is work-
44 ing on the request. In this case, the user agent needs to perform a Result Check after some time. When
45 this check is performed, the origin server may respond with Done, and will provide the same kind of result
46 as in the synchronous case, which can be handled in the same way by the user agent. The origin server
47 may also respond to the Result Check with Working, which will trigger the user agent to perform a Result
48 Check again. This process continues until the origin server responds with Done, finalizing the process.

49 For both the Request and the Result Check it is also possible that the origin server returns an error, and
50 this also needs to be handled appropriately by the user agent; see Tables 13.4.3-1 and 13.5.3-1 for more
51 details.

52 **13.1.1 Resource Descriptions**

53 There is one resource defined by this service:

54 **Table 13.1.1-1. Storage Commitment Service Resource Descriptions**

/commitment-requests	Storage commitment requests managed by the origin server.
----------------------	-----------------------------------------------------------

55

56 **13.1.2 Common Query Parameters**

57 The origin server shall support Query Parameters as required in Table 13.1.2-1.

58 The user agent shall supply in the request Query Parameters as required in Table 13.1.2-1.

59 **Table 13.1.2-1. Common Query Parameters**

Name	Value	Usage	Section
------	-------	-------	---------

		User Agent	Origin Server	
Accept	media-type	O	M	Section 8.3.3.1
Accept-Charset	charset	O	M	Section 8.3.3.2

60

61 See also Section 8.4.

62 **13.1.3 Common Media Types**

63 The origin server shall support the media types specified as Default or Required in Table 13.1.3-1.

64

Table 13.1.3-1. Default, Required, and Optional Media Types

Media Type	Usage	Section
application/dicom+json	Default	Section 8.7.3.2
application/dicom+xml	Required	Section 8.7.3.2
multipart/related; type="application/dicom+json"	Required	Section 8.7.3.2
multipart/related; type="application/dicom+xml"	Required	Section 8.7.3.2

65

66 **13.2 Conformance**

67 Implementations conforming to the Storage Commitment Service shall support the transactions listed as
68 Required in Table 13.2-1.

69

Table 13.2-1. Required and Optional Transactions

Transaction	Support	Section
Request	Required	Section 13.4
Result Check	Required	Section 13.5

70

71 Implementations conforming to the Storage Commitment Service shall specify their role in their Conform-
72 ance Statement (see PS3.2): origin server, user agent or both.

73 In addition, for each supported transaction they shall specify:

- 74 • the supported Query Parameters, including optional Attributes, if any;
- 75 • the supported DICOM Media Types;
- 76 • the supported character sets (if other than UTF-8).

77 An origin server conforming to the Storage Commitment Service shall implement the Retrieve Capabilities
78 Transaction, specifying its role (see Section 8.9 and Annex H).

79 Implementation-specific warning and error codes shall be included in the Conformance Statement.

80 An origin server implementation defines how it provides its commitment to storage. Certain origin servers
81 may commit to permanently store the SOP Instances (e.g., an archive system) while other origin servers
82 may commit to provide storage of the SOP Instances for a limited amount of time. The origin server shall
83 document in its Conformance Statement the nature of its commitment to storage (e.g., duration of stor-
84 age, retrieve capabilities and latency, capacity).

85 Once the origin server has committed to store the SOP Instances, the user agent may decide that it is ap-
86 propriate to delete its copies of the SOP Instances. These types of behaviors are outside the scope of this

87 Standard; however, the user agent shall document the types of behaviors it is able to provide in its Con-
88 formance Statement.

89 An origin server implementation shall specify in its Conformance Statement how long the result of a Re-
90 quest will be available for the user agent.

91 **13.3 Transactions Overview**

92 The Storage Commitment Service consists of the transactions listed in Table 13.3-1.

93 **Table 13.3-1. Storage Commitment Service Transactions**

Transaction Name	Method	Payload		Description
		Request	Success Response	
Request	POST	SOP Class UIDs and SOP Instance UIDs; optionally Study and Series UIDs	Storage Commitment Result	Requests to safekeep a referenced set of Instances.
Result Check	GET	N/A	Storage Commitment Result	Gets the result of a Request.

94

95 These transactions share the same resource (/commitment-requests/{transactionUID}) but are differenti-
96 ated by their method.

97 **13.4 Request Transaction**

98 This transaction allows a user agent to request an origin server to commit to the safekeeping of a set of
99 Instances.

100 **13.4.1 Request**

101 The request shall have the following syntax:

```
102 POST SP /commitment-requests/{transactionUID} SP version CRLF
103 Accept: 1#media-type CRLF
104 *(header-field CRLF)
105 CRLF
106 Payload
```

107 **13.4.1.1 Target Resource**

108 The Target Resource of this transaction is an individual commitment request identified by its Transaction
109 UID.

110 In DIMSE, results may return asynchronously and the SCU uses the Transaction UID attribute returned
111 by the SCP in the result to match it to the corresponding request. In DICOMweb, each request, which
112 contains the Transaction UID in the resource path, is synchronously paired with the response, so the
113 Transaction UID is not encoded in the response.

114 **13.4.1.2 Query Parameters**

115 The request has no Query Parameters.

116 **13.4.1.3 Request Header Fields**

117 The origin server shall support Request Header Fields as required in Table 13.4.1-2.

118 The user agent shall supply Request Header Fields as required in Table 13.4.1-2.

119

Table 13.4.1-2. Request Header Fields

Name	Values	Usage		Description
		User Agent	Origin Server	
Accept	media-type	M	M	The Acceptable Media Types of the response payload.

120

121 See also Section 8.4.

122 **13.4.1.4 Request Payload**

123 The request payload shall be present and shall contain one representation consistent with the Content-
124 Type header field. The representation shall conform to Media Types described in Section 8.7.3 DICOM
125 Media Type Sets. The payload shall conform to Section 8.6 Payloads.

126 The request payload shall contain the Referenced SOP Instance UIDs for which the user agent requests
127 the origin server to commit storage.

128 A request payload shall contain a Storage Commitment Request Module. See Section J.1.

129 **13.4.2 Behavior**

130 The origin server shall process the storage commitment request. A success response either returns:

- 131 • a 200 (OK) status with a Storage Commitment Response payload that indicates the storage com-
132 mitment status per referenced SOP Instance, or
- 133 • a 202 (Accepted) status without payload indicating to the user agent that it should retrieve such a
134 result later.

135 Note A 200 (OK) success status code should only be understood to mean that the request was successfully
136 parsed and a Storage Commitment Response was returned by the origin server. The Storage Commit-
137 ment Response may indicate that storage commitment failed for some or even all of the referenced
138 SOP Instances.

139 **13.4.3 Response**

140 The response shall have the following syntax:

```
141 version SP status-code SP reason-phrase CRLF
142 [retry-after CRLF]
143 CRLF
144 [Payload]
```

145 **13.4.3.1 Status Codes**

146 Table 13.4.3-1 shows some common status codes corresponding to this transaction. See also Section 8.5
147 for additional status codes.

148

Table 13.4.3-1. Status Code Meaning

Status	Code	Meaning
Success	200 (OK)	The origin server finished processing the storage commitment re- quest; the payload describes in detail what referenced SOP In- stances have been committed for safekeeping, and what instances have not.

	202 (Accepted)	The origin server has not finished processing the storage commitment request yet; there is no payload. The user agent is expected to follow-up with the Result Check transaction, as described in Section 13.5, to retrieve the result of the storage commitment request.
Failure	400 (Bad Request)	The origin server cannot handle the storage commitment request because of errors in the request headers or parameters.
	409 (Conflict)	The origin server cannot handle the storage commitment request because the provided transaction UID is already in use.
	503 (Service Unavailable)	The origin server cannot handle the storage commitment request; this may be a temporal or permanent state.

149

150 **13.4.3.2 Response Header Fields**

151 The origin server shall support header fields as required in Table 13.4.3-2.

152

Table 13.4.3-2. Response Header Fields

Name	Value	Origin Server Usage	Description
Content-Type	media-type	C	See Section 8.4.2.
Content-Encoding	encoding	C	See Section 8.4.2.
Content-Length	uint	C	See Section 8.4.3.
Retry-After	uint	O	The number of seconds the user agent is requested to wait until a (next) result check or retrying the request.

153

154 All success responses shall also contain the Content Representation (see Section 8.4.2) and Payload
155 header fields (see Section 8.4.3) with appropriate values.

156 It is recommended that the text returned in the Warning header field (see [RFC7234] Section 5.5) contain
157 a DICOM Status Code (see PS3.4 and Annex C “Status Type Encoding (Normative)” in PS3.7) and de-
158 scriptive reason. For example:

159 `Warning: A700 <service>: Out of memory`

160 **13.4.3.3 Response Payload**

161 A 200 (OK) success response payload shall contain a Storage Commitment Response Module. See An-
162 nex J.2.

163 A 202 (Accepted) success response will not contain a payload.

164 Any failure response payload may contain a Status Report describing failures, warnings, or other useful
165 information.

166 **13.5 Result Check Transaction**

167 This transaction allows a user agent to request an origin server to provide the result of an earlier Request.

168 **Note** The user agent uses this transaction when the origin server has responded with status code 202 (Ac-
169 cepted) to either a Request or a Result Check transaction.

170 **13.5.1 Request**

171 The request shall have the following syntax:

```
172 GET SP /commitment-requests/{transactionUID} SP version CRLF
173 Accept: 1#media-type CRLF
174 *(header-field CRLF)
175 CRLF
```

176 **13.5.1.1 Target Resource**

177 The Target Resource of this transaction is an individual commitment request identified by its Transaction
178 UID.

179 **13.5.2.2 Query Parameters**

180 The request has no Query Parameters.

181 **13.5.2.3 Request Header Fields**

182 The origin server shall support Result Check Header Fields as required in Table 13.5.1-2.

183 The user agent shall supply Result Check Header Fields as required in Table 13.5.1-2.

184 Note The presence and values of the storage commitment result check header fields should be the same as
185 those of the storage commitment request header fields.

186 **Table 13.5.1-2. Result Check Header Fields**

Name	Values	Usage		Description
		User Agent	Origin Server	
Accept	media-type	M	M	The Acceptable Media Types of the response payload.

187

188 See also Section 8.4.

189 **13.5.1.4 Request Payload**

190 The request has no payload.

191 **13.5.2 Behavior**

192 If the result identified by the Transaction UID is available on the origin server, this result is returned in an
193 Acceptable Media Type (see Section 8.7.4); the result contains in detail what referenced SOP Instances
194 have been committed for safekeeping, and what instances have not.

195 If this result is not yet available, the server will return that it is still working on the storage commitment re-
196 quest.

197 **13.5.3 Response**

198 The response shall have the following syntax:

```
199 version SP status-code SP reason-phrase CRLF
200 [retry after CRLF]
201 CRLF
202 [Payload]
```

203 **13.5.3.1 Status Codes**

204 Table 13.5.3-1 shows some common status codes corresponding to this transaction. See also Section 8.5
205 for additional status codes.

206

Table 13.5.3-1. Status Code Meaning

Status	Code	Meaning
Success	200 (OK)	The origin server finished processing the Request transaction identified by the supplied Transaction UID (see Section 13.4); the payload contains the result.
	202 (Accepted)	The origin server has not yet finished processing the Request transaction identified by the supplied Transaction UID; there is no payload. The user agent is expected to follow-up again with the Result Check transaction, to retrieve the result of the storage commitment request.
Failure	404 (Not Found)	The origin server cannot find the storage commitment request result identified by the supplied Transaction UID.
	410 (Gone)	The origin server can no longer provide the storage commitment request result identified by the supplied Transaction UID.
	503 (Service Unavailable)	The origin server cannot handle the Result Check request; this may be a temporary or permanent state.

207

- 208 Notes
1. The 404 (Not Found) status code may be caused by an incorrect Transaction UID that has been supplied by the user agent, or the origin server may have deleted the applicable result.
 2. The 410 (Gone) status code may be caused by the origin server deleting the applicable result, but still having a record of the Transaction UID.
 3. When the 404 (Not Found) or the 410 (Gone) status code is returned, the user agent might initiate a new storage commitment request. When the 503 (Service Unavailable) status code is returned, the user agent might retry later with another Result Check transaction.

215

216 **13.5.3.2 Response Header Fields**

217 See Section 13.4.3.2.

218 **13.5.3.3 Response Payload**

219 See Section 13.4.3.3.

220

221 *Add new examples for the Storage Commitment Service*

222 **B Examples (Informative)**

223 ...

224 **B.27 Request Storage Commitment for Multiple Instances with JSON**

225 This example shows the flow of messages between the user agent and the origin server for the scenario
 226 in which 1) the user agent requests storage commitment for two SOP Instances in JSON, 2) the origin
 227 server tells the user agent to check for the result of this request later, 3) the user agent checks for the re-
 228 sult, and 4) the result provided by the origin server shows that it commits to safely store one of the in-
 229 stances, while it does not commit to safely store the other instance.

230 Step 1 of this scenario involves the user agent sending a POST request for the two instances with trans-
231 action UID 1.1.99999.20220901 in the HTTP header:

```
232 POST /radiology/commitment-requests/1.1.99999.20220901 HTTP/1.1
233 Host: www.hospital-stmarco
234 Content-Type: application/dicom+json
235 ...
236 {
237   "00081199": {
238     "vr": "SQ",
239     "Value": [{
240       "00081150": {
241         "vr": "UI",
242         "Value": [
243           "1.2.840.10008.5.1.4.1.1.2"
244         ]
245       },
246       "00081155": {
247         "vr": "UI",
248         "Value": [
249           "1.3.12.2.1107.5.99.3.30000012031310075961300000059"
250         ]
251       }
252     ]},
253   {
254     "00081150": {
255       "vr": "UI",
256       "Value": [
257         "1.2.840.10008.5.1.4.1.1.2"
258       ]
259     },
260     "00081155": {
261       "vr": "UI",
262       "Value": [
263         "1.3.12.2.1107.5.99.3.30000012031310075961300000060"
264       ]
265     }
266   ]}
267 }
268 }
269
```

270 Here, the references to the applicable SOP instances are in the Referenced SOP Sequence (0008,1199);
271 see Table J.1-1 for the possible structures of the storage commitment request. The SOP Class UID of
272 both the instances is CT Image (for both instances attribute (0008,1150) has value
273 1.2.840.10008.5.1.4.1.1.2), and the applicable instances are identified by their respective SOP Instance
274 UIDs (the values of (0008,1155) are 1.3.12.2.1107.5.99.3.30000012031310075961300000059 and
27500060) respectively).

276 In step 2 the origin server returns its response to the request. In this scenario this is the asynchronous
277 case where there is no immediate result (return code 202 Accepted), and where the server also notifies
278 the user agent that it ought to wait at least 300 seconds before making a follow-up request for the result;
279 the synchronous response case would skip steps 2 and 3, and would continue at step 4.

```
280 HTTP/1.1 202 Accepted
281 Retry-After: 300
282 ...
283
```

284 In step 3, after waiting the suggested period of time, the user agent GETs the status of the request using
285 the same transaction UID as given in the original request:

```
286
287 GET /radiology/commitment-requests/1.1.99999.20220901 HTTP/1.1
288 Host: www.hospital-stmarco
289 Content-Type: application/dicom+json
290 ...
291
```

292 Step 4 of this scenario involves the origin server returning the result of the storage commitment request.
293 In this case it is the response to the result check as shown in step 3. Note that in case the server initially
294 responds to the POST request of step 1 with the HTTP response status code 200 (the synchronous case)
295 the same result would be returned:
296

```
297 HTTP/1.1 200 OK
298 Content-Length: 842
299 Content-Type: application/dicom+json; charset=utf-8
300
301 {
302   "00081199": {
303     "vr": "SQ",
304     "Value": [{
305       "00081150": {
306         "vr": "UI",
307         "Value": [
308           "1.2.840.10008.5.1.4.1.1.2"
309         ]
310       },
311       "00081155": {
312         "vr": "UI",
313         "Value": [
314           "1.3.12.2.1107.5.99.3.30000012031310075961300000059"
315         ]
316       }
317     ]
318   },
319   "00081198": {
320     "vr": "SQ",
321     "Value": [{
322       "00081150": {
323         "vr": "UI",
324         "Value": [
325           "1.2.840.10008.5.1.4.1.1.2"
326         ]
327       },
328       "00081155": {
329         "vr": "UI",
330         "Value": [
331           "1.3.12.2.1107.5.99.3.30000012031310075961300000060"
332         ]
333       },
334       "00081197": {
335         "vr": "US",
336         "Value": [ 274 ]
337       }
338     ]
339   }
340 }
341
```

342 The origin server provided 274 as value of the failure reason (0008,1197). This is 0112H and means “No
343 such object instance” (see section C.14.1.1 of Part 3). Apparently, the SOP Instance identified by SOP
344 Instance UID 1.3.12.2.1107.5.99.3.30000012031310075961300000060 is not on the origin server.

345 B.28 Request Storage Commitment for Multiple Instances with XML and Referenced 346 Study and Series Instance UIDs

347 The intent of this example is the same as presented in Section B.27, namely the scenario to request stor-
348 age commitment for two SOP Instances, where for one it succeeds, and for one it fails. The differences
349 are in the synchronicity (in this case it is synchronous), the syntax (in this case using XML), and the struc-
350 ture (in this case using the hierarchical study-series-SOP Class-instance structure, starting with a Refer-
351 enced Study Sequence (0008,1110); see Table J.1-1 for more details on this structure).

352 Step 1:

```
353 POST /radiology/commitment-requests/1.1.99999.20220901 HTTP/1.1
```

```
354 Host: www.hospital-stmarco
355 Content-Type: application/dicom+xml
356
357 <?xml version="1.0" encoding="UTF-8"?>
358 <NativeDicomModel>
359   <DicomAttribute Tag="00081110" VR="SQ" Keyword="ReferencedStudySequence">
360     <Item number="1">
361       <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
362         <Value number="1">1.2.250.1.59.40211.12345678.678910</Value>
363       </DicomAttribute>
364     <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
365       <Item number="1">
366         <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
367           <Value number="1">1.2.250.1.59.40211.789001276.14556172.67789</Value>
368         </DicomAttribute>
369       <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
370         <Item number="1">
371           <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
372             <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
373           </DicomAttribute>
374           <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
375             <Item number="1">
376               <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
377                 <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000059</Value>
378               </DicomAttribute>
379             </Item>
380             <Item number="2">
381               <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
382                 <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000060</Value>
383               </DicomAttribute>
384             </Item>
385           </DicomAttribute>
386         </Item>
387       </DicomAttribute>
388     </Item>
389   </DicomAttribute>
390 </Item>
391 </DicomAttribute>
392 </NativeDicomModel>
393
```

394 In the above, the applicable study is identified by its Study Instance UID (0020,000D) with value
395 1.2.250.1.59.40211.12345678.678910. The applicable series is identified by its Series Instance UID
396 (0020,000E) with value 1.2.250.1.59.40211.789001276.14556172.67789. SOP Class UIDs and SOP In-
397 stance UIDs are the same as the example given in Section B.27.

398 Step 2:

```
399 HTTP/1.1 200 OK
400 Content-Length: 2901
401 Content-Type: application/dicom+xml
402
403 <?xml version="1.0" encoding="UTF-8"?>
404 <NativeDicomModel>
405   <DicomAttribute Tag="00081110" VR="SQ" Keyword="ReferencedStudySequence">
406     <Item number="1">
407       <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
408         <Value number="1">1.2.250.1.59.40211.12345678.678910</Value>
409       </DicomAttribute>
410     <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
411       <Item number="1">
412         <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
413           <Value number="1">1.2.250.1.59.40211.789001276.14556172.67789</Value>
414         </DicomAttribute>
415       <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
416         <Item number="1">
417           <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
418             <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
419           </DicomAttribute>
420           <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
```



```

421     <Item number="1">
422         <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
423             <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000059</Value>
424         </DicomAttribute>
425     </Item>
426 </DicomAttribute>
427 </Item>
428 </DicomAttribute>
429 </Item>
430 </DicomAttribute>
431 </Item>
432 </DicomAttribute>
433 <DicomAttribute Tag="0008XXX2" VR="SQ" Keyword="FailedStudySequence">
434 <Item number="1">
435     <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
436         <Value number="1">1.2.250.1.59.40211.12345678.678910</Value>
437     </DicomAttribute>
438     <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
439 <Item number="1">
440     <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
441         <Value number="1">1.2.250.1.59.40211.789001276.14556172.67789</Value>
442     </DicomAttribute>
443     <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
444 <Item number="1">
445     <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
446         <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
447     </DicomAttribute>
448     <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
449 <Item number="1">
450     <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
451         <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000060</Value>
452     </DicomAttribute>
453     <DicomAttribute Tag="00081197" VR="UI" Keyword="FailureReason">
454         <Value number="1">274</Value>
455     </DicomAttribute>
456 </Item>
457 </DicomAttribute>
458 </Item>
459 </DicomAttribute>
460 </Item>
461 </DicomAttribute>
462 </Item>
463 </DicomAttribute>
464 </NativeDicomModel>
465

```

466 The Failed Study Sequence (0008,119B) has the same structure as the Referenced Study Sequence, ex-
467 cept that it adds a Failure Reason (0008,1197) to each Referenced SOP Instance UID, indicating why the
468 origin server could not commit to safely store that referenced SOP Instance.

470 **B.29 Request Storage Commitment with HTTP Multipart Request for Instances from Mul-** 471 **multiple Studies**

472 This example has the same intent as B.28, but differs in having a multipart request, and the SOP In-
473 stances belonging to different studies.

474 Step 1:

```

475 POST /radiology/commitment-requests/1.1.99999.20220901 HTTP/1.1
476 Host: www.hospital-stmarco
477 Content-Type: multipart/related; type="application/dicom+xml"; boundary=MESSAGEBOUNDARY
478
479 --MESSAGEBOUNDARY
480 <?xml version="1.0" encoding="UTF-8"?>
481 <NativeDicomModel>
482     <DicomAttribute Tag="00081110" VR="SQ" Keyword="ReferencedStudySequence">
483 <Item number="1">
484     <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
485         <Value number="1">1.2.250.1.59.40211.12345678.678910</Value>

```

```
486     </DicomAttribute>
487 <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
488 <Item number="1">
489   <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
490     <Value number="1">1.2.250.1.59.40211.789001276.14556172.67789</Value>
491   </DicomAttribute>
492 <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
493 <Item number="1">
494   <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
495     <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
496   </DicomAttribute>
497 <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
498 <Item number="1">
499   <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
500     <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000059</Value>
501   </DicomAttribute>
502 </Item>
503 </DicomAttribute>
504 </Item>
505 </DicomAttribute>
506 </Item>
507 </DicomAttribute>
508 </Item>
509 </DicomAttribute>
510 </NativeDicomModel>
511 --MESSAGEBOUNDARY
512 <?xml version="1.0" encoding="UTF-8"?>
513 <NativeDicomModel>
514 <DicomAttribute Tag="00081110" VR="SQ" Keyword="ReferencedStudySequence">
515 <Item number="1">
516   <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
517     <Value number="1">1.2.250.1.59.40211.12345678.678911</Value>
518   </DicomAttribute>
519 <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
520 <Item number="1">
521   <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
522     <Value number="1">1.2.250.1.59.40211.789001276.14556172.68856</Value>
523   </DicomAttribute>
524 <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
525 <Item number="1">
526   <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
527     <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
528   </DicomAttribute>
529 <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
530 <Item number="1">
531   <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
532     <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000060</Value>
533   </DicomAttribute>
534 </Item>
535 </DicomAttribute>
536 </Item>
537 </DicomAttribute>
538 </Item>
539 </DicomAttribute>
540 </Item>
541 </DicomAttribute>
542 </NativeDicomModel>
543 --MESSAGEBOUNDARY
544
```

545 **Step 2:**

```
546 HTTP/1.1 200 OK
547 Content-Length: 2917
548 Content-Type: application/dicom+xml
549
550 <?xml version="1.0" encoding="UTF-8"?>
551 <NativeDicomModel>
552 <DicomAttribute Tag="00081110" VR="SQ" Keyword="ReferencedStudySequence">
553 <Item number="1">
554   <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
555     <Value number="1">1.2.250.1.59.40211.12345678.678910</Value>
```

```
556     </DicomAttribute>
557 <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
558 <Item number="1">
559   <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
560     <Value number="1">1.2.250.1.59.40211.789001276.14556172.67789</Value>
561   </DicomAttribute>
562 <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
563 <Item number="1">
564   <DicomAttribute Tag="00081150" VR="UI" Keyword="ReferencedSOPClassUID">
565     <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
566   </DicomAttribute>
567   <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
568     <Item number="1">
569       <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
570         <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000059</Value>
571       </DicomAttribute>
572     </Item>
573   </DicomAttribute>
574 </Item>
575 </DicomAttribute>
576 </Item>
577 </DicomAttribute>
578 </Item>
579 </DicomAttribute>
580 <DicomAttribute Tag="0008XXX2" VR="SQ" Keyword="FailedStudySequence">
581 <Item number="1">
582   <DicomAttribute Tag="0020000D" VR="UI" Keyword="StudyInstanceUID">
583     <Value number="1">1.2.250.1.59.40211.12345678.678911</Value>
584   </DicomAttribute>
585 <DicomAttribute Tag="00081115" VR="SQ" Keyword="ReferencedSeriesSequence">
586 <Item number="1">
587   <DicomAttribute Tag="0020000E" VR="UI" Keyword="SeriesInstanceUID">
588     <Value number="1">1.2.250.1.59.40211.789001276.14556172.68856</Value>
589   </DicomAttribute>
590 <DicomAttribute Tag="0008XXX1" VR="SQ" Keyword="ReferencedInstancesBySOPClassSequence">
591 <Item number="1">
592   <DicomAttribute Tag="00081150" VR="UI" Keyword="Referenced SOP Class UID">
593     <Value number="1">1.2.840.10008.5.1.4.1.1.2</Value>
594   </DicomAttribute>
595   <DicomAttribute Tag="0008114A" VR="SQ" Keyword="ReferencedInstanceSequence">
596     <Item number="1">
597       <DicomAttribute Tag="00081155" VR="UI" Keyword="ReferencedSOPInstanceUID">
598         <Value number="1">1.3.12.2.1107.5.99.3.30000012031310075961300000060</Value>
599       </DicomAttribute>
600       <DicomAttribute Tag="00081197" VR="UI" Keyword="FailureReason">
601         <Value number="2">274</Value>
602       </DicomAttribute>
603     </Item>
604   </DicomAttribute>
605 </Item>
606 </DicomAttribute>
607 </Item>
608 </DicomAttribute>
609 </Item>
610 </DicomAttribute>
611 </NativeDicomModel>
612
```

613 B.30 Bi-directional Proxy for Storage Commitment

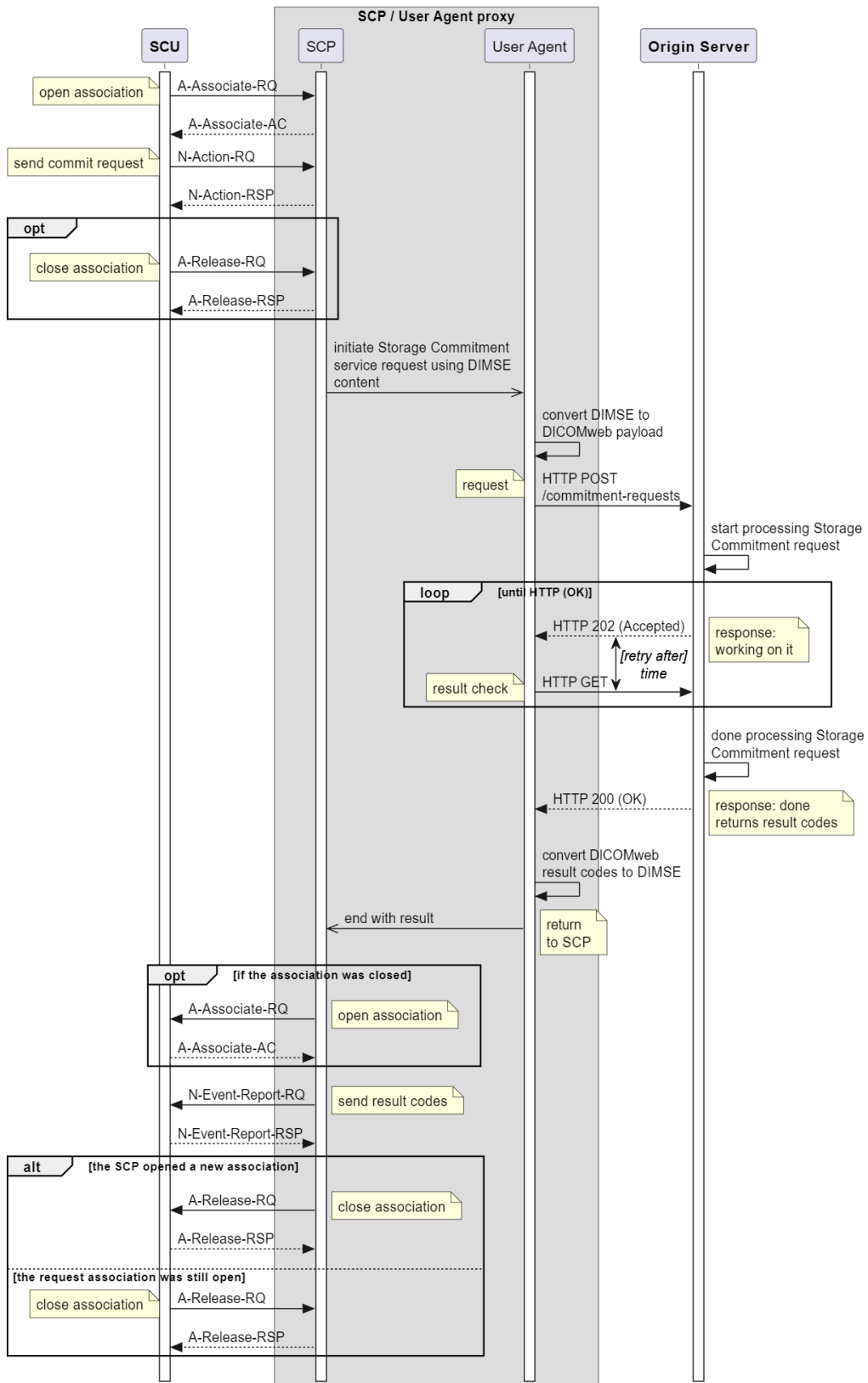
614 The DICOMweb Storage Commitment Service may be deployed in a hybrid environment, i.e., an environ-
615 ment in which both DICOMweb and DIMSE are used. In such a hybrid environment, a proxy can broker
616 transactions from one service to the other, allowing a DICOMweb origin server or a DIMSE SCP to sup-
617 port storage commitment for a mixed set of DICOMweb user agents and DIMSE SCUs.

618 DICOM does not require an implementation of proxies; however, since they would be very useful in a hy-
619 brid environment, the examples in this section show how this could be done. It is the designer's responsi-
620 bility to match the possibly asynchronous DIMSE behavior with the polling DICOMweb behavior, for ex-
621 ample management of Transaction UIDs.

622 Figure B.30-1 shows how a proxy could facilitate a request for Storage Commitment from a DIMSE SCU
623 to a DICOMweb origin server.

624

Figure B.30-1. Storage Commitment DIMSE Proxy for a DICOMweb Origin Server

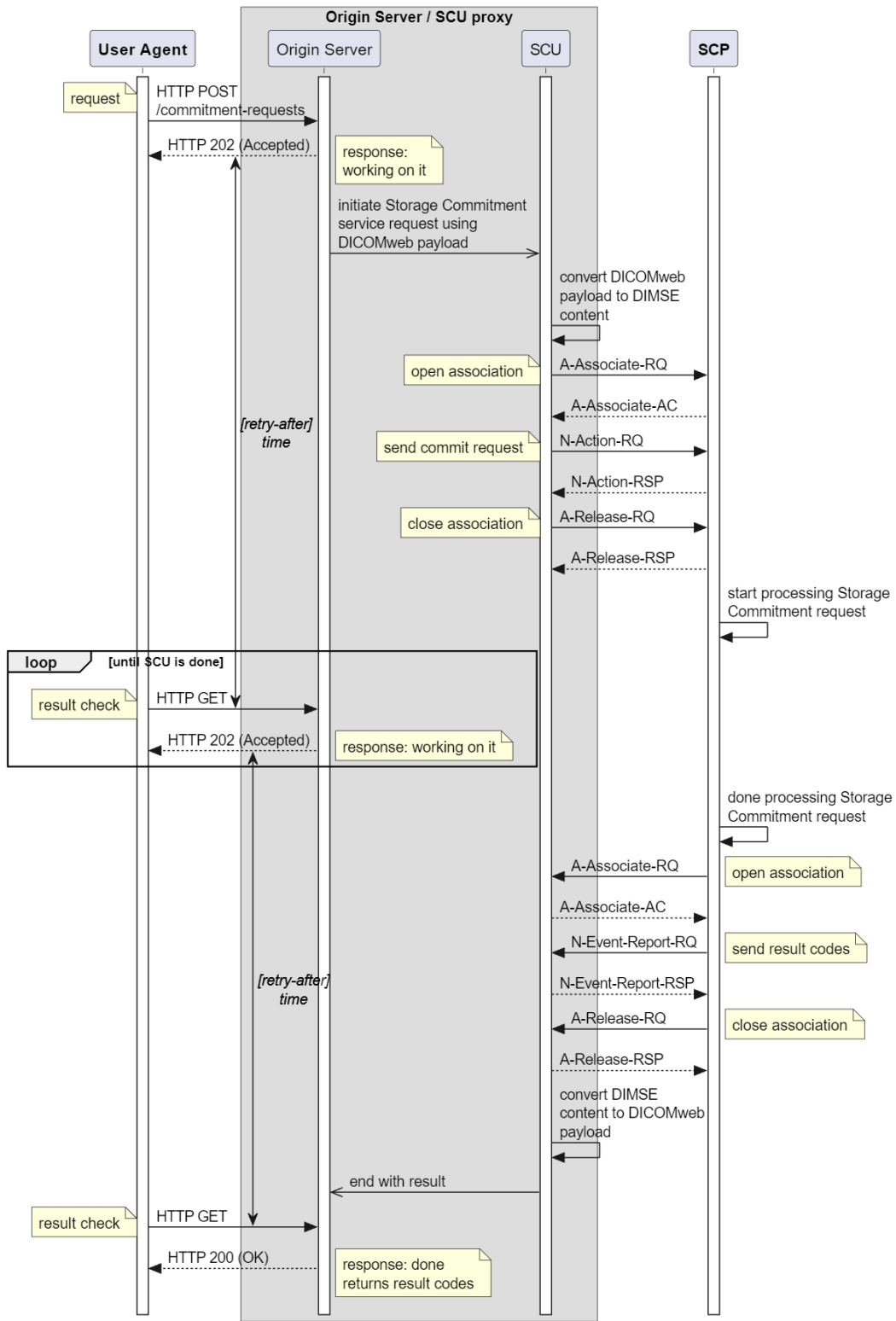


625

626 Figure B.30-2 shows how a proxy could facilitate a request for Storage Commitment from a DICOMweb
627 user agent to a DIMSE SCP. When proxying in this direction, the proxy will receive information from the
628 SCP that it is not able to dispatch immediately to the user agent.

629

Figure B.30-2. Storage Commitment DICOMweb Proxy for a DIMSE SCP



630

631

Update Table H-1 Resources and Methods

632

H Capabilities Description

633 ...

634

Table H-1. Resources and Methods

Service	Resource	Transactions	Reference
Studies (see Section 10.1.1)			
	studies	Search for Studies Store Instances	Section 10.6 Section 10.5
	{StudyInstance}	Retrieve Study Store Study Instances	Section 10.4 Section 10.5
	metadata	Retrieve Study Metadata	Section 10.4
	series	Search for Study Se- ries	Section 10.6
	{SeriesInstance}	Retrieve Series	Section 10.4
	metadata	Retrieve Series Metadata	Section 10.4
	instances	Search for Study Se- ries Instances	Section 10.4
	{SOPInstance}	Retrieve Instance	Section 10.4
	metadata	Retrieve Instance Metadata	Section 10.4
	frames	N/A	N/A
	{framelist}	Retrieve Frames	Section 10.4
	instances	Search for Study In- stances	Section 10.6
	series	Search for Series	Section 10.6
	{SeriesInstance}	N/A	N/A
	{instances}	Search for Instances	Section 10.6
	instances	Search for Instances	Section 10.6
	{BulkDataReference}	Retrieve Bulkdata	Section 10.4
Worklist (see Section 11.1.1)			
	workitems	Search for Workitem Create Workitem	Section 11.9 Section 11.4
	{Workitem}	Retrieve Workitem Update Workitem	Section 11.4 Section 11.6
	state	Change Workitem State	Section 11.7
	cancelrequest	Request Workitem Cancellation	Section 11.8
	subscribers	N/A	N/A
	{AETitle}	Subscribe Unsubscribe	Section 11.10 Section 11.11

	1.2.840.10008.5.1.4.34.5	N/A	N/A
	subscribers	N/A	N/A
	{AETitle}	Subscribe Unsubscribe	Section 11.10 Section 11.11
	suspend	Unsubscribe	Section 11.11
	1.2.840.10008.5.1.4.34.5.1	N/A	N/A
	subscribers	N/A	N/A
	{AETitle}	Subscribe Unsubscribe	Section 11.10 Section 11.11
	suspend	Suspend Worklist Sub- scription	Section 11.11
Non-Patient Instance (see Section 12.1.1)			
	color-palettes	N/A	N/A
	{uid}	Retrieve Store Search	Section 12.4 Section 12.5 Section 12.6
	defined-procedure-protocol	N/A	N/A
	{uid}	Retrieve Store Search	Section 12.4 Section 12.5 Section 12.6
	hanging-protocol	N/A	N/A
	{uid}	Retrieve Store Search	Section 12.4 Section 12.5 Section 12.6
	implant-templates	N/A	N/A
	{uid}	Retrieve Store Search	Section 12.4 Section 12.5 Section 12.6
	inventories	N/A	N/A
	{uid}	Retrieve Store Search	Section 12.4 Section 12.5 Section 12.6
Storage Commitment Requests (see Section 13.1.1)			
	commitment-requests	Request	Section 13.4
		Result Check	Section 13.5

635

636

Add new Annex J Storage Commitment Modules

637

J Storage Commitment Modules

638

J.1 Storage Commitment Request Module

639

Table J.1-1 specifies the Attributes of the Storage Commitment Request Module.

640

Table J.1-1. Storage Commitment Request Module

Attribute Name	Tag	Type	Attribute Description
Referenced SOP Sequence	(0008,1199)	1C	The SOP Instances for which storage commitment is requested. One or more Items shall be included in this Sequence. Required if the Referenced Study Sequence (0008,1110) is absent.
<i>>Table 10-11 "SOP Instance Reference Macro Attributes" in PS3.3</i>			
Referenced Study Sequence	(0008,1110)	1C	The Studies containing Instances for which storage commitment is requested. One or more Items shall be included in this Sequence. Required if the Referenced SOP Sequence (0008,1199) is absent.
>Study Instance UID	(0020,000D)	1	Uniquely identifies the referenced Study.
>Referenced Series Sequence	(0008,1115)	1	The Series containing Instances for which storage commitment is requested. One or more Items shall be included in this Sequence.
>>Series Instance UID	(0020,000E)	1	Uniquely identifies the referenced Series.
>>Referenced Instances by SOP Class Sequence	(0008,1112)	1	The SOP Instances for which storage commitment is requested grouped by SOP Class. One or more Items shall be included in this Sequence.
>>>Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.
>>>Referenced Instance Sequence	(0008,114A)	1	The SOP Instances for which storage commitment is requested. One or more Items shall be included in this Sequence.
>>>>Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.

641

642 **J.2 Storage Commitment Response Module**

643 Table J.2-1 specifies the Attributes of the Storage Commitment Response Module.

644

Table J.2-1. Storage Commitment Response Module

Attribute Name	Tag	Type	Attribute Description
Referenced SOP Sequence	(0008,1199)	1C	The SOP Instances for which storage has been committed. Required if the request payload contained the Referenced SOP Sequence (0008,1199), and there is at least one SOP Instance in that supplied sequence for which storage has been committed.
<i>>Table 10-11 "SOP Instance Reference Macro Attributes" in PS3.3</i>			
Failed SOP Sequence	(0008,1198)	1C	The SOP Instances for which storage has not been committed. Required if the request payload contained the Referenced SOP Sequence (0008,1199), and there is at least one SOP Instance in that supplied sequence for which storage has not been committed.
<i>>Table 10-11 "SOP Instance Reference Macro Attributes" in PS3.3</i>			
>Failure Reason	(0008,1197)	1	The reason that storage has not been committed for this SOP Instance. See PS3.3, section C.14.1.1 for possible values.
Referenced Study Sequence	(0008,1110)	1C	The Studies containing Instances for which storage has been committed. Required if the request payload contained the Referenced Study Sequence (0008,1110), and there is at least one SOP Instance for which storage has been committed
>Study Instance UID	(0020,000D)	1	Uniquely identifies the referenced Study.
>Referenced Series Sequence	(0008,1115)	1	The Series containing Instances for which storage has been committed.
>>Series Instance UID	(0020,000E)	1	Uniquely identifies the referenced Series.
>>Referenced Instances by SOP Class Sequence	(0008,1112)	1	The SOP Instances for which storage has been committed grouped by SOP Class.
>>>Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.
>>>Referenced Instance Sequence	(0008,114A)	1	The SOP Instances for which storage has been committed.
>>>>Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.

Failed Study Sequence	(0008,119B)	1C	The Studies containing Instances for which storage has not been committed. Required if the request payload contained the Referenced Study Sequence (0008,1110), and there is at least one SOP Instance in that supplied sequence for which storage has not been committed.
>Study Instance UID	(0020,000D)	1	Uniquely identifies the referenced Study.
>Referenced Series Sequence	(0008,1115)	1	The Series containing Instances for which storage has not been committed.
>>Referenced Series Instance UID	(0020,000E)	1	Uniquely identifies the referenced Series.
>>Referenced Instances by SOP Class Sequence	(0008,1112)	1	The SOP Instances for which storage has not been provided grouped by SOP Class.
>>>Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.
>>>Referenced Instance Sequence	(0008,114A)	1	The SOP Instances for which storage has not been committed.
>>>>Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.
>>>>Failure Reason	(0008,1197)	1	The reason that storage has not been committed for this SOP Instance.

645

646

647

Changes to NEMA Standards Publications PS 3.2

648

Add new subsection to N.1.3.

649

N DICOM Conformance Statement Template (Normative)

650 ...

651 **N.1 Overview**

652 ...

653 **N.1.3 DICOM Web Services**

654 ...

655 **N.1.3.5 Storage Commitment Service**

656 Table N.1.3.5-1 lists details on the support of the Storage Commitment Service.

657 *[Complete Table N.1.3.5-1 to indicate support for the Storage Commitment Web Service.]*

658

Table N.1.3.5-1. Storage Commitment Service

Service	Transaction	Resource	User Agent	Origin Server
Storage Commitment Service	<i>Request</i>	commitment-requests		
	<i>Result Check</i>	commitment-requests		

659

660

661

Add a new subsection on the Storage Commitment Service to section N.5.3 Supported DICOM Web Services

662

663 **N.5 Service and Interoperability Description**

664 ...

665 **N.5.3 Supported DICOM Web Services**

666 ...

667 **N.5.3.6 Storage Commitment Web Service**

668 This section provides details regarding the Storage Commitment Web Service. For an overview of supported Transactions and resources see Table N.1.3.5-1 Storage Commitment Service.

670 **N.5.3.6.1 Request Transaction – Storage Commitment Service**

671 **N.5.3.6.1.1 User Agent**

672 The Request Transaction user agent can request resources listed in Table N.5.3.6.1.1-1.

673 *[List the supported resources for your Storage Commitment Request Transaction user agent. Remove the non-supported resources rows. Fill in information on your implementation in the Comments column when necessary.]*

674

675 **Table N.5.3.6.1.1-1. Resources for Request Transaction – User Agent**

Resource	Comments
	See Resources path in Table 13.1.1-1 in PS3.18
<i>Commitment-requests</i>	

676

677 The Request Transaction user agent supports Header Fields listed in Table N.5.3.6.1.1-2.

678 *[List the supported Header Fields and their supported Values. Fill in information on your implementation in the “Com-*
679 *ments” column when necessary.]*

680 **Table N.5.3.6.1.1-2. Header Fields for Request Transaction – User Agent**

Header Field	Supported Values	Comments
Content-Type	<i>application/dicom+json</i> <i>application/dicom+xml</i> <i>multipart/related; type="application/dicom+json"</i> <i>multipart/related; type="application/dicom+xml"</i>	
Content-Length		<i>[If Content-Encoding is not present]</i>
Content-Encoding		<i>[If Content-Length is not present]</i>

681

682 **N.5.3.6.1.2 Origin Server**

683 The Request Transaction origin server receives POST requests for storage commitment of the referenced
684 SOP Instances.

685 The user agent specifies the Target Resource as part of the URI and specifies the UIDs of the SOP In-
686 stances as part of the data in the request body with an appropriate Content-Type (i.e., XML or JSON).

687 The URI is composed by a Base URI: See Base URI for the origin server in Section N.6.3.5.

688 The Request Transaction origin server supports resources listed in Table N.5.3.6.1.2-1.

689 *[Fill in information on your implementation in the Comments column when necessary.]*

690 **Table N.5.3.6.1.2-1. Resources for Request Transaction – Origin Server**

Resource	Comments
	See Resources path in Table 13.1.1-1 in PS3.18
<i>commitment-requests</i>	

691

692 The Request Transaction origin server supports Header Fields listed in Table N.5.3.6.1.2-2.

693 *[List the supported Header Fields and their supported Values. Fill in information on your implementation in the “Com-*
694 *ments” column when necessary.]*

695 **Table N.5.3.6.1.2-2. Header Fields for Request Transaction – Origin Server**

Header Field	Supported Values	Comments
Content-Type	<i>application/dicom+json</i> <i>application/dicom+xml</i>	

	<i>multipart/related; type="application/dicom+json"</i>	
	<i>multipart/related; type="application/dicom+xml"</i>	
Content-Length		<i>[If Content-Encoding is not present]</i>
Content-Encoding		<i>[If Content-Length is not present]</i>

696

697 **N.5.3.6.2 Result Check Transaction – Storage Commitment Service**

698 **N.5.3.6.2.1 User Agent**

699 The resources and header fields supported by the user agent for the Result Check Transaction are the
700 same as for the Request Transaction; see section N.5.3.6.1.1.

701 **N.5.3.6.2.2 Origin Server**

702 The Result Check Transaction origin server receives GET requests to check whether there is a result for
703 a storage commitment request.

704 The Base URI, resources, and header fields supported by the origin server for the Result Check Transac-
705 tion are the same as for the Request Transaction; see section N.5.3.6.1.2.

706 **Add a new subsection on the Storage Commitment Service to section N.6.3 Configuration of DI-**
707 **COM Web Services.**

708 ...

709 **N.6 Configuration**

710 ...

711 **N.6.3 Configuration of DICOM Web Services**

712 ...

713 **N.6.3.5 Storage Commitment Service Configuration**

714 **N.6.3.5.1 Request Transaction Configuration**

715 Table N.6.3.5-1 lists configuration parameters for the Request Transaction of the Storage Commitment
716 Service:

717 *[Remove the unsupported parameters from the local and remote configuration parameters.]*

718 **Table N.6.3.5-1. Request and Result Check Transaction Parameters**

Local Configuration Parameters – Request and Result Check Transaction			
Parameter	Configurable	Default Value	Comments
	<i><<USER SERVICE FIXED>></i>	<i>[If there is no default, leave blank]</i>	<i>[Provide comments or Values/ranges if applicable]</i>
<i>Commit local Origin Server URL (Base URI)</i>	<i>FIXED</i>	<i>http://<host-name>:<port>/commitment-requests</i>	
<i>Port</i>	<i>SERVICE</i>	<i>8081</i>	

Secured Commit local Origin Server URL (Base URI)	SERVICE		
Secured Port	SERVICE		
Result Availability Duration	FIXED	24	The number of hours that the storage commitment request result is guaranteed to be retrievable from the origin server.
<Specific Storage Commitment Service parameter>			
Remote Configuration Parameters – Request and Result Check Transaction			
[Either document the number of supported remote hosts, e.g <Product> supports configuration of up to <X> remote hosts or state that there is no limitation other than the ones mandated by the operating system.]			
Parameter	Configurable	Default Value	Comments
	<<USER SERVICE FIXED>>	[If there is no default, leave blank]	[Provide comments or Values/ranges if applicable]
Commit remote Origin Server URL	USER		
Port	USER		
Secured Commit Remote Origin Server URL	SERVICE		
Secured Port	SERVICE		
Result Availability Duration	FIXED	24	The number of hours that the storage commitment request result is guaranteed to be retrievable from the origin server.
<Specific Storage Commitment Service parameter>			

719

720 **N.6.3.5.2 Result Check Transaction Configuration**

721 Table N.6.3.5-1 lists configuration parameters for the Result Check Transaction of the Storage Commit-
722 ment Service.

723 **Add a new subsection on the Storage Commitment Service to section N.7.3.3 DICOM Web Ser-**
724 **VICES.**

725 **N.7 Network and Media Communication Details**

726 ...

727 **N.7.3 Status Codes**

728 ...

729 **N.7.3.3 DICOM Web Services**

730 ...

731 **N.7.3.3.6 Storage Commitment Service**

732 **N.7.3.3.6.1 Request Transaction as Origin Server**

733 Table N.7.3.3.6.1-1 lists the Status Codes that an origin server supports for the Request Transaction of
734 the Storage Commitment Service and the condition in which any of the listed Status Codes is sent.

735 *[Describe below the condition in which the application sends the specific Status Codes in the Request Transaction*
736 *response as origin server.]*

737 **Table N.7.3.3.6.1-1. Status Codes of Origin Server for Request Transaction**

Status	Code	Condition
Success	200 (OK)	The origin server finished processing the storage commitment request
	202 (Accepted)	The origin server has not finished processing the storage commitment request yet
Failure	400 (Bad Request)	The origin server cannot handle the storage commitment request because of errors in the request headers or parameters
	409 (Conflict)	The origin server cannot handle the storage commitment request because the provided transaction UID is already in use
	503 (Service Unavailable)	The origin server cannot handle the storage commitment request; this may be a temporal or permanent state

738

739 **N.7.3.3.6.2 Request Transaction as User Agent**

740 Table N.7.3.3.6.2-1 lists the Status Codes that a user agent supports for the Request Transaction of the
741 Storage Commitment Service and defines the application behavior, when encountering any of the listed
742 Status Codes.

743 *[Describe below the behavior of the application when it receives various Status Codes in the Request Transaction*
744 *response.]*

745 **Table N.7.3.3.6.2-1. Status Codes of User Agent for Request Transaction**

Status	Code	Behavior
Success	200 (OK)	Mark all SOP Instances for which the origin server committed safe storage as ready for deletion
	202 (Accepted)	Retry later to get the result of the request
Failure	400 (Bad Request)	Reformat the request to proper HTTP
	409 (Conflict)	Retry with another transaction UID
*	Any other code	Do further analysis

746

747 **N.7.3.3.6.3 Result Check Transaction as Origin Server**

748 Table N.7.3.3.6.3-1 lists the Status Codes that an origin server supports for the Result Check Transaction
749 of the Storage Commitment Service and the condition in which any of the listed Status Codes is sent.

750 *[Describe below the condition in which the application sends the specific Status Codes in the Result Check Transac-*
751 *tion response as origin server.]*

752 **Table N.7.3.3.6.3-1. Status Codes of Origin Server for Result Check Transaction**

Status	Code	Condition
Success	200 (OK)	The origin server finished processing the storage commitment request
	202 (Accepted)	The origin server has not finished processing the storage commitment request yet
Failure	404 (Not Found)	The origin server cannot find the storage commitment request result
	410 (Gone)	The origin server can no longer provide the storage commitment request result
	503 (Service Unavailable)	The origin server cannot handle the result check request; this may be a temporary or permanent state

753

754 **N.7.3.3.6.4 Result Check Transaction as User Agent**

755 Table N.7.3.3.6.4-1 lists the Status Codes that a user agent supports for the Result Check Transaction of
756 the Storage Commitment Service and defines the application behavior when encountering any of the
757 listed Status Codes.

758 *[Describe below the behavior of the application when it receives various Status Codes in the Result Check Transac-*
759 *tion response.]*

760 **Table N.7.3.3.6.4-1. Status Codes of User Agent for Result Check Transaction**

Status	Code	Behavior
Success	200 (OK)	Mark all SOP Instances for which the origin server committed safe storage as ready for deletion
	202 (Accepted)	Retry later to get the result of the request
Failure	404 (Not Found)	Start all over with a storage commitment request
	410 (Gone)	Start all over with a storage commitment request
*	Any other code	Do further analysis

761

762

763

Changes to NEMA Standards Publications PS 3.4

764

Adapt the text on DIMSE Storage Commitment in section J.1.1 to be consistent with this supplement.

765

766 **J.1.1 Scope**

767 ...

768 Once the SCP has ~~accepted the~~ committed to store the SOP Instances, the SCU may decide that it
769 is appropriate to delete its copies of the SOP Instances. These types of ~~policies~~ behaviors are outside
770 the scope of this Standard, however, the SCU is required to document these ~~policies~~ behaviors in its
771 Conformance Statement.

772

773

Changes to NEMA Standards Publications PS 3.6

774

Add the new attributes to table 6-1 of section 6.

775

6 Registry of DICOM Data Elements

776 ...

777

Table 6-1. Registry of DICOM Data Elements

Tag	Name	Keyword	VR	VM	
...					
(0008,1112)	<u>Referenced Instances by SOP Class Sequence</u>	<u>ReferencedInstancesBySOPClassSequence</u>	<u>SQ</u>	<u>1</u>	
(0008,119B)	<u>Failed Study Sequence</u>	<u>FailedStudySequence</u>	<u>SQ</u>	<u>1</u>	
...					

778