



Government Gateway Document Submission Protocol

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Revision & Sign-Off Sheet

Change Record

Date	Author	Version	Status	Change Reference
19 Nov 2001		1.0	Baseline	"Protocol States" section replaced. References specific to 3 transactions removed References to GovTalk web site added. URLs updated. Use of ACKNOWLEDGE vs ACKNOWLEDGEMENT made consistent for both submission and delete. Mandatory Body elements added to SUBMISSION_ACKNOWLEDGEMENT and DELETE_ACKNOWLEDGEMENT samples. Ambiguous information clarified and missing information added. Numerous corrections.
13 Mar 2002		1.1	Baseline	Corrected URL references for submission point.
07 Feb 2003	Stefan Delmarco	1.2	Baseline	Corrected examples, optional SenderDetails elements added. Support GovTalk envelope version 2.0.
10 Mar 2003	Stefan Delmarco	2.0	Baseline	Corrected examples, GatewayTimeStamp element. Use of MUST/SHOULD replaced with MANDATORY/OPTIONAL wording.
14 Apr 2003	Stefan Delmarco	2.1	Baseline	Clarified GatewayTimeStamp behaviour regarding GMT to BST and vice versa.
10 Jun 2003	Stefan Delmarco	3.0	Baseline	Minor formatting updates and document re- baselined for publishing.
28 Oct 2003	Alison Menegaldo	3.1	Baseline	Cosmetic changes as requested by EDT
30 Jul 2004	M. Gibson	5.0	Baseline	References to non-customer facing documents removed. Re-baselined at version 5 following rebranding. No change to core text.
21 Feb 2005	F. Price	6.0	Baseline	Minor Cosmetic Changes. Re-versioned at 6.0, no substantive changes to content.
04 May 2005	A. Johnston	7.0	Baseline	Correct section numbering.
04 Nov 2005	A. Johnston	8.0	Baseline	With release 1.6.6 of the Government Gateway the DATA_RESPONSE message can now return Identifiers for each outstanding submission. This is achieved by including the new IncludeIdentifiers element (with a value of "1") in the DATA__REQUEST message.
23 Feb 2006	M Pini	9.0	Baseline	Updated for release 1.6.7 of the Government

				Gateway. Emails sent by the Gateway to notify a user that a response has been received from a service can now be disabled for each transaction class. Some clarifications added to document.
28 Feb 2007	M. Allen	1.0	Baseline	Government Gateway Customer Document Set standardisation. Note: Version numbers reset to 1.0.
02 Mar 2007	M Pini	2.0	Baseline Candidate	Document re-issued (without change) for release 2.0 of the Gateway
02 Jul 2007	M Pini	2.1	Baseline	Updated to reflect rewrite of Gateway Transactions Engine (which includes DSP) and to simplify/clarify documentation.
04 Sep 2007	M Pini	2.2	Baseline Candidate	MR200-01 updates + corrections/clarification identified by HMRC.
03 Oct 2007	M Pini	2.2	Baseline	Full update history added to document. Document Published.
06 Aug 2007	M Pini	3.0	Baseline Candidate	Document re-issued (without change) for release 2.2 of the Gateway.
28 Nov 2007	M Pini	3.1	Baseline Candidate	Updated for release 2.2 of the Gateway: support for DRM Users. In addition the GovTalk Envelope schema is no longer included – instead a link to GovTalk website is provided.
06 Mar 2008		3.1	Baseline	Published

Document Status has the following meaning:

- **Drafts** – These are documents for review and liable to significant change.
- **Baseline Candidate** – The document is ready for final issuing and is only expected to have further minor updates.
- **Baseline** – The document is published and is not expected to change significantly. All changes will be listed in the change record table.

Reviewers

Name	Version Approved	Position	Date
Adrian Johnston and Tony Miller	2.1	EDT	02/07/07
Judith Daley	2.1	HMRC	23/06/07
Judith Daley	2.2	HMRC	01/10/07
Adrian Johnston and Tony Miller	3.1	EDT	23/01/08

Document History

Previous editions of the Government Gateway Customer Documentation Set have included the following documents:

Gateway Document Submission Protocol

This document, GGTE011 Government Gateway Document Submission Protocol replaces the document listed above.

Note: This pdf document is created directly from the UK Government Gateway ISV Developer help (.chm) file. It is not available in Word format.

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1 Introduction

Purpose of the Document

This document describes the Document Submission Protocol implementation used by the Government Gateway. Any further refinements and modifications to this protocol will appear in subsequent revisions of this document. This document shows, and any future versions will continue to show, any changes that are made between the various revisions of this protocol in order to provide technical information to assist with migrating to future versions of the protocol.

Intended Readership

This document is intended for architects, ISV developers and other parties interested in building Gateway client applications.

Note: The information in this document is also included in the ISV developer on-line help (.chm) file available on request from the EDT.

Glossary of Terms

See **Appendix** (Section 8).

2 Document Submission Protocol

Document Submission Protocol

The Document Submission Protocol (DSP) routes business transactions (e.g. Self assessment tax forms) submitted from either a Department **Portal** (e.g. the HMRC Online service Web site) or directly from an **ISV application**, through the Gateway, to the appropriate Department (back-end) system and retrieves the corresponding response.

GovTalk Protocol

DSP uses the GovTalk Message Envelope to encapsulate business transaction documents. The full description of the GovTalk 2.0 Envelope schema is available at

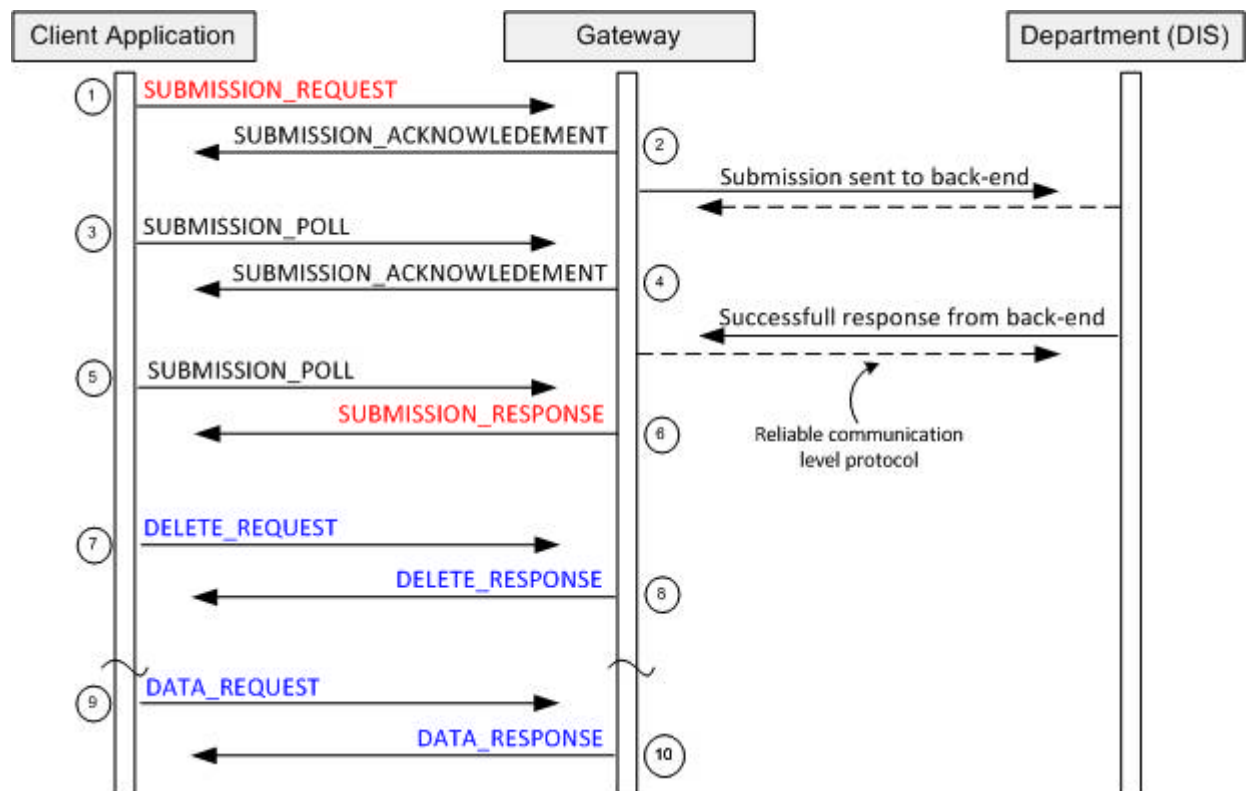
http://www.govtalk.gov.uk/schemasstandards/schemalibrary_list.asp?subjects=11.

GovTalk documents are XML formatted and use the UTF-8 encoding standard. Messages are transported across the network using the Hypertext Transport Protocol (HTTP). Portals, ISV applications and Departments (DIS) must be capable of generating HTTP 1.1 POST requests and receiving and interpreting HTTP 1.1 response messages.

2.1 Document Submission Message Sequence

Introduction

This is the typical sequence followed when a client application submits a document to a Target Spoke (i.e. a Department service) – assuming there are no errors.



Submission Sequence

Step	Action
1	A SUBMISSION_REQUEST is sent to the Gateway to indicate that a new document is being submitted for processing.
2	The Gateway replies to the client with a SUBMISSION_ACKNOWLEDGEMENT only once it has validated the GovTalk header (include credentials if required). The SUBMISSION_ACKNOWLEDGEMENT includes a CorrelationID to the client application which the client can use as an identifier for this document in future poll requests. The Gateway sends the submission on to the destination Department (DIS).
3	The client application waits for the period specified in the PollInterval attribute of the GovTalk header of the SUBMISSION_ACKNOWLEDGEMENT message. Then checks the progress of the submission using the SUBMISSION_POLL message.
4	The Gateway has not completed processing the message so again replies with a SUBMISSION_ACKNOWLEDGEMENT to indicate this to the client application.
5	The client application again waits for period specified in the PollInterval attribute of the GovTalk header of the SUBMISSION_ACKNOWLEDGEMENT message. Then checks the progress of the submission using the SUBMISSION_POLL message.
6	The Gateway has now processed the message so replies with a SUBMISSION_RESPONSE message to indicate to the client application that it has finished processing the document.

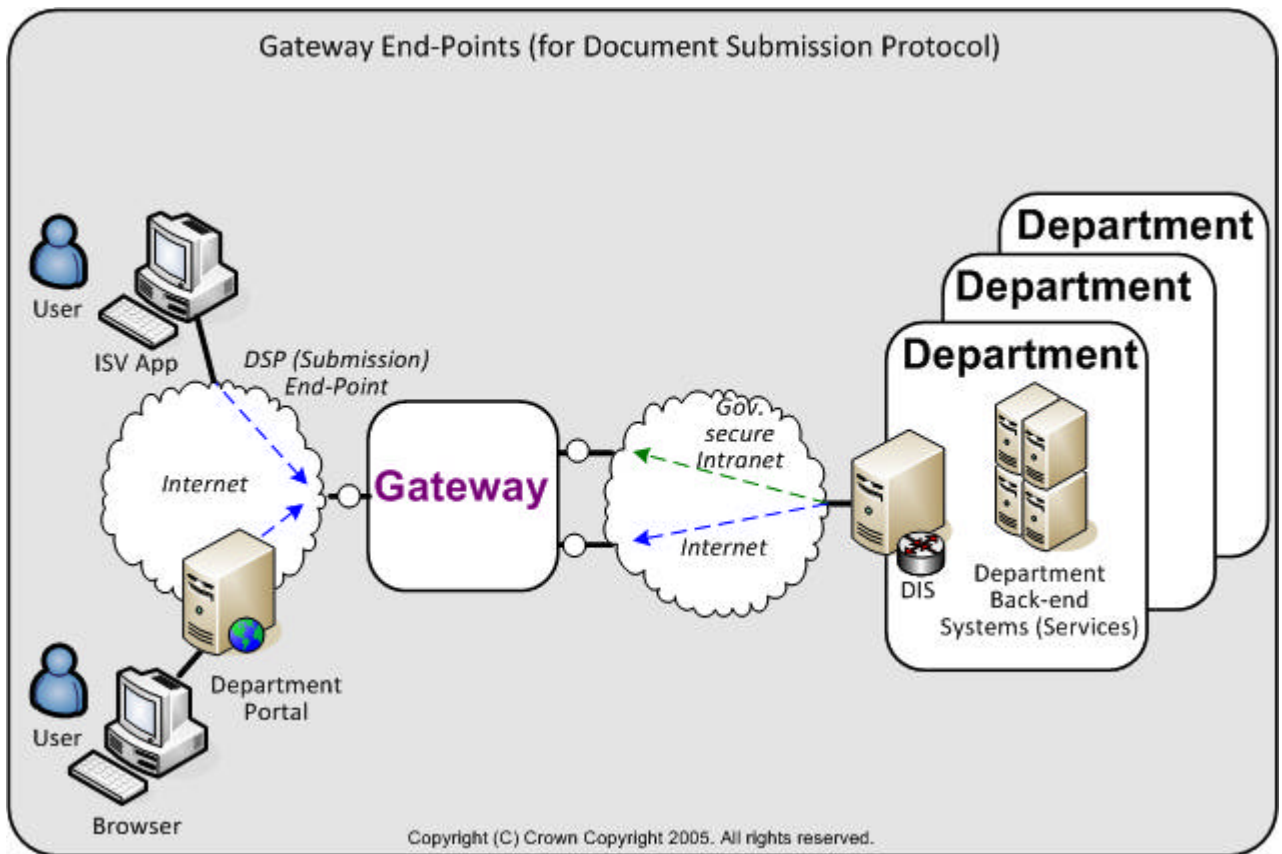
7	Having received a SUBMISSION_RESPONSE the client application must delete the copy of the response stored on the gateway by submitting a DELETE_REQUEST message to the Gateway.
8	The Gateway responds to let the client application know that the message (and all associated resources) have been deleted with a DELETE_RESPONSE.
9	Although not necessary in this scenario, a client can issue a DATA_REQUEST to see the current status of any submissions sent the Gateway.
10	The Gateway responds with a list of submission and their current state with a DATA_RESPONSE.

Note: A client Portal/application does not necessarily have to process each document sequentially as described above. Instead it could operated in a batch mode; submitting a number of documents over a period of time and then later using:

- DATA_REQUEST to examine the state of these submissions
- SUBMISSION_POLL to retrieve the corresponding response for each submission
- DELETE_REQUEST to delete each submission from the Gateway
- SUBMISSION_REQUEST to resubmit documents with recoverable errors

2.2 End-Points

Gateway End-Points used by the Document Submission Protocol



DSP Submission end-point (for DSP messages issued by Portals/ISV applications to Gateway)

- Accessible over the Internet (server-side SSL connection)
 - <https://secure.gateway.gov.uk/submission>
- GovTalk Header
 - Sender authentication information required (*SenderDetails* and *GovTalkDetails/Key* elements) depends on the authentication level setting of the target service
 - Should not include *ResponseEndPoint* element
- GovTalk *EnvelopeVersion* is 1.0 or 2.0

3 Client Message Definitions

Messages exchanged between the Client (e.g. ISV applications or Portal) and the Gateway

The protocol makes extensive use of the envelope portion of the GovTalk schema (http://www.govtalk.gov.uk/schemasstandards/schemalibrary_list.asp?subjects=11). Each document submitted to the Gateway must include a *Qualifier* element immediately after the *Class* element. Together these two elements denote the message type.

Messages issued by the client application:

- **SUBMISSION_REQUEST** (Section 3.1)
- **SUBMISSION_POLL** (Section 3.3)
- **DELETE_REQUEST** (Section 3.6)
- **DATA_REQUEST** (Section 3.8)

Messages issued by the Gateway:

- **SUBMISSION_ACKNOWLEDGEMENT** (Section 3.2)
- **SUBMISSION_ERROR** (Section 3.4) – error detected in message received from the Client
- **SUBMISSION_RESPONSE/ERROR** (Section 3.5) – business response/error from Target Spoke (i.e. Department)
- **DELETE_RESPONSE** (Section 3.7)
- **DATA_RESPONSE** (Section 3.9)

When submitting any message type to the Gateway it is the responsibility of the issuer (i.e. the Portal's or ISV application) to ensure each message conforms to the relevant syntactical rules for that particular type of message.

3.1 SUBMISSION_REQUEST

Message Source/Destination

Portal/Client application to Gateway

Processing

The SUBMISSION_REQUEST message is the initial message sent between the client application and the Gateway.

This message contains the document for the Target Spoke (i.e. Department) back-end system in the GovTalkMessage Body. This payload in the body is opaque to the Gateway and is associated with an appropriate XML namespace. The document contained within the Body element must include a single root XML node which wraps the data.

The *Class*, in addition to identifying the document type in the GovTalkMessage Body, is used by Gateway to identify the Target Spoke (i.e. Department) and the service the document is to be routed to.

Whether the *SenderDetails* is required in the message depends on the target service's **Authentication Level** (configured in the Gateway) which is the minimum authentication credential an entity must have to use the service. This value is used by the Gateway to determine the checking/authentication to be performed:

- **Level 0:**
 - **Type 0:** *SenderDetails* not checked
 - **Type 1:** *SenderDetails* checked for either:
 - A User ID registered with the Gateway (password is not checked)
 - A valid certificate (though not necessarily known to Gateway) with a valid message digest
 - **Type 2:** *SenderDetails* checked for a valid certificate (though not necessarily known to Gateway) with a valid message digest
- **Level 1:** *SenderDetails* (either User ID/password or certificate) authenticated by Gateway. The enrolment (identified by *Keys*) can be access either by a client enrolled in the service or an agent authorised to use the enrolment.
- **Level 2:** *SenderDetails* (must be certificate) authenticated by Gateway. The enrolment (identified by *Keys*) can be access either by a client enrolled in the service or an agent authorised to use the enrolment.

Note:

Submissions from an organisation/agent can be made by a **Delegated Rights Management (DRM) User** (as well as by a normal Gateway User or Assistant). A **DRM user** is setup up for an organisation/agent – through the Gateway UI (www.gateway.gov.uk) by an existing Gateway **User** within the organisation/agent – to represent the organisation. Through the UI the **User** specifies:

- DRM user's authentication credential (i.e. username/password or digital signature)
- DRM user's email address
- Subset of direct enrolments (and additionally for agents, a subset of the client allocations) the organisation/agent has for which the DRM User can make submissions

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 , or to 1.0 for backward compatibility.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document contained within the Body.

Qualifier	MANDATORY. Set to request .
Function	MANDATORY. Set to submit .
TransactionID	<p>OPTIONAL. If present must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}).</p> <p>This value will be reflected in the SUBMISSION_ERROR or SUBMISSION_RESPONSE message back to the Portal/client application.</p> <p>It is recommended this value maintains uniqueness to assist the client (i.e. Portal or client application) with interpreting a response from Gateway.</p>
AuditID	<p>OPTIONAL. If present must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}).</p> <p>The Gateway forwards this value on to the Target Spoke (i.e. Department).</p>
CorrelationID	MANDATORY. Element must be empty.
ResponseEndPoint	OPTIONAL. It is recommended that this element is not present. If present it should be empty.
Transformation	MANDATORY. Set to XML .
GatewayTest (Section 7)	OPTIONAL. For live submissions, where element is present, it must be set to 0. For ISV Test Service, where element is present it must be set to 1.
GatewayTimestamp	OPTIONAL. Element must be empty.
SenderDetails	<p>OPTIONAL. Either a username/password or digital signature authentication block (as described below) will be included. This is the credentials of the client initiating the business message.</p> <p>Note: If the SUBMISSION_REQUEST is made for a Level 0 (Type 0) then authentication credentials are not required – see description of Level/Type in Processing section (above). This element will be empty or can be omitted.</p>
EmailAddress	<p>OPTIONAL. This allows a client to specify a SMTP notification address for the current submission.</p> <p>If element is omitted (or included, but left empty) then the user's email address registered with the Gateway will be used.</p> <p>Provided the Send Mail flag (on the Gateway) for this class of transaction is set, then the initiator of this message will be notified when a response has been received from the back-end system.</p>
<i>For username / password authentication the following elements must be set within the SenderDetails/IDAuthentication block:</i>	
SenderID	MANDATORY. Set to supplied client account name
Method	MANDATORY. Set to MD5 or clear . The use of clear is not recommended.
Value	<p>MANDATORY.</p> <p>If the value of the <i>Method</i> element is clear then <i>Value</i> must contain a clear text password.</p> <p>If the value of the <i>Method</i> element is MD5 then <i>Value</i> is calculated from the clear password by:</p> <ol style="list-style-type: none"> 1. Converting to lower case and UTF-8 encoding

	2. MD5 hashing 3. Base64 encoding
For digital signature authentication the following elements must be set:	
Method	MANDATORY. Set to W3Csigned .
Signature (Section 5)	MANDATORY. Must be populated with the XML node structure necessary to provide a valid digital signature block. See the W3C signing documentation on the W3C site (http://www.w3.org/TR/xmlsig-core).
GovTalkDetails	MANDATORY.
Keys	MANDATORY
Key	OPTIONAL. Must contain the appropriate <i>Key</i> element/attribute entries that identify the enrolment the entity has for the document type being submitted. Note: If the authentication level of the target service is Level 0 (Type 0, 1 or 2) then no <i>Key</i> elements are required.
TargetDetails	OPTIONAL. It is recommended that this should not be present.
Organisation	OPTIONAL. If present must be populated with a string between 1 and 64 characters in length.
GatewayValidation	OPTIONAL. It is recommended that this element is not present. Note: The subordinate fields of this element are not currently used by the submission protocol.
ChannelRouting	OPTIONAL. This element and any valid subordinates may be present. Application vendors may use this element and its subordinates to communicate details of their application name and version together with any specific transaction ID values for this submission. Note: The subordinate fields of this element are not currently used by the submission protocol.
GovTalkErrors	OPTIONAL. It is recommended that this element is not present.
GatewayAdditions	OPTIONAL. Element should be empty.
Body	OPTIONAL. Should contain a valid document for the specified transaction type. The document contained within this element must have a single root node associated with a default namespace other than http://www.govtalk.gov.uk/CM/envelope and must be particular to the submitted document type.

Samples

The mandatory elements within the following sample submission request are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>2.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2 </Class>
      <Qualifier>request</Qualifier>
```

```
<Function>submit</Function>
<TransactionID>20021202ABC</TransactionID>
<CorrelationID></CorrelationID>
<Transformation>XML</Transformation>
<GatewayTest>0</GatewayTest>
<GatewayTimestamp></GatewayTimestamp>
</MessageDetails>
<SenderDetails>
  <IDAuthentication>
    <SenderID>Test000001</SenderID>
    <Authentication>
      <Method>MD5</Method>
      <Value>fSgjkCA3I9k/J24Y5M3qhu==</Value>
    </Authentication>
  </IDAuthentication>
  <EmailAddress>someone@somewhere.com</EmailAddress>
</SenderDetails>
</Header>
<GovTalkDetails>
  <Keys>
    <Key Type="RefNo">0000442355</Key>
    <Key Type="DOB">29/07/1955</Key>
    <Key Type="TCH">24-22</Key>
  </Keys>
</GovTalkDetails>
<Body>
  <!-- A valid Body payload with a namespace declaration on the first element -->
</Body>
</GovTalkMessage>
```

3.2 SUBMISSION_ACKNOWLEDGEMENT

Message Source/Destination

Gateway to Portal/Client application

Processing

The SUBMISSION_ACKNOWLEDGEMENT message is returned from the Gateway in response to a SUBMISSION_REQUEST and then subsequent SUBMISSION_POLL messages (until a SUBMISSION_RESPONSE or SUBMISSION_ERROR) is returned. The *CorrelationID* returned is used in the SUBMISSION_POLL message to identify the submission the client is interested in.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to mirror the <i>EnvelopVersion</i> value in request (i.e. SUBMISSION_REQUEST or the associated SUBMISSION_POLL).
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document contained within the Body of the originating submission.
Qualifier	MANDATORY. Set to acknowledgement .
Function	MANDATORY. Set to submit .
TransactionID	OPTIONAL. If a <i>TransactionID</i> value was provided in either a SUBMISSION_REQUEST or SUBMISSION_POLL it will be returned.
CorrelationID	MANDATORY. This element will contain a hexadecimal number encoded as an upper case text string of 32 characters in length ([0-9A-F]{0,32}). This will be used with the next SUBMISSION_POLL message.
ResponseEndPoint	MANDATORY. Contains a valid HTTP end point address. The <i>PollInterval</i> attribute will be set to an integer value. The Portal/client application should issue follow-on SUBMISSION_POLL messages to this end-point after the recommended delay (in seconds) specified by the value in the <i>PollInterval</i> attribute. Note: The <i>PollInterval</i> is based on the average response time for document submissions of this class.
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements will not be present.
Body	MANDATORY. Element will be empty.

Samples

The mandatory elements within the following sample submission acknowledgement are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>acknowledgement</Qualifier>
      <Function>submit</Function>
      <TransactionID>20021202ABC</TransactionID>
      <CorrelationID>B07B9ED3176193DDC4EC39063848A927</CorrelationID>
      <ResponseEndPoint PollInterval="10">
        https://secure.gateway.gov.uk/poll
      </ResponseEndPoint>
      <GatewayTimestamp>2001-01-31T10:20:18.345</GatewayTimestamp>
    </MessageDetails>
    <SenderDetails/>
  </Header>
  <GovTalkDetails>
    <Keys/>
  </GovTalkDetails>
  <Body/>
</GovTalkMessage>
```

3.3 SUBMISSION_POLL

Message Source/Destination

Portal/Client Application to Gateway

Processing

The SUBMISSION_POLL message is sent to the URL destination specified in the preceding SUBMISSION_ACKNOWLEDGEMENT message. The client can issue the SUBMISSION_POLL message after the recommended delay which is equal to at least the value in the *PollInterval* attribute supplied in the SUBMISSION_ACKNOWLEDGEMENT message.

The *CorrelationID* uniquely identifies the client. Its inclusion ensures that users with a digital signature submission do not have to constantly re-enter their PIN number. Any security details that are provided will be ignored.

The *Class* must match the *Class* value that was originally provided in the SUBMISSION_REQUEST which returned the *CorrelationID*. When performing a SUBMISSION_POLL Gateway checks if the given *Class* matches that stored in the Gateway corresponding to the associated *CorrelationID*. If no match is found an error is raised.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 , or to 1.0 for backward compatibility.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document contained within the Body of the originating submission.
Qualifier	MANDATORY. Set to poll .
Function	MANDATORY. Set to submit .
TransactionID	OPTIONAL. If present must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}). This value is returned by the corresponding SUBMISSION_ACKNOWLEDGEMENT message.
AuditID	OPTIONAL. If present must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}). This element are not currently used by the submission protocol. It is recommended is not present.
CorrelationID	MANDATORY. Must be set to the value returned by the SUBMISSION_ACKNOWLEDGEMENT.
Transformation	MANDATORY. Set to XML .
GatewayTimestamp	OPTIONAL. Element should be empty.
SenderDetails	OPTIONAL. Element should be empty. It is recommended that this element is not present.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements should not be present.

Body	OPTIONAL. Element should be empty.
-------------	------------------------------------

Samples

The mandatory elements within the following sample submission poll are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>2.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>poll</Qualifier>
      <Function>submit</Function>
      <CorrelationID>B07B9ED3176193DDC4EC39063848A927</CorrelationID>
      <Transformation>XML</Transformation>
    </MessageDetails>
    <SenderDetails/>
  </Header>
  <GovTalkDetails>
    <Keys/>
  </GovTalkDetails>
  <Body/>
</GovTalkMessage>
```

3.4 SUBMISSION_ERROR

Message Source/Destination

Gateway to Portal/Client application

Processing

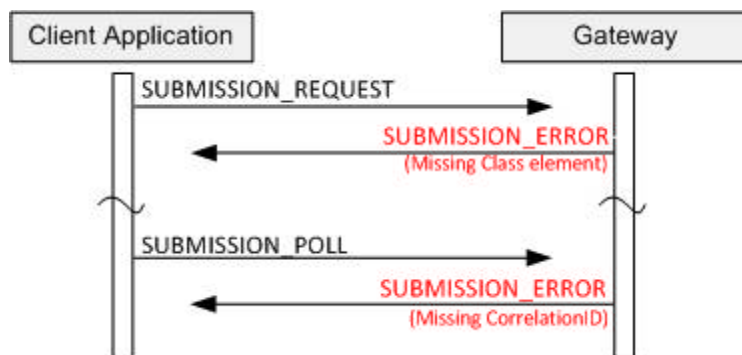
The SUBMISSION_ERROR message can be returned for all *client* initiated messages.

- SUBMISSION_REQUEST
- SUBMISSION_POLL
- DELETE_REQUEST
- DATA_REQUEST

The *GovTalkErrors* element will describe the error(s). The SUBMISSION_ERROR will only be generated when the client message cannot be processed by the Gateway. This may include syntax checks on the entire GovTalkMessage.

This message can be returned by the Gateway for a number of reasons:

- An invalid document is submitted that fails DSP schema/protocol validation
- The Gateway Service has been disabled for scheduled downtime of a back-end system – an Internal error.
- The back-end system does not respond in a timely manner.



For example, as illustrated, the initial SUBMISSION_REQUEST may be missing the *Class* element, or a SUBMISSION_POLL may be missing a *CorrelationID*. Either of these errors is classed as fatal since the Gateway does not have sufficient information to process the message. In this case, the Gateway will return a SUBMISSION_ERROR message with an *Error/Type* of **fatal**.

The behaviour of the client system depends on the point at which the error occurred. If the error occurred on a SUBMISSION_REQUEST, the client should correct the error and resubmit the message. If it occurs later in the sequence, the client application must continue the sequence using the value of *CorrelationID* from the original SUBMISSION_RESPONSE.

Note: the DATA_REQUEST verb can be used to identify those submission sequences that have not completed successfully.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to the mirror <i>EnvelopeVersion</i> value in the client message that failed.
Header	MANDATORY.
MessageDetails	MANDATORY.

Class	MANDATORY. Identifies the class of document for which the error is raised. If the error was encountered before this is determined the generic UndefinedClass value will be returned.
Qualifier	MANDATORY. Set to error .
Function	MANDATORY. Set to submit .
TransactionID	MANDATORY. If the client SUBMISSION_REQUEST supplied a <i>TransactionID</i> it will be returned in this element.
CorrelationID	MANDATORY. Depends on the message that caused the error: <ul style="list-style-type: none"> • For SUBMISSION_REQUEST – Provided by Gateway • For SUBMISSION_POLL – This would normally be the value provided in the previous SUBMISSION_ACKNOWLEDGE • For DELETE_REQUEST – This would normally be the value provided in the associated SUBMISSION_RESPONSE • For DATA_REQUEST – Provided by Gateway
ResponseEndPoint	MANDATORY. Contains a valid HTTP end point address. The <i>PollInterval</i> attribute will be set to an integer value. The Portal/client application can issue follow-on messages to this end-point after the recommended delay (in seconds) which is indicated by the value in the <i>PollInterval</i> attribute.
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements will not be present.
GovTalkErrors	MANDATORY. Can include multiple <i>Error</i> elements.
Error/RaisedBy	MANDATORY. Set to Gateway .
Error/Number	MANDATORY. Contains a published error code value.
Error/Type	MANDATORY. Set to fatal .
Error/Text	MANDATORY. Contains additional information which should be of assistance in correcting the problem.
Error/Location	MANDATORY. Contains location related information – can be empty.
Body	MANDATORY. Element will be empty.

Samples

The mandatory elements within the following sample submission error are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
```

```
<Qualifier>error</Qualifier>
<Function>submit</Function>
<TransactionID>20021202ABC</TransactionID>
<CorrelationID>1DF257B5CD23F4A5B6C7D8E9F102932</CorrelationID>
<ResponseEndPoint PollInterval="2">
  https://secure.gateway.gov.uk/submission
</ResponseEndPoint>
<GatewayTimestamp>2001-01-31T10:20:18.345</GatewayTimestamp>
</MessageDetails>
<SenderDetails/>
</Header>
<GovTalkDetails>
  <Keys/>
  <GovTalkErrors>
    <Error>
      <RaisedBy>Gateway</RaisedBy>
      <Number>1020</Number>
      <Type>fatal</Type>
      <Text>A meaningful description of the error</Text>
      <Location></Location>
    </Error>
  </GovTalkErrors>
</GovTalkDetails>
<Body/>
</GovTalkMessage>
```

3.5 SUBMISSION_RESPONSE/ERROR

Submission Response

Once the Department has processed the client SUBMISSION_REQUEST it will respond to the Gateway with either a:

- **Business Response** (Section 3.5.1)
- **Error Response** (Section 3.5.2)

This response is forwarded on to the client.

This message may include a GovTalkMessage Body payload returned from the back-end system. This payload is opaque to the Gateway and will be associated with an appropriate XML namespace. The document contained within the Body element must therefore include a single root XML node which wraps the returned data.

3.5.1 Business Response

Message Source/Destination

Gateway to Portal/Client application

Processing

Once the Gateway has received the response corresponding to the original SUBMISSION_REQUEST message back from the Department back-end system, the Gateway will respond to the next SUBMISSION_POLL message, containing the matching CorrelationID, with the appropriate SUBMISSION_RESPONSE message.

This message may include a GovTalkMessage Body payload returned from the back-end system. This payload is opaque to the Gateway and will be associated with an appropriate XML namespace. The document contained within the Body element must therefore include a single root XML node which wraps the returned data.

The client may request the response document more than once by issuing additional SUBMISSION_POLL messages before finally deleting the response with a DELETE_REQUEST message. This would be necessary, for example, if the client encountered a transmission error during the previous SUBMISSION_POLL and received an HTTP error.

Note: The elements in the message are mostly populated from the Business Response received from the Department.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to the mirror <i>EnvelopVersion</i> value in the associated SUBMISSION_POLL.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document contained within the Body of the originating submission – supplied in the SUBMISSION_REQUEST.
Qualifier	MANDATORY. Set to response .
Function	MANDATORY. Set to submit .
TransactionID	MANDATORY. If the SUBMISSION_REQUEST supplied a <i>TransactionID</i> it will be returned in this element. Otherwise element will be empty.
CorrelationID	MANDATORY. Populated with <i>CorrelationID</i> associated with original submission (i.e returned in the SUBMISSION_ACKNOWLEDGE). This value is used in the DELETE_REQUEST message.
ResponseEndPoint	MANDATORY. Contains a valid HTTP end point address. The <i>PollInterval</i> attribute will be set to an integer value. The Portal/client application should issue follow-on messages (e.g. DELETE_REQUEST or DATA_REQUEST) to this end-point.
Transformation	MANDATORY. Set to XML .
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty.
GovTalkDetails	MANDATORY.

Keys	MANDATORY. Key elements will not be present.
TargetDetails	OPTIONAL.
Organisation	OPTIONAL. Populated with the <i>Organisation</i> element in the business response message returned from the Target Spoke (i.e Department). If present it will contain a string between 1 and 64 characters in length.
GatewayValidation	OPTIONAL. Populated with the GatewayValidation element/sub-elements in the business response message returned from the Target Spoke (i.e Department).
ChannelRouting	OPTIONAL. Populated with the ChannelRouting element/sub-elements in the business response message returned from the Target Spoke (i.e Department). Target Spokes (i.e. Departments) may use this element and its sub-ordinates to communicate details of their application name and version together with any specific transaction ID values for this submission.
Body	MANDATORY. The Body element may be empty or contain a valid business document returned from the back-end system. If a document is included it must have a single root node associated with another namespace specific to the submitted document type.

Samples

The mandatory elements within the following sample submission business response are shown in bold while optional elements appear in normal type.

```

<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>response</Qualifier>
      <Function>submit</Function>
      <TransactionID>20021202ABC</TransactionID>
      <CorrelationID>B07B9ED3176193DDC4EC39063848A927</CorrelationID>
      <ResponseEndPoint PollInterval="2">
        https://secure.gateway.gov.uk/submission
      </ResponseEndPoint>
      <Transformation>XML</Transformation>
      <GatewayTimestamp>2001-01-31T10:20:18.345</GatewayTimestamp>
    </MessageDetails>
    <SenderDetails/>
  </Header>
  <GovTalkDetails>
    <Keys/>
  </GovTalkDetails>
  <Body>
    <DepartmentDocument xmlns="http://www.organisation.gov.uk/namespace">
      <Data>
        ABC
      </Data>
    </DepartmentDocument>
  </Body>
</GovTalkMessage>

```

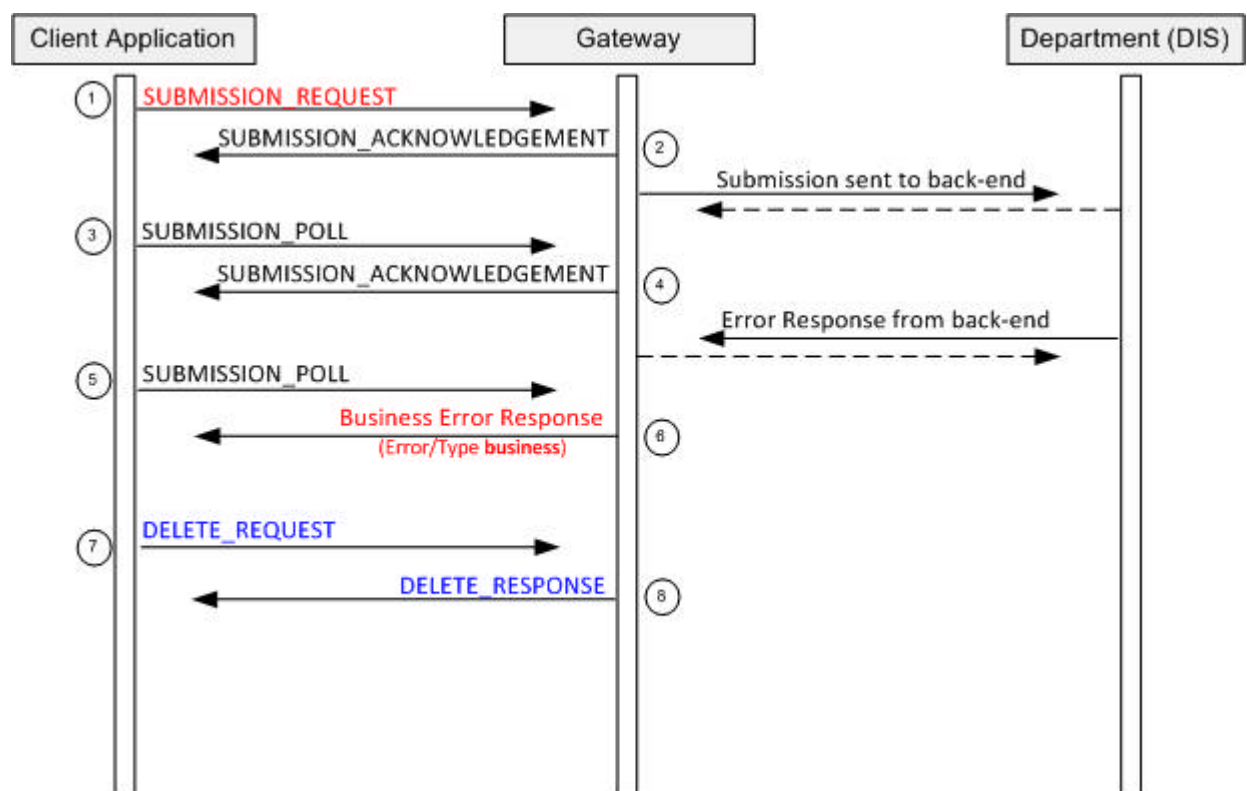
3.5.2 Business Error Response

Message Source/Destination

Gateway to Portal/Client application

Processing

A Business Response Error occurs when a document submitted to the Gateway passes all schema/protocol validation performed by Gateway and then, when forwarded to the Department, is rejected because it does not conform to the business logic required by the back-end system – typically as a result of inconsistent data values provided in the XML elements in the Body.



As illustrated, the Gateway returns a Business Response Error message (with an *Error/Type* of **business** or **fatal**) to the client. The client must continue with the protocol sequence until a DELETE_RESPONSE has been received. The client should correct the error and re-submit as a new transaction.

Note: The elements in the message are mostly populated from the Business Error Response received from the Department.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to the mirror <i>EnvelopVersion</i> value in the associated SUBMISSION_POLL.
Header	MANDATORY.
<i>MessageDetails</i>	MANDATORY.
Class	MANDATORY. Identifies the class of XML document contained within the Body of the originating submission – supplied in

	the SUBMISSION_REQUEST.
Qualifier	MANDATORY. Set to error .
Function	MANDATORY. Set to submit .
TransactionID	MANDATORY. If the SUBMISSION_REQUEST supplied a <i>TransactionID</i> it will be returned in this element. Otherwise element will be empty.
CorrelationID	MANDATORY. Populated with <i>CorrelationID</i> associated with original submission (i.e returned in the SUBMISSION_ACKNOWLEDGE) This value is used in the DELETE_REQUEST message.
ResponseEndPoint	MANDATORY. Contains a valid HTTP end point address. The <i>PollInterval</i> attribute will be set to an integer value. The Portal/client application can issue follow-on messages (e.g. DELETE_REQUEST or DATA_REQUEST) to this end-point.
Transformation	MANDATORY. Set to XML .
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements will not be present.
TargetDetails	OPTIONAL.
Organisation	OPTIONAL. Populated with the <i>Organisation</i> element in the business response message returned from the Target Spoke (i.e Department). If present it will be contain a string between 1 and 64 characters in length.
GatewayValidation	OPTIONAL. Populated with the GatewayValidation element/sub-elements in the business response message returned from the Target Spoke (i.e Department).
ChannelRouting	OPTIONAL. Populated with the ChannelRouting element/sub-elements in the business response message returned from the Target Spoke (i.e Department). Target Spokes (i.e. Departments) may use this element and its sub-ordinates to communicate details of their application name and version together with any specific transaction ID values for this submission.
GovTalkErrors	MANDATORY. Can include multiple Error elements.
Error/RaisedBy	MANDATORY Set to department .
Error/Number	MANDATORY. This should be set to the value associated with the <i>Error/Type</i> (i.e. 3000 or 3001).
Error/Type	MANDATORY. Set to fatal (for 3000) or business (for 3001).
Error/Text	OPTIONAL. Contains additional information which should be of assistance in correcting the problem.
Error/Location	OPTIONAL. Contains location related information.

Body

MANDATORY. For **business Error/Type** the Body can contain detailed department specific error information. This structure of this data conforms to the **Error-Response schema** (Section 6). This data is transparent to the Gateway.

Samples

The mandatory elements within the following sample business error response request are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>error</Qualifier>
      <Function>submit</Function>
      <TransactionID>20021202ABC</TransactionID>
      <CorrelationID> B07B9ED3176193DDC4EC39063848A927 </CorrelationID>
      <ResponseEndPoint PollInterval="2">
https://secure.gateway.gov.uk/submission
      </ResponseEndPoint>
      <Transformation>XML</Transformation>
      <GatewayTimestamp>2001-01-31T10:20:18.345</GatewayTimestamp>
    </MessageDetails>
    <SenderDetails/>
  </Header>
  <GovTalkDetails>
    <Keys/>
    <GovTalkErrors>
      <Error>
        <RaisedBy>department</RaisedBy>
        <Number>3001</Number>
        <Type>business</Type>
        <Text>Submission of document failed due to departmental business logic</Text>
        <Location>business</Location>
      </Error>
    </GovTalkErrors>
  </GovTalkDetails>
  <Body>
    <ErrorResponse xmlns="http://www.govtalk.gov.uk/CM/errorresponse">
      <Application>
        <Error>
          <RaisedBy>Some Department</RaisedBy>
          <Number>34567</Number>
          <Type>business</Type>
          <Text>Calculation mismatch</Text>
          <Location>MAFF</Location>
        </Error>
        ..... There may be many errors, not just a single error.
      </Application>
    </ErrorResponse>
  </Body>
</GovTalkMessage>
```

3.6 DELETE_REQUEST

Message Source/Destination

Portal/Client application to Gateway

Processing

This message should be sent by the client to the Gateway:

- To signify it has processed a Business response message it obtained (by polling) from the Gateway. If the DELETE_REQUEST message is not sent the Gateway will automatically delete the resources related to the CorrelationID within 60 days.
- To signify it has processed a Business Error response message it obtained (by polling) from the Gateway. If the DELETE_REQUEST message is not sent the Gateway will automatically delete the resources related to the CorrelationID within 30 days.

The *CorrelationID* specifies the message to be deleted from the Gateway. The *Class* must match the *Class* value that was obtained in the Business/Business Error response (or SUBMISSION_ERROR that returned the *CorrelationID*). When performing a DELETE_REQUEST the Gateway checks if the given *Class* matches that stored in the Gateway for that particular *correlationID* – if no match is found an error will be returned.

In response to the DELETE_REQUEST message, the Gateway can return either a DELETE_RESPONSE or a SUBMISSION_ERROR message. If the client receives a SUBMISSION_ERROR message it must process any standard errors in the normal way and then reissue the DELETE_REQUEST message. If the error indicates the CorrelationID cannot be found (typically error code 2000) then the client can cease sending the DELETE_REQUEST message.

Note: If the client issues a DELETE_REQUEST message before a Business/Business Error response or SUBMISSION_RESPONSE has been returned from the Gateway the resources associated with the transaction on the Gateway will be removed. This will not prevent the original submission from being sent to the back-end system – there are no associated recall semantics. If the client issues this request the implication is that the client no longer wishes to progress the submission via the Gateway and will reconcile the transaction through some other means.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 , or to 1.0 for backward compatibility.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document to be deleted from Gateway.
Qualifier	MANDATORY. Set to request .
Function	MANDATORY. Set to delete .
TransactionID	OPTIONAL. Must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}). It is recommended that it should be set to the value present in the SUBMISSION_RESPONSE. This value will be returned in the subsequent DELETE_RESPONSE.
CorrelationID	MANDATORY. Must be set to the value returned by the associated SUBMISSION_RESPONSE.
Transformation	MANDATORY. Set to XML .

GatewayTest (Section 7)	OPTIONAL. For live submissions, where element is present, it must be set to 0. For ISV Test Service, where element is present it must be set to 1.
GatewayTimestamp	OPTIONAL. Element should be empty.
SenderDetails	OPTIONAL. Element should be empty.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. If Key elements are present they will be ignored.
Body	OPTIONAL. Element should be empty.

Samples

The mandatory elements within the following sample delete request are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>2.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>request</Qualifier>
      <Function>delete</Function>
      <CorrelationID>B07B9ED3176193DDC4EC39063848A927</CorrelationID>
      <Transformation>XML</Transformation>
      <GatewayTimestamp/>
    </MessageDetails>
    <SenderDetails/>
  </Header>
  <GovTalkDetails>
    <Keys/>
  </GovTalkDetails>
  <Body>
  </Body>
</GovTalkMessage>
```

3.7 DELETE_RESPONSE

Message Source/Destination

Gateway to Portal/Client application

Processing

This message will be returned by the Gateway in response to the DELETE_REQUEST message from the client application once all the resources relating to a CorrelationID have been successfully deleted.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to mirror the <i>EnvelopeVersion</i> value in the associated DELETE_REQUEST.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document deleted from Gateway – supplied in the DELETE_REQUEST.
Qualifier	MANDATORY. Set to response .
Function	MANDATORY. Set to delete .
TransactionID	MANDATORY. If the DELETE_REQUEST supplied a <i>TransactionID</i> it will be returned in this element.
CorrelationID	MANDATORY. Populated with the value from the DELETE_REQUEST.
ResponseEndPoint	MANDATORY. Contains a valid HTTP end-point address. The <i>PollInterval</i> attribute is set to a non-negative integer. Note: This element and its value has no significance here and should be ignored.
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements will not be present.
Body	MANDATORY. Element will be empty.

Samples

The mandatory elements within the following sample delete response are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
```

<pre><MessageDetails> <Class>MOSWTSC2</Class> <Qualifier>response</Qualifier> <Function>delete</Function> <TransactionID/> <CorrelationID>B07B9ED3176193DDC4EC39063848A927</CorrelationID> <ResponseEndPoint PollInterval="10"> https://secure.gateway.gov.uk/submission </ResponseEndPoint> <GatewayTimestamp>2001-02-25T16:32:18.795</GatewayTimestamp> </MessageDetails> <SenderDetails/> </Header> <GovTalkDetails> <Keys/> </GovTalkDetails> <Body> </Body> </GovTalkMessage></pre>

3.8 DATA_REQUEST

Message Source/Destination

Portal/Client application to Gateway

Processing

The DATA_REQUEST message enables a client to request the details of the document submissions that the Gateway is currently handling for them. The *Class* of the document filters the returned list of CorrelationIDs to that type of document. The client can also indicate date/time ranges to further narrow the search.

The client may send a DATA_REQUEST message if it has not received a reply from the Gateway after the *PollInterval* timeout value supplied on the previous Gateway message (SUBMISSION_ACKNOWLEDGEMENT, SUBMISSION_RESPONSE or ERROR_RESPONSE) has expired.

The DATA_REQUEST message must be authenticated, and therefore requires the same credentials to be presented by the Portal/client application as were used when submitting the original document.

The DATA_RESPONSE message returned from the Gateway will list the documents that matched the criteria in the DATA_REQUEST. The client can therefore determine if the submitted document is being handled by the Gateway by virtue of the fact that the document appears in the DATA_RESPONSE. Documents that have been deleted from the Gateway will not appear in the DATA_RESPONSE. The client should act promptly on documents if concerned about their status - for example Gateway will remove:

- Successful Business responses received from the Department after 60 days
- Business Error responses received from the Department after 30 days

The results set, if any, produced by a DATA_REQUEST will be contained in the body elements of a DATA_RESPONSE message.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 , or to 1.0 for backward compatibility.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document being queried. This class filters the returned list of CorrelationIDs currently being handled by Gateway.
Qualifier	MANDATORY. Set to request .
Function	MANDATORY. Set to list .
TransactionID	OPTIONAL. If present must conform to the XSD pattern defined in the GovTalk envelope specification ([0-9A-F]{0,32}). This value will be reflected in the DATA_RESPONSE message. It is recommended this value maintains uniqueness to assist the client with interpreting a response from Gateway.
CorrelationID	MANDATORY. Element must be empty.
Transformation	MANDATORY. Set to XML .
GatewayTest (Section 7)	OPTIONAL. For live submissions, where element is present, it must be set to 0. For ISV Test Service, where element is present it must be set to 1.

GatewayTimestamp	OPTIONAL. Element must be empty.
SenderDetails	MANDATORY. If the Portal/client application provided credentials when the original document was submitted (i.e in the SUBMISSION_REQUEST message) then these same credentials must be are provided here. Otherwise it contains no sub-elements.
<i>For username / password authentication the following elements must be set within the SenderDetails/IDAuthentication block:</i>	
SenderID	MANDATORY. Set to supplied client account name.
Method	MANDATORY. Set to MD5 or clear .
Value	MANDATORY. If the value of the <i>Method</i> element is clear then <i>Value</i> must contain a clear text password. If the value of the <i>Method</i> element is MD5 then <i>Value</i> is calculated from the clear password by: <ol style="list-style-type: none"> 1. Converting to lower case and UTF-8 encoding 2. MD5 hashing 3. Base64 encoding
<i>For digital signature authentication the following elements must be set:</i>	
Method	MANDATORY. Set to W3Csigned .
Signature (Section 5)	MANDATORY. Must be populated with the XML node structure necessary to provide a valid digital signature block. See the W3C signing documentation on the W3C site (http://www.w3.org/TR/xmlsig-core).
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Any <i>Key</i> elements will be ignored.
GovTalkErrors	OPTIONAL. It is recommended that this element is not present.
Body	OPTIONAL. May be populated with any Date/Time constraints for the query and whether to return identifier information. Note: If <i>Body</i> element is not included all document submissions for the specified class will be returned.
StatusRequest	OPTIONAL. If included, this element can (but does not need to) be scoped by a different namespace; urn:gateway/statusrequest. Note: If this element is not included the subordinate elements below can still be included directly in the <i>Body</i> (see example).
IncludeIdentifiers	OPTIONAL. If included must have a value of 0 or 1. If set to a value of 1 the DATA_RESPONSE message will return identifier information for outstanding submissions. If set to a value of 0 the DATA_RESPONSE message will NOT return identifier information for outstanding submissions. Note: For backward compatibility this element can be omitted and identifier information will NOT be returned.
StartDate	OPTIONAL. Set to a valid date, of the format dd/mm/yyyy.
StartTime	OPTIONAL. Set to a valid time, of the format hh:mm:ss. If this element is used a valid <i>StartDate</i> must also be set.
	OPTIONAL. Set to a valid date, of the format dd/mm/yyyy. If this

EndDate	element is used a valid <i>StartDate</i> must also be set which must be earlier than or the same as the value in <i>EndDate</i> .
EndTime	OPTIONAL. Set to a valid time of the format hh:mm:ss. If this element is used a valid <i>EndDate</i> must also be set. If the same start and end date are used this time must be later than the start time.

Samples

The mandatory elements within the following sample data request are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>2.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>request</Qualifier>
      <Function>list</Function>
      <CorrelationID/>
      <Transformation>XML</Transformation>
    </MessageDetails>
    <SenderDetails>
      <IDAuthentication>
        <SenderID>VendorID</SenderID>
        <Authentication>
          <Method>MD5</Method>
          <Value>fSgjkCA3I9k/J24Y5M3qhuQs=</Value>
        </Authentication>
      </IDAuthentication>
    </SenderDetails>
  </Header>
  <GovTalkDetails>
    <Keys/>
  </GovTalkDetails>
  <Body>
    <IncludeIdentifiers>1</IncludeIdentifier>
    <StartDate>13/11/2006</StartDate>
    <StartTime>16:00:00</StartTime>
    <EndDate>13/11/2006</StartDate>
    <EndTime>16:30:00</EndTime>
  </Body>
</GovTalkMessage>
```

3.9 DATA_RESPONSE

Message Source/Destination

Gateway to Portal/Client application

Processing

The DATA_RESPONSE message is returned from the Gateway in response to a DATA_REQUEST message from the client.

The results set, if any, produced will be contained in the Body elements of a DATA_RESPONSE message. However, if the response is an error the response message will be in the format of the submission error message described in the SUBMISSION_ERROR.

Note: Documents whose resources have been deleted from the Gateway cannot be seen even if a time window is specified.

Message Structure

GovTalkMessage	MANDATORY. A default namespace specified as "http://www.govtalk.gov.uk/CM/envelope".
EnvelopeVersion	MANDATORY. Set to 2.0 or 1.0 to mirror the <i>EnvelopVersion</i> value in the associated DATA_REQUEST.
Header	MANDATORY.
MessageDetails	MANDATORY.
Class	MANDATORY. Identifies the class of XML document being queried – supplied in the DATA_REQUEST.
Qualifier	MANDATORY. Set to response .
Function	MANDATORY. Set to list .
TransactionID	MANDATORY. If DATA_REQUEST supplied a <i>TransactionID</i> it will be returned in this element.
CorrelationID	MANDATORY. Element will be empty.
ResponseEndPoint	MANDATORY. Contains a valid HTTP end-point address. The <i>PollInterval</i> attribute is set to a non-negative integer. Note: This element and its value has no significance here and should be ignored.
GatewayTimestamp	MANDATORY. Contains the time the message was generated.
SenderDetails	MANDATORY. Element will be empty.
GovTalkDetails	MANDATORY.
Keys	MANDATORY. Key elements will not be present.
Body	MANDATORY. May contain data.
StatusReport	MANDATORY. Header element for report results

SenderID	MANDATORY. Can be empty
StartTimeStamp	MANDATORY. Starting date and time for report. Can be empty.
EndTimeStamp	MANDATORY. End date and time for report. Can be empty.
StatusRecord	OPTIONAL. Detailed results. Included if any results are returned. Each Status Record includes the following 5 elements.
TimeStamp	MANDATORY. Date and time when the message was originally received.
CorrelationID	MANDATORY. CorrelationID for message upon which reported status change occurred.
TransactionID	MANDATORY. TransactionID if supplied in SUBMISSION_REQUEST message. Otherwise it is empty.
Identifiers	OPTIONAL. This element is present if the <i>IncludeIdentifiers</i> element in the DATA_REQUEST message has a value of 1 . This Identifiers element includes one or more Identifier sub-elements. Note: For backward compatibility, if the <i>IncludeIdentifiers</i> element is not included in the DATA_REQUEST message, or has a value of 0 , this element will not be present.
Status	MANDATORY. Latest status change recorded for a given message. Will be one of the following: <ul style="list-style-type: none"> • SUBMISSION_ACKNOWLEDGE (the document has been acknowledged by the Gateway and is awaiting processing by the Government Department) • SUBMISSION_ERROR (the document was submitted and found to be in error) • SUBMISSION_RESPONSE (the document has completed processing and is awaiting client SUBMISSION_POLL/DELETE_REQUEST)

Samples

The mandatory elements within the following sample data response are shown in bold while optional elements appear in normal type.

```
<?xml version="1.0"?>
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>1.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
      <Class>MOSWTSC2</Class>
      <Qualifier>response</Qualifier>
      <Function>list</Function>
      <TransactionID/>
      <CorrelationID></CorrelationID>
      <ResponseEndPoint PollInterval="2">
        https://secure.gateway.gov.uk/submission
      </ResponseEndPoint>
      <GatewayTimestamp>2006-11-23T11:54:18.345</GatewayTimestamp>
    </MessageDetails>
  </Header>
</GovTalkMessage>
```

```
<SenderDetails/>
</Header>
<GovTalkDetails>
  <Keys/>
</GovTalkDetails>
<Body>
  <StatusReport>
    <SenderID>VendorID</SenderID>
    <StartTimeStamp>13/11/2006 16:00:00.00</StartTimeStamp>
    <EndTimeStamp>13/11/2006 16:30:00:00</EndTimeStamp>
    <StatusRecord>
      <TimeStamp>13/11/2006 16:19:56.50</TimeStamp>
      <CorrelationID>C13C78E280A449E8B0B959FF6AA8125</CorrelationID>
      <TransactionID>A23EEBF5EA34eAA8</TransactionID>
      <Identifiers>
        <Identifier Type = "RefNo">00012856</ Identifier>
      </Identifiers>
      <Status>SUBMISSION_ERROR</Status>
    </StatusRecord>
    <StatusRecord>
      <TimeStamp>13/11/2006 16:26:11.21</TimeStamp>
      <CorrelationID>5317CCA6A1F0444A97B02D85849F5445</CorrelationID>
      <TransactionID>BCC10045EA5DD441</TransactionID>
      <Identifiers>
        <Identifier Type = "RefNo">00012235</ Identifier>
      </Identifiers>
      <Status>SUBMISSION_RESPONSE</Status>
    </StatusRecord>
  </StatusReport>
</Body>
</GovTalkMessage>
```

4 Appendix A: Error-Return Codes

Errors Raised by Gateway

The actual textual description given by Gateway may include additional verbose information to assist in diagnosing issues.

Major Errors

Error Code	Description
1000	System failure. The submission of this document has failed due to an internal system error.
1001	The submitted XML document either failed to validate against the GovTalk schema for this class of document or its body was badly formed.

Errors in Submission

Error Code	Description
1002	Authentication Failure. The digital signature on the submitted document has not been recognised.
1020	The submitted document contains an entry for CorrelationID, which is a reserved system field. This field should be left empty.
1035	The submitted document contains an invalid entry for CorrelationID. If the Function field contains the value delete , then the CorrelationID field must be populated.
1038	The submitted document contains an invalid entry for StartDate and/or StartTime. StartDate and StartTime must precede EndDate and/or EndTime.
1039	The submitted document contains an invalid entry for any one of the following fields StartDate, StartTime, EndDate or EndTime.
1040	The submitted document contains an inconsistent value entry for the specified method. If W3Csigned is specified the Value element must be omitted and a Signature block must be present.
1042	The submitted document does not contain a populated Body.
1046	Authentication Failure. The supplied user credentials failed validation for the requested service.

Messages Referring to Gateway Services

Error Code	Description
2000	The Gateway could not locate a record for the supplied correlation ID: the submission may have been deleted or the correlation ID may be invalid. If you have not received a response you should resubmit the document.
2001	The document exceeds the maximum permitted size.
2002	The document does not contain the minimum required data.
2005	The Gateway has not received an acknowledgement of your submission from the back-end system within the permitted timescale. Either resubmit or contact the appropriate organisation

	directly to determine if your submission has been accepted.
--	---

Messages Referring to Target Spoke Services

Error Code	Description
3000	The processing of your document submission failed. Please re-submit
3001	The submission of this document has failed due to customer specific business logic in the Body element.

5 Appendix B: Digital Signature Authentication

Digital Signature Authentication

Illustrates the structure of the **SenderDetails** block when the message Body is digitally signed (i.e. the *Method* element has a value of **W3Csigned**).

```
<!--
  DigestValue contains the digest of the message Body
  SignatureValue contains the digital signature of the DigestValue (produced using the submitter's private key)
  X509Certificate contains the submitter's certificate
-->
<GovTalkMessage xmlns="http://www.govtalk.gov.uk/CM/envelope">
  <EnvelopeVersion>2.0</EnvelopeVersion>
  <Header>
    <MessageDetails>
    </MessageDetails>
    <SenderDetails>
      <IDAuthentication>
        <Authentication>
          <Method W3Csigned</Method>
          <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
            <SignedInfo>
              <CanonicalizationMethod Algorithm="http://www.w3.org/TR/2001/REC-xml-c14n-20010315"/>
              <SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
              <Reference URI="#Body">
                <DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
                <DigestValue>ThisIsTheDigestOverTheBody</DigestValue>
              </Reference>
            </SignedInfo>
            <SignatureValue>ThisIsTheSignedDigestValue</SignatureValue>
            <KeyInfo>
              <X509Data>
                <X509Certificate>ThisIsTheDigitalCertificateOfTheSubmitter<X509Certificate/>
              </X509Data>
            </KeyInfo>
          </Signature>
        </Authentication>
      </IDAuthentication>
    </SenderDetails>
  </Header>
  <GovTalkDetails>
  </GovTalkDetails>
  <Body Id="Body">
  </Body>
</GovTalkMessage>
```

This is the legacy signature structure used by older applications – **It should not be used by new implementations**. As illustrated, there are a number of differences; in particular the *X509Certificate* element is not within the Signature block.

```
<!--
  DigestValue contains the digest of the message Body
  SignatureValue contains the digital signature of the DigestValue (produced using the submitter's private key)
  X509Certificate contains the submitter's certificate
-->
<SenderDetails>
  <IDAuthentication>
    <Authentication>
      <Method>W3Csigned </Method>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/TR/2000/WD-xml-c14n-20001011"/>
          <SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
          <Reference>
            <Transforms>
              <Transform Algorithm="http://www.w3.org/TR/1999/REC-xpath-19991116">
```

```
<XPath>/GovTalkMessage/Body</XPath>
</Transform>
</Transforms>
<DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
<DigestValue>ThisIsTheDigestOverTheBody</DigestValue>
</Reference>
</SignedInfo>
<SignatureValue>ThisIsTheSignedDigestValue</SignatureValue>
</Signature>
</Authentication>
</IDAuthentication>
<X509Certificate>ThisIsTheDigitalCertificateOfTheSubmitter<X509Certificate/>
</SenderDetails>
```

6 Appendix C: Error-Response Schema (Business Errors)

Error-Response schema

Errors returned in the Body of a **Business Error Response** message use this schema

```
<?xml version="1.0"?>
<!-- Developed by Office of the e-Envoy, www.e-envoy.gov.uk. Conforms to w3c http://www.w3.org/TR/XMLSchema -->
<xsd:schema targetNamespace="http://www.govtalk.gov.uk/CM/errorresponse" xmlns:err="http://www.govtalk.gov.uk/CM/errorresponse"
xmlns:gt="http://www.govtalk.gov.uk/CM/core" xmlns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="2.0" id="Error-Response">
  <xsd:annotation>
    <xsd:documentation>This schema is used for errors returned by business systems. In these circumstances, the header contains a sin
element of type "business" and the Body contains further information.</xsd:documentation>
    <xsd:appinfo>
      <gt:KeyWords>business, error, response</gt:KeyWords>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:element name="ErrorResponse">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="err:Application" minOccurs="0"/>
        <xsd:element name="Error" maxOccurs="unbounded">
          <xsd:complexType>
            <xsd:sequence>
              <xsd:element name="RaisedBy" type="xsd:string"/>
              <xsd:element name="Number" type="xsd:integer" minOccurs="0"/>
              <xsd:element name="Type" type="xsd:string"/>
              <xsd:element name="Text" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
              <xsd:element name="Location" type="xsd:string" minOccurs="0"/>
              <xsd:element ref="err:Application" minOccurs="0"/>
            </xsd:sequence>
          </xsd:complexType>
        </xsd:element>
      </xsd:sequence>
      <xsd:attribute name="SchemaVersion" use="required"/>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Application">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:anyAttribute namespace="##any"/>
    </xsd:complexType>
  </xsd:element>
</xsd:schema>
```

7 Appendix D: ISV Test Service

ISV Test Service

The Gateway provides a test service which allows Independent Software Vendors (ISVs) to test their applications. Support is provided for:

- DSP protocol – so applications can submit business transaction (business forms)
- WS SOAP Public interface – so applications can, for example, get user details or retrieve service enrolment information.

The test service gives developers the opportunity to test the mechanisms used for communicating with the Gateway before working with the live system. It also allows developers to test that their applications conform to the rules governing the format of messages that can be accepted by the Gateway.

The test service provides sufficient functionality to enable developers to submit documents and receive reports on their progress through the system in the same way as in the live version of the system. The test service is located at <https://secure.dev.gateway.gov.uk/submission>.

The Test Service imposes a number of constraints on the client document submissions. In some cases these are not consistent with the live Gateway service:

- Test Service is not intended to handle large documents. Document submissions to the Test Service that are over one megabyte in size will be rejected with an appropriate error message. This is not the case for the live system.
- Every effort will be made to keep the behaviour of the live Gateway and the Test Service consistent. From time to time minor discrepancies may occur as the result of ongoing maintenance.
- Submissions to the Test Service that include the optional GatewayTest element must have its value set to "1".

8 Appendix E: Glossary

Term	Description
Authentication	The process of validating the credential information (digital certificate or User ID/password).
Authentication Level	<p>Specified for each service (based on HMG Authentication Levels, but Gateway adds a level 1.5):</p> <ul style="list-style-type: none"> Level 0: no authentication: <ul style="list-style-type: none"> Type 0: No authentication Type 1: A valid User ID or valid certificate (though not necessarily known to Gateway) is required Type 2: A valid certificate (though not necessarily known to Gateway) is required Level 1: At least a User ID/Password is required to access service transactions/forms Level 1.5: At least a User ID/Password with security phrase is required to access service transactions/forms Level 2 and 3: A certificate is required to access service transactions/forms
Base64 Encoding	Encodes binary values into characters. Each 6-bit value (i.e. 0-63 in decimal) is converted into a character set comprising of a 64-character alphabet. This alphabet consisting of alphabet characters (A-Z, a-z), numerals (0-9), and the "+" and "/" symbols.
Correlation ID	A unique identifier assigned by the Gateway. For example a correlation ID is returned in response to a document (form) submission. This can be used (in DSP) to poll for the response.
DIS (Departmental Interface Server)	Provides the interface between the service owner (i.e. Department) and the central Gateway. Communication with the Gateway uses SOAP reliable messaging and XML GovTalk standards.
Digital Certificate	An X.509 digital certificate contains identifying information and a public key. The owner of the certificate possesses the corresponding private key, which proves the certificate (and therefore the information on it) belongs to them. Any attempt to change information on the certificate will be detected. The certificate/private key is also used to sign transactions. A certificate is obtained from a certification authority.
DRM (Delegated Rights Management) User	<p>A DRM User can improve operational efficiency by allowing an organisation/agent (registered with the Gateway) to use their existing internal user accounts to act on service enrolments – rather than create a (parallel) hierarchy of Gateway User and Assistant accounts to do this work.</p> <p>A DRM User (created by an existing <i>User</i> in the organisation/agent) uses the <i>GsoDelegateRights</i> method to temporarily associate internal organisation/agent user accounts with Gateway enrolments that they can then act on.</p> <p>Additionally a DRM User's authentication credential (i.e. User ID/password or certificate) can be used in (i.e. to authorise) DSP submissions.</p>
	Employs the Secure Socket Layer (SSL) protocol to provide a

HTTPS (HyperText Transfer Protocol Secure)	secure HTTP communication channel over the Internet between the user's computer (browser or application) and the Portal/Gateway, and between the Portal and the Gateway.
Identifiers (also referred to keys)	Uniquely identifies a user (credential) within a service. Identifiers for a service are typically a subset of the known facts.
ISV (Independent Software Vendors) Application	<p>From the Gateway perspective this is an application (written by an ISV – e.g. Sage) that runs on a client (e.g. a PC) that can use, the facilities offered by the Gateway – in particular the document submission protocol (DSP) to submit transactions/forms to services hosted by government departments, Local authorities or other authorised organisations. For example, an accounting or tax self assessment application submitting appropriate business forms through the Gateway to HRMC. The user (i.e. individual, organisation user or agent) authentication credentials attached to the submitting form will be checked by the Gateway.</p> <p>An ISV application can authenticate a user (i.e. log them on to Gateway) but, because they run in the user environment, they have very limited R&E capabilities (they use the SOAP Public Interface methods). This is different to Portals – they can register users with the Gateway and provide the full set of enrolment functionality offered by the Gateway (SOAP Portal Interface methods).</p>
Known Facts	<p>Pieces of information required by a service from a user that only the user should know.</p> <p>During the service enrolment process (or when a user has forgotten their User ID/password/security phrase), the known fact values supplied by the user are checked against a reference set of known facts to verify who the user is to the service. The reference set of known facts can either be:</p> <ul style="list-style-type: none"> • Held on the Gateway (i.e. previously uploaded to the Gateway from the services) • Held by each service (i.e. distributed known facts) which requires the Gateway to send the user supplied values to the appropriate service for checking. <p>Distributed known facts (DKFs) were introduced in release 1.68 of the Gateway.</p>
Names Space	In a XML schema, used to uniquely qualify element names – thereby avoiding potential name conflicts with elements of the same name in other XML schemas (vocabularies).
Password	An alphanumeric string used in conjunction with a User ID for authentication. The user chooses the password when their account is created
Portal	A Portal typically refers to a web Portal (i.e. web site). Departments (i.e. a Government Departments, Local Authorities or other Government Agencies) provide online access to secure interactive services, as well as generally available information, through Portals. A Portal uses the Gateway to register users with the Gateway and enrol them in services. Users can then logon to the Portal (i.e. authenticate with the Gateway) and use these services securely to submit business forms - for example, file a Self Assessment tax return online from the HM Revenue & Customs Web site (http://www.hmrc.gov.uk).
Service	Consists of a grouping of one or more transactions. A service represents the lowest level of granularity by which access is granted. A service specifies the minimum authentication level a credential must have to access (see/enrol) in the service. See Authentication level.

Service Owner	A government department, local authority or other organisation responsible for one or more services.
SOAP Portal Interface	Exposes a full range of methods to be called from a Portal.
SOAP Public Interface	Exposes methods that can be called directly from an application. This is restricted to the 'read-only' methods offered by the SOAP Portal Interface.
SSL (Secure Sockets Layer)	Protocol uses Public Key Infrastructure (PKI) technology to provide encrypted communication over the Internet. It is used by the HTTPS access method.
Transaction Engine	Core component of the Gateway that and provides an interface to enable electronic forms and requests to be submitted to service owners.
User ID	A unique alphanumeric string generated by the Gateway at registration (not selected by the user) that is used in conjunction with a password for authentication.
XML (Extensible Markup Language)	A specification designed especially for the definition, transmission, validation, and interpretation of data between organisations.
XML Schema	Describes a particular XML syntax. It defines the structure of the document in terms of elements and sub-elements, whether they are optional or not and the number of times they can be repeated. It also specifies any attributes associated with an element.