Rationale for Correction:
In multiple instances of DICOM PS3.18 2021d, references have been made to Content-Encoding, coupled with Content-Length, to suggest that either one has to be present, not both, to indicate the presence of a payload in a DICOM HTTP message. Content-Length and Content-Encoding header fields do not share an XOR relationship, whereas Content-Length and Transfer-Encoding do.

"The presence of a message body in a request is signaled by a Content-Length or Transfer-Encoding header field."
(https://datatracker.ietf.org/doc/html/rfc7230#section-3.3)

"When a message does not have a Transfer-Encoding header field, a Content-Length header field can provide the anticipated size, as a decimal number of octets, for a potential payload body."

"A sender MUST NOT send a Content-Length header field in any message that contains a Transfer-Encoding header field."

"A user agent SHOULD send a Content-Length in a request message when no Transfer-Encoding is sent and the request method defines a meaning for an enclosed payload body."
(https://datatracker.ietf.org/doc/html/rfc7230#section-3.3.2)

Content-Encoding has more to do with payload representation, and is not indicative of presence of payload. Content-Encoding can exist without any dependency on Content-Length.

Reference RFC7231 3.1.2.2. Content-Encoding
(https://datatracker.ietf.org/doc/html/rfc7231#section-3.1.2.2)

It can also be seen that pre-2019b re-doc of Part-18, the references to Transfer-Encoding were correct.
8.1.1.5 Request Payload

The payload of the request is an octet-stream containing the content of the message. See Section 8.6. The presence of a payload in a request is signaled by a Content-Length or Content-Transfer-Encoding header field.

8.4.3 Payload Header Fields

The Payload Header Fields contain metadata describing the payload, not the representation it contains. Table 8.4.3-1 describes the payload header fields, and the usage requirements (Mandatory, Conditional, or Optional) for when they shall be present.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Specifies the decimal number of octets in the payload. If the response message has a payload and does not have a Content-Transfer-Encoding header field, it shall have a Content-Length header field specifying the length in octets (bytes) of the payload. Shall not be present if the message has a Content-Transfer-Encoding header field. Shall be present otherwise, even if the size of the payload is zero.</td>
</tr>
<tr>
<td>Content-Range</td>
<td>range</td>
<td>C</td>
<td>Specifies the range of a partial representation contained in a payload. See [RFC7233] Section 4.2. The Content-Range header field is sent in a single part 206 (Partial Content) response to indicate the partial range of the selected representation enclosed as the message payload. It is sent in each part of a multipart 206 response to indicate the range enclosed within each body part. It is sent in 416 (Range Not Satisfiable) responses to provide information about the selected representation.</td>
</tr>
<tr>
<td>Transfer-Encoding</td>
<td>encoding</td>
<td>C</td>
<td>See [RFC7230] Section 3.3.1. Shall be present if transfer-encodings have been applied to the payload.</td>
</tr>
</tbody>
</table>

8.6 Payloads

Both request and response messages may have message bodies. The message body (if any) of an HTTP message is used to carry the payload of the message. The message body is identical to the payload unless a content coding has been applied, as described in [RFC7230] Section 3.3.1. This Part of the Standard uses the term "payload" to denote the message body before any content coding has been applied to it.

A message may or may not have a payload. A payload may be empty; that is, its length is zero. If a message has no payload, then the message shall have neither Content-Transfer-Encoding nor Content-Length header fields. If a message has a payload to which a transfer-coding has been applied, then the message shall have a Content-Transfer-Encoding header field. If a message has a payload that has not had a transfer-coding applied, then the message shall have a Content-Length header field.

Any message containing a payload shall have appropriate Content Representation [RFC7231] Section 3.1 and Payload Header Fields [RFC7231] Section 3.3.
8.6.1.2 Multipart Payload

A message with a multipart payload contains one or more representations. Each representation goes in a separate part.

A message with a multipart payload shall have a Content-Type header field with a multipart media-type.

The media type of the root representation (see [RFC2387]) may be specified by the Content-Type header field of the message. If no root parameter is specified, then the root representation is the first representation in the payload.

Each part in a multipart payload shall start with a boundary string, followed by a Content-Type header field with a single part media type (see Section 8.7.3), followed by other fields as specified in Table 8.6.1-1. See also Figure 8.6-1. Other header fields may be included.

Note

Understanding the nature of an encoded Bulkdata resource may depend on the corresponding Metadata reference to the bulkdataURI and is not necessarily implicit in the Content-Type header field.

The Content-Location is used to identify the specific resource (e.g. down to the level of a specific frame or instance or bulkdataURI) represented in this part. This allows the payload recipient to distinguish the parts, for example when each part contains a different frame of a requested multi-frame instance.

Note

1. The metadata in the response of a Search Transaction is not considered a representation of a resource, so a Content-Location is not required.
2. In the case of a rendered resource, the Content-Location will identify the resource from which the rendering was generated.

Table 8.6.1-1. Multipart Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td><strong>Content-Encoding</strong></td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if the response payload has a content encoding</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if the response payload does not have a content transfer encoding</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>C</td>
<td>Shall be present if the response payload contains a representation of a resource. See [RFC7231] Section 3.1.4.2.</td>
</tr>
<tr>
<td>Location</td>
<td>url</td>
<td>C</td>
<td>See [RFC7231] Section 7.1.2.</td>
</tr>
</tbody>
</table>

8.6.1.2.1 Multipart Payload Syntax

The syntax of a multipart payload is:

```
multipart-payload = 1*(DASH boundary CRLF part CRLF) DASH boundary DASH
```

Where

```
DASH = "--"
```
boundary = 0*69(bchar / SP) bchar
bchar = DIGIT / ALPHA / "'" / "(" / ")" / "+" / "-" / "," / ":" / ",=" / ",?"
; The legal boundary characters
part = Content-Type: media-type CRLF
      Content-Location: url CRLF
      (Content-Length: uint CRLF / ContentTransfer-Encoding: encoding CRLF)
      [Content-Description: text CRLF]
      *(header-field CRLF)
      CRLF
      part-payload
payload = *OCTET

For example, if the boundary is "++++", then a message payload containing three parts would be structured as follows:

---++++CRLF
Content-Type: media-type CRLF
Content-Location: url CRLF
(Content-Length: uint CRLF / ContentTransfer-Encoding: encoding CRLF)
[Content-Description: {description} CRLF]
CRLF
payload CRLF
---++++CRLF
Content-Type: media-type CRLF
. . .
payload CRLF
---++++CRLF
Content-Type: media-type CRLF
. . .
payload CRLF
---++++--

8.9.3 Response

The format of the response is as follows:

version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[Content-Length: uint) / (ContentTransfer-Encoding: encoding) CRLF]
*(header-field CRLF)
CRLF
[payload / status-report]
8.9.3.1.1 Response Header Fields

Table 8.9.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>The media-type of the payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has not been applied to the payload</td>
</tr>
<tr>
<td><code>ContentTransfer-</code></td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
</tbody>
</table>

9.4.3 Response

version SP status-code SP reason-phrase

[Content-Type: media-type CRLF]

[(Content-Length: uint / `ContentTransfer-`Encoding: encoding) CRLF]

Content-Location: url CRLF
*(header-field CRLF)
CRLF
[payload / status-report]

9.4.3.2 Response Header Fields

The origin server shall support header fields as required in Table 9.4.3-2.

Table 9.4.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>The media-type of the payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>M</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has not been applied to the payload</td>
</tr>
<tr>
<td><code>ContentTransfer-</code></td>
<td>encoding</td>
<td>M</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
</tbody>
</table>

9.5.3 Response

version SP status-code SP reason-phrase
9.5.3.2 Response Header Fields

The origin server shall support header fields as required in Table 9.5.3-2.

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>Shall be present if the response contains a payload. See Section 8.4.3.</td>
</tr>
<tr>
<td>ContentTransfer- Encoding</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if the response payload has a contenttransfer encoding. See Section 8.4.3.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if the response payload does not have a contenttransfer encoding. See Section 8.4.3.</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>C</td>
<td>Shall be present if the response has a payload containing a resource. See Section 8.4.3.</td>
</tr>
</tbody>
</table>

10.4.3 Response

The response shall have the following syntax:

version SP status-code SP reason-phrase CRLF

[Content-Type: media-type CRLF]

[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]

[Content-Location: url CRLF]

*(header-field CRLF)

CRLF

payload / status-report

10.5.1 Request

The request shall have the following syntax:
POST SP "/" {/resource} SP version CRLF
Accept: 1#media-type CRLF
Content-Type: dicom-media-type CRLF
(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF
*(header-field CRLF)
CRLF
payload

10.5.1.3 Request Header Fields
The origin server shall support Header Fields as required in Table 10.5.1-2.
The user agent shall supply in the request Header Fields as required in Table 10.5.1-2.

<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>M The DICOM Media Type of the request payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>M Shall be present if the request has a payload</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>M Shall be present if a contenttransfer encoding has not been applied to the payload</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.5.3 Response
The response shall have the following syntax:
version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[(Content-Length: uint CRLF / ContentTransfer-Encoding: encoding CRLF) ]
*(header-field CRLF)
CRLF
store-instances-response-module
The response shall contain an appropriate status code.
If any element is coerced or corrected, the Original Attribute Sequence (0400,0561) shall be included in the DICOM Object that is stored and may be included in the Store Instances Response Module (see Annex I) in the response.
10.5.3.2 Response Header Fields

The origin server shall support header fields as required in Table 10.5.3-2.

**Table 10.5.3-2. Response Header Fields**

<table>
<thead>
<tr>
<th>Name</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M The media type of the response payload, if present.</td>
</tr>
<tr>
<td>Content-Transfer-Encoding</td>
<td>encoding</td>
<td>C Shall be present if the response payload has a content transfer encoding. See Section 8.4.3.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C Shall be present if the response payload does not have a content transfer encoding. See Section 8.4.3.</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>C Shall be present if a new resource was created. The value is the URL of the representation contained in the request payload. May be present otherwise</td>
</tr>
<tr>
<td>Location</td>
<td>url</td>
<td>C Shall be present if a new resource was created. The value is the URL of the created resource. May be present otherwise</td>
</tr>
</tbody>
</table>

10.6.3 Response

The response shall have the following syntax:

```
version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[Content-Location: url CRLF]
[(Content-Length: uint / Content-Transfer-Encoding: encoding) CRLF]
*(header-field CRLF)
CRLF
[payload / status-report]
```

10.6.3.2 Response Header Fields

The origin server shall support header fields as required in Table 10.6.3-2.

**Table 10.6.3-2. Response Header Fields**
<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 11.4.1 Request

The request shall have the following syntax:

POST SP /workitems ?{workitem} SP version CRLF
Accept: dicom-media-type CRLF
Content-Type: dicom-media-type CRLF
(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF
*(header-field CRLF)
CRLF

**Workitem**

The user agent shall conform to the SCU behavior specified in Section CC.2.5.2 “Service Class User Behavior” in PS3.4.

### 11.4.1.3 Request Header Fields

The origin server shall support header fields in Table 11.4.1-3.

The user agent shall supply in the request header fields as defined in Table 11.4.1-3.

**Table 11.4.1-3. Request Header Fields**

<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See also Section 8.4.
11.4.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.4.3-2.

Table 11.4.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Names</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>Shall be present if the response has a payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if a contenttransfer coding has not been applied to the payload</td>
</tr>
<tr>
<td>ContentTransfer-Encoding</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if contenttransfer encoding has been applied to the payload</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>O</td>
<td>Shall be present if the response has a payload containing a resource. See Section 8.4.3. May be present otherwise</td>
</tr>
<tr>
<td>Location</td>
<td>url</td>
<td>C</td>
<td>A URL-reference to the created Workitem. Shall be present if a Workitem was created. May be present if the payload contains a resource</td>
</tr>
<tr>
<td>Warning</td>
<td>See below</td>
<td>C</td>
<td>Shall be present if the Target Workitem was modified by the origin server and shall include the warning below</td>
</tr>
</tbody>
</table>

If the Target Workitem was modified by the origin server, the response shall also have the following Warning header:

Warning: 299 <service>: The Workitem was created with modifications.CRLF

See also Section 8.4.

11.5.3 Response

The response shall have the following syntax:

version SP status-code SP reason-phrase CRLF
[Content-Type: dicom-media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
[Content-Location: url CRLF]
*(header-field CRLF)
CRLF
[workitem / status-report]
11.5.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.5.3-2.

Table 11.5.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M                              media type of the Target Workitem or Status Report in payload</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>O                              Shall be present if the response has a payload containing a resource. See Section 8.4.3. May be present otherwise</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C                              Shall be present if no <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C                              Shall be present if a <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
<tr>
<td>Encoding</td>
<td>encoding</td>
<td></td>
</tr>
</tbody>
</table>

See also Section 8.4.

11.6.1 Request

The request shall have the following syntax:

```
POST /workitems/{workitem}?{transaction-uid} SP version CRLF
Content-Type: dicom-media-type CRLF
(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF
Content-Location: url CRLF
*(header-field CRLF)
CRLF
Payload
```

The user agent shall conform to the SCU behavior specified in Section CC.2.6.2 “Service Class User Behavior” in PS3.4.

11.6.1.3 Request Header Fields

The origin server shall support header fields as required in Table 11.6.1-1.

The user agent shall supply in the request header fields as defined in Table 11.6.1-1.

Table 11.6.1-1. Request Header Fields
### Table 11.6.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>The media-type of the payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if no <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
<tr>
<td><code>ContentTransfer-Encoding</code></td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has been applied to the payload</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>O</td>
<td>Shall be present if the response has a payload containing a resource. See Section 8.4.3. May be present otherwise</td>
</tr>
</tbody>
</table>

See also Section 8.4.
### 11.7.1 Request

The request shall have the following syntax:

```
PUT SP /workitems/{workitem}/state SP version CRLF
Content-Type: dicom-media-type
(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF
*(header-field CRLF)
CRLF
```

**Payload**

The user agent shall conform to the SCU behavior specified in Section CC.2.1.2 “Service Class User Behavior” in PS3.4.

### 11.7.1.3 Request Header Fields

The origin server shall support header fields as required in Table 11.7.1-1.

The user agent shall supply in the request header fields as defined in Table 11.7.1-1.

**Table 11.7.1-1. Request Header Fields**

<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>The Acceptable Media Types of the response payload</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if a <code>ContentTransfer-Encoding</code> encoding has not been applied to the payload</td>
</tr>
<tr>
<td><code>ContentTransfer-Encoding</code></td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a <code>ContentTransfer-Encoding</code> encoding has been applied to the payload</td>
</tr>
</tbody>
</table>

See also Section 8.4.

### 11.7.3 Response

The response shall have the following syntax:
version SP status-code SP reason-phrase CRLF

[Content-Type: dicom-media-type CRLF]

[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]

*(header-field CRLF) CRLF

[status-report]

### 11.7.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.7.3-2.

**Table 11.7.3-2. Response Header Fields**

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>The media-type of the payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if no contenttransfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td><strong>ContentTransfer</strong>-Encoding</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a contenttransfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>O</td>
<td>Shall be present if the response has a payload containing a resource. See Section 8.4.3. May be present otherwise.</td>
</tr>
<tr>
<td>Warning</td>
<td>text</td>
<td>C</td>
<td>See below.</td>
</tr>
</tbody>
</table>

### 11.8.1 Request

The request shall have the following syntax:

POST SP /workitems/{workitem}/cancelrequest SP version CRLF

Content-Type: dicom-media-type

(Content-Length: uint / **ContentTransfer**-Encoding: encoding) CRLF

*(header-field CRLF)

CRLF

[Payload]

The user agent shall conform to the SCU behavior specified in Section CC.2.2.2 “Service Class User Behavior” in PS3.4.
11.8.1.3 Request Header Fields

The origin server shall support header fields as required in Table 11.8.1-1.
The user agent shall supply in the request header fields as defined in Table 11.8.1-1.

Table 11.8.1-1. Request Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>User Agent</td>
<td>Origin Server</td>
</tr>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See also Section 8.4.

11.8.3 Response

The response shall have the following syntax:

version SP status-code SP reason-phrase CRLF

[Content-Type dicom-media-type CRLF]

[Content-Type: dicom-media-type CRLF]

[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]

[Content-Location: url CRLF]

*(header-field CRLF) CRLF

[status-report]

11.8.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.8.3-2.

Table 11.8.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>The media type of the Status Report document. Shall be present if the response contains a payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if a contenttransfer encoding has not been applied to the payload.</td>
</tr>
</tbody>
</table>
If the WorkItem Instance is already in a canceled state, the response message shall include the following HTTP Warning header field:

Warning: 299 <service>: The UPS is already in the requested state of CANCELED.

See also Section 8.4.

### 11.9.3 Response

The response shall have the following syntax:

```
version SP status-code SP reason-phrase CRLF
[Content-Type: dicom-media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
[Content-Location: url CRLF]
*(header-field CRLF)
CRLF
[search-results / status-report]
```

### 11.9.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.9.3-2.

<table>
<thead>
<tr>
<th>Name</th>
<th>center</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>The media-type of the payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>Uint</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> coding has not been applied to the payload.</td>
</tr>
<tr>
<td>ContentTransfer-Encoding</td>
<td>Encoding</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has been applied to the payload.</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>C</td>
<td>Shall be present if the response has a payload containing a resource. See Section 8.4.3.</td>
</tr>
</tbody>
</table>

May be present otherwise.

See also Section 8.4.
11.10.3 Response

The response shall have the following syntax:

version SP status-code SP reason-phrase CRLF

[Content-Type: media-type CRLF]

[(Content-Length: uint / Content-Transfer-Encoding: encoding) CRLF]

[Content-Location: url CRLF]

*(header-field CRLF)

CRLF

[status-report]

11.10.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.10.3-2.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>Shall be present if the response contains a payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>Uint</td>
<td>C</td>
<td>Shall be present if a transfer encoding has not been applied to the payload.</td>
</tr>
<tr>
<td>Transfer-Encoding</td>
<td>Encoding</td>
<td>C</td>
<td>Shall be present if a transfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>Content-Location</td>
<td>url</td>
<td>C</td>
<td>A URL-reference to the WebSocket Connection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shall be present if a Subscription was created.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The URL shall include the WebSocket protocol (either WS or WSS) and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>may include a combination of authority and path.</td>
</tr>
<tr>
<td>Warning</td>
<td>String</td>
<td>C</td>
<td>See below.</td>
</tr>
</tbody>
</table>

If the Create Subscription request was accepted but the Deletion Lock was not, the response shall include the following Warning header field:

Warning: 299 <service>: Deletion Lock not granted.

and may include a Status Report.

If the request was rejected with a 403 status code because Filtered Worklist Subscription is not supported, the response shall include the following Warning header field:

Warning: 299 <service>: Filtered Worklist Subscriptions are not supported.

See also Section 8.4.
11.11.3 Response

The response shall have the following syntax:

```
version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
[Content-Location: url CRLF]
*(header-field CRLF)
CRLF
[status-report]
```

11.11.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.11.3-2.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>The media-type of the response payload.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shall be present if the response has a payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if no contenttransfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a contenttransfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warning</td>
<td>text</td>
<td>O</td>
<td>A warning message.</td>
</tr>
</tbody>
</table>

See also Section 8.4.

11.12.3 Response

The response shall have the following syntax:

```
version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
[Content-Location: url CRLF]
*(header-field CRLF)
CRLF
```
11.12.3.2 Response Header Fields

The origin server shall support header fields as required in Table 11.12.3-2.

Table 11.12.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>C</td>
<td>The media-type of the response payload. Shall be present if the response has a payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if no content transfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>ContentTransfer-Encoding</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a content transfer encoding has been applied to the payload.</td>
</tr>
<tr>
<td>Warning</td>
<td>text</td>
<td>O</td>
<td>A warning message.</td>
</tr>
</tbody>
</table>

See also Section 8.4.

12.4.3 Response

The response has the following syntax:

version SP status-code SP reason-phrase CRLF
[Content-Type: dicom-media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
[Content-Location: url CRLF]
*(header-field CRLF
CRLF
[payload / status-report]

12.4.3.2 Response Header Fields

Table 12.4.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Header Field</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>The media-type of the response payload.</td>
</tr>
</tbody>
</table>
12.5.1 Request

The request shall have the following syntax:

```
POST SP /{npi-name} {/uid} SP version CRLF
Content-Type: dicom-media-type CRLF
(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF
CRLF
payload
```

12.5.1.3 Request Header Fields

**Table 12.5.1-2. Request Header Fields**

<table>
<thead>
<tr>
<th>Name</th>
<th>Values</th>
<th>Usage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>User Agent</td>
<td>Origin Server</td>
</tr>
<tr>
<td>Content-Type</td>
<td>media-type</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>ContentTransfer-</td>
<td>encoding</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Encoding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See also Section 8.4.

12.5.3 Response

The response shall have the following syntax:

```
version SP status-code SP reason-phrase CRLF
[Content-Type: media-type CRLF]
[(Content-Length: uint / ContentTransfer-Encoding: encoding) CRLF]
```
12.5.3.2 Response Header Fields

Table 12.5.3-2. Response Header Fields

<table>
<thead>
<tr>
<th>Header Field</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Type</td>
<td>dicom-media-type</td>
<td>M</td>
<td>The media type of the response payload.</td>
</tr>
<tr>
<td>Content-Length</td>
<td>uint</td>
<td>C</td>
<td>Shall be present if a content transfer encoding has not been applied to the payload</td>
</tr>
<tr>
<td>Content-Transfer- Encoding</td>
<td>encoding</td>
<td>C</td>
<td>Shall be present if a content transfer encoding has been applied to the payload</td>
</tr>
</tbody>
</table>

See also Section 8.4.

12.6.3 Response

The response shall have the following syntax:

version SP status-code SP reason-phrase CRLF

[Content-Type: dicom-media-type CRLF]

( Content-Transfer-Encoding: encoding) CRLF

[Content-Location: url CRLF]

*(header-field CRLF

CRLF

[payload / status-report]
<table>
<thead>
<tr>
<th>Header Field</th>
<th>Value</th>
<th>Origin Server Usage</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content-Length</td>
<td>Uint</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> encoding has not been applied to the payload.</td>
</tr>
<tr>
<td><strong>ContentTransfer-Encoding</strong></td>
<td>Encoding</td>
<td>C</td>
<td>Shall be present if a <code>contenttransfer</code> coding has been applied to the payload.</td>
</tr>
</tbody>
</table>

See also Section 8.4.