Business Gateway

Developer pack

Interface specification

Online Owner Verification Service V1.2

Contents

1 Background

This document provides the interface requirements for the Online Owner Verification V1_0 Business Gateway service.

2 Purpose

The purpose of this document is to specify the interface between HM Land Registry and a Business Gateway Customer, indicating the message layouts and XML schemas that must be adhered to in order to communicate with HMLR, so that data may be exchanged between the organisations to effect Business Gateway.

The XML schemas associated with this interface represent the authoritative definition of the interface and takes precedence over any information in this document. The schemas will be issued with this document, along with sample requests and responses. See Annex for samples.

3 Scope

The scope of this document encompasses the Online Owner Verification V1_0 interface and XML message format.

4 Definitions, Acronyms and Abbreviations

Any specific terms and abbreviations are further explained in the Glossary.

5 Interface Specification

This section covers general information about the configuration and use of the interface.

6 XML Requirements

The XML schema attached as part of this document is compliant with 'XML Schema W3C Recommendation', 04 Feb 2004 and e-GIF standards. The XML version is 2.0 and encoding is UTF-8.

In an XML message, use of the characters &, <, " and ' is constrained. The characters & and < are permitted to represent themselves only in Comments, Processing Instructions and CDATA sections. The characters " and ' cannot appear in an attribute if they are being used to demarcate the value.

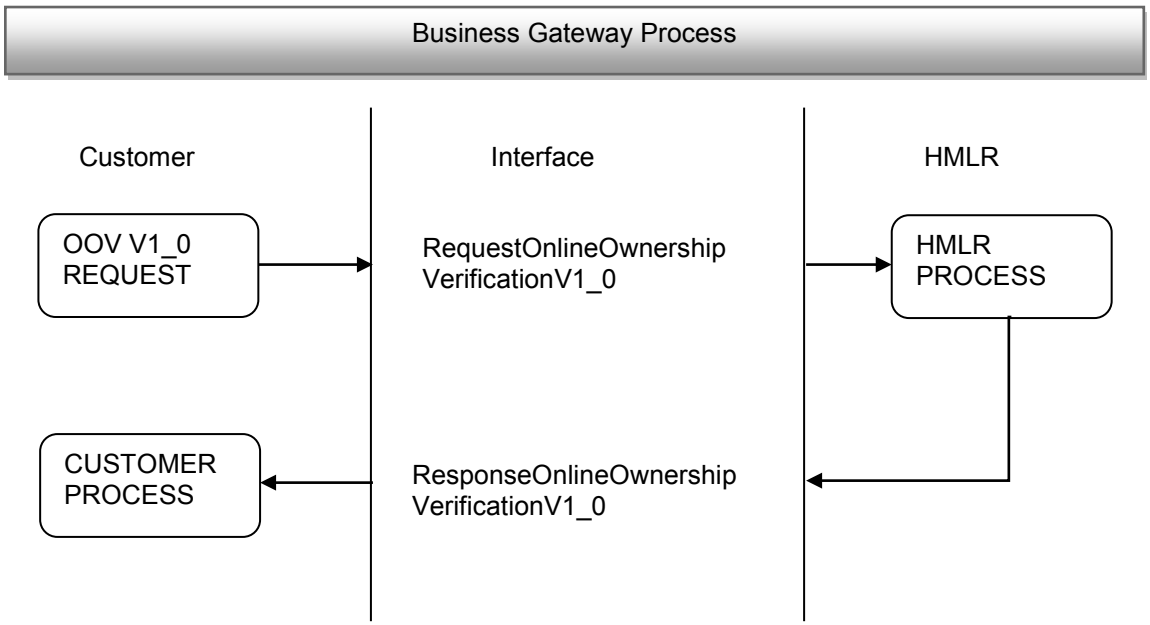
Escape sequences are used to represent these characters when required. These escape sequences are:

Character	Escape Sequence
&	&amp;
<	&lt;
>	&gt;
“	&quot;
‘	&apos;

Within CDATA blocks the above characters are permitted and escape sequences must not be used. CDATA blocks are used for attachments to messages.

7 Business Gateway

Business Gateway Process Diagram



Both the RequestOnlineOwnershipVerificationV1_0 and the Poll Request messages are acknowledged with a ResponseOnlineOwnershipVerificationV1_0 message.

8 Online Owner Verification V1_0 Specific Messages

Schema : RequestOnlineOwnershipVerificationV1_0

ResponseOnlineOwnershipVerificationV1_0

Description : Online Owner Verification request identifies any titles associated with the supplied address and then checks if the supplied name matches any of the proprietors for those titles. If a title is supplied this will be used.

The response indicates either:

- A success response includes the result of the search in XML.
- A system error
- A rejection response with details of why the search was rejected.

9 XML Schemas

Current list of XML Schemas

Name	Version
RequestOnlineOwnershipVerificationV1_0	1.0
ResponseOnlineOwnershipVerificationV1_0	1.0
PollRequest	1.0

See Annex for details of the individual Schemas relating to the Online Owner Verification service.

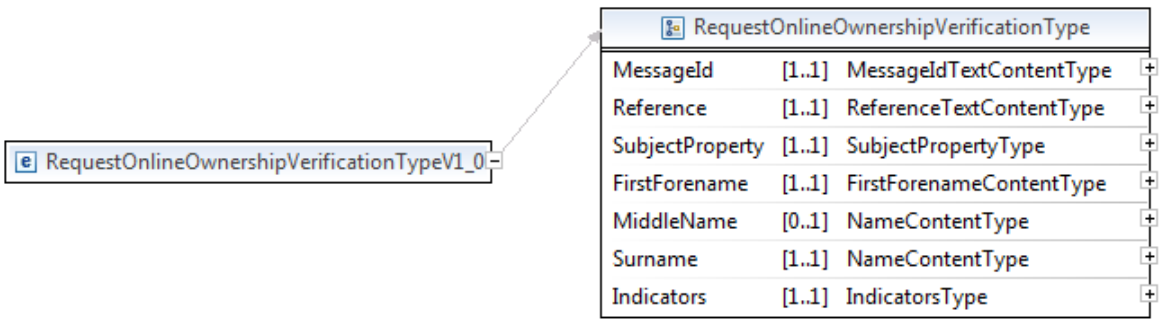
10 Online Owner Verification Request (V1_0)

The RequestOnlineOwnershipVerificationV1_0 message uses the namespace `http://www.landregistry.gov.uk/OOV/RequestOnlineOwnershipVerificationV1_0` and must be valid with respect to the XML Schema published by HM Land Registry for that namespace.

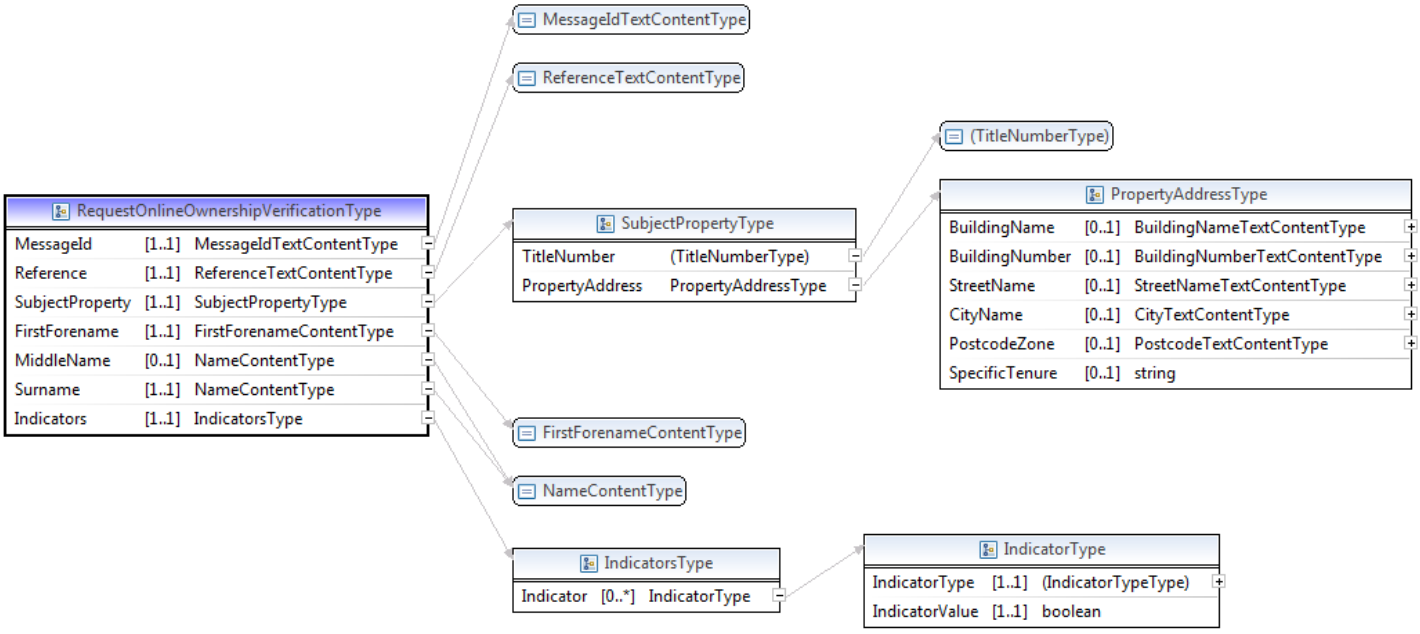
Message	Description
RequestOnlineOwnershipVerificationV1_0	This message allows Customers to submit Online Owner Verification Requests to HMLR.

10.1 Request message structure

The request message comprises generic header information which is common with requests for other services, plus information specific to the RequestOnlineOwnershipVerificationV1_0. This is illustrated below:



10.2 Request specific elements



The request message breakdown is illustrated below:

Element	Value	Rules for Use
MessageId	A unique reference associated with the application in the Case Management System	Mandatory
Reference	Reference associated with a case in Case Management System	Mandatory
SubjectProperty	Either the property title number OR the property address on which a search is being requested. See SubjectPropertyType for more details.	Mandatory
FirstForename	Forename of the proprietor to be searched	Mandatory
MiddleName	Middle name of the proprietor to be searched	Optional
Surname	Surname of the proprietor to be searched	Mandatory
Indicators	Search Indicators to enable/disable specific checks See IndicatorType for more details.	Mandatory

10.2.1 SubjectPropertyType (Request)

The SubjectPropertyType contains the details of the property to be searched against. It may contain **either** a Title number or a property address.

TitleNumber	Value
TitleNumber	The title number on which the search is to be performed

Or

PropertyAddressType	Value
BuildingName	Building Name of the property to be searched
BuildingNumber	Building Number of the property to be searched
StreetName	Street Name of the property to be searched
CityName	City or Town of the property to be searched
PostcodeZone	Postcode of the property to be searched
SpecificTenure	Tenure of the property to be searched ie freehold, leasehold or rentcharge. This is an optional element and if no specific tenure has been supplied, the system will search against all tenures

Note : For best results, minimise the information given. For example, provide building number or building name and postcode and leave all the other items blank. If the property to be searched is a flat then provide flat number in the building number. There can be confusion over the precise numbering of flats. The address we hold may be a simple number, or it may be prefixed by 'Flat', 'Suite' and so on. If a search that includes a flat number fails, try providing the address without the flat number.

10.2.2 IndicatorType (Request)

The 'Indicators' element may contain 0 or many IndicatorType elements. The value of these elements must be set to true or false in **lowercase**. If any of the IndicatorTypes are excluded from the Request message they will be set to the default values shown below.

Indicator Type Element	Value	Description	Default
ContinueIfOutOfHours	true	Request will be lodged and processed when back in hours	✓
	false	Reject request if out of hours	
SkipPartialMatching	true	Do not perform partial match checks for this request	
	false	Perform partial match checks on the supplied names if full match not achieved	✓
SkipHistoricalMatching	true	Do not perform historical search for this request	
	false	Perform historical search if no match is found on the current proprietor(s)	✓

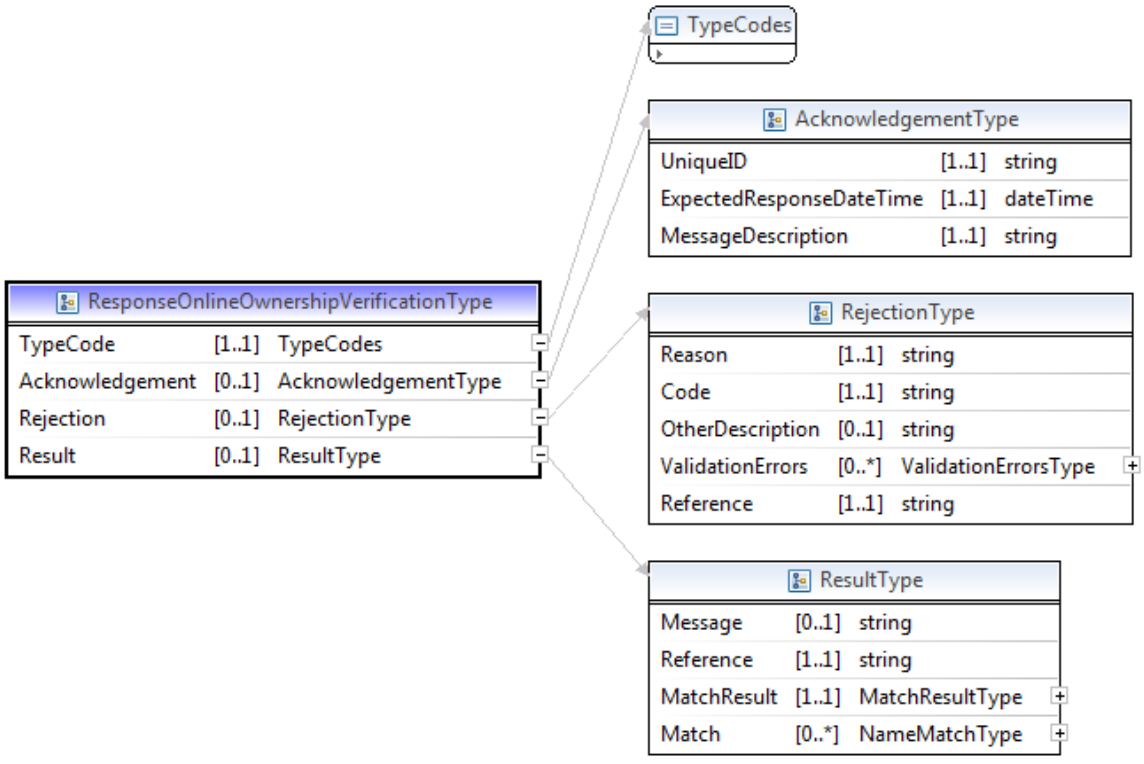
11 Online Owner Verification Response (V1_0)

ResponseOnlineOwnershipVerificationV1_0 message uses the namespace `http://www.landregistry.gov.uk/OOV/ResponseOnlineOwnershipVerificationV1_0` and must be valid with respect to the XML Schema published by HM Land Registry for that namespace.

Message	Description
ResponseOnlineOwnershipVerificationV1_0	This message allows HM Land Registry to send the Online Owner Verification Responses to the Customer.

11.1 Response message structure

The response message comprises generic information common with responses to other services, plus information specific to the ResponseOnlineOwnershipVerificationV1_0 response. This is illustrated below:



11.2 Response specific elements

Element	Description	Rules for Use
TypeCode	Used to identify the type of response that has been issued. Acknowledgement = 10 Rejection = 20 Result = 30	Mandatory
Acknowledgement	This is the Business Gateway confirmation of receipt response	Optional
Rejection	This is the Business Gateway rejection response	Optional
Result	This is the Business Gateway success response	Optional

Note: Either an acknowledgement, rejection or result message will be issued.

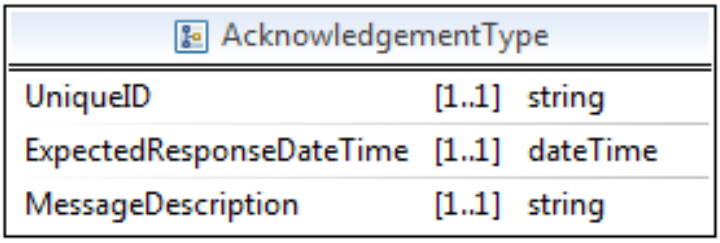
11.3 Acknowledgement response structure

The Acknowledgement message will be returned if the service is out of hours and the original request message had the indictor **ContinueIfOutOfHours** set to true.

If for any reason a valid acknowledgement, rejection or response is not received by the originator (i.e. through network error, corruption or incorrectly prepared XML) there is no way for the server to know if it was successfully received or not. If this occurs the request can be sent again with the same MessageId and the original result will be returned. If HMLR did not receive the original request the system will process the request as a new one.

Note: Any requests submitted with a duplicate MessageId will receive the last response for that MessageId regardless of the other criteria in the request.

The acknowledgement response structure is illustrated below:

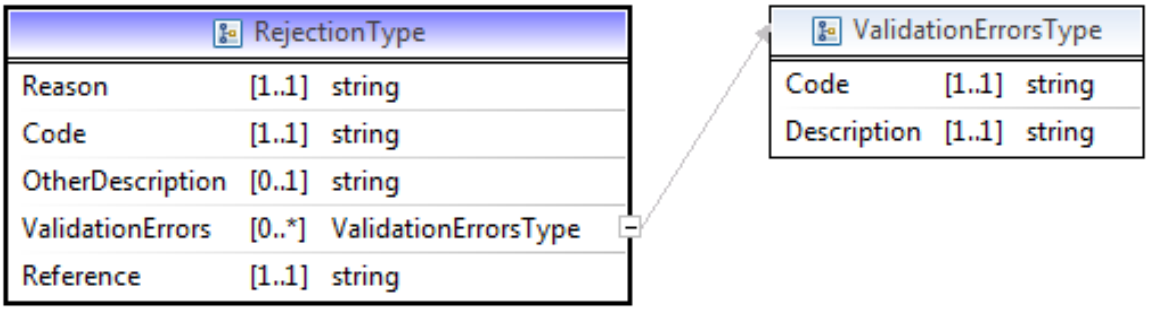


11.4 Acknowledgement specific elements

Element	Description	Rules for Use
UniqueID	A unique identifier used by the end user to get the status update of their request	Mandatory
ExpectedResponseDateTime	This element will hold the expected date and time when Business Gateway will try to process the queued request. This element will contain date and time data in a GMT format.	Mandatory
MessageDescription	This will be a String type element and will be used to return a message to the end user. See Annex for acknowledgement message text	Mandatory

11.5 Rejection response structure

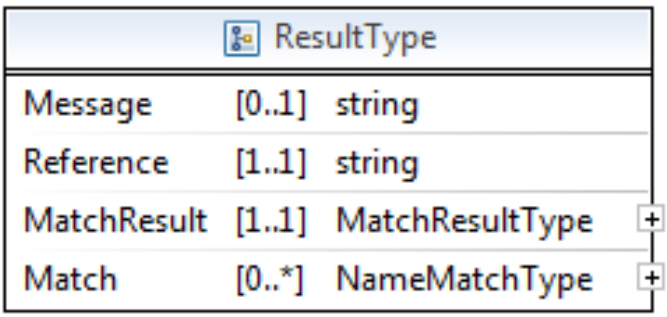
The purpose of the Rejection message is to inform the originator of the Request message that it has been rejected due to known circumstances.



11.6 Rejection specific elements

Element	Description	Rules for Use
Reason	A description of the reason for rejection. See Annex for full list of rejection reasons	Mandatory
Code	A code signifying the reason for rejection. See Annex for full list of rejection codes	Mandatory
OtherDescription	A free format text field to convey any further information about the rejection.	Optional
ValidationErrors	Validation errors.	Optional
Reference	Reference associated with a case in Case Management System	Mandatory

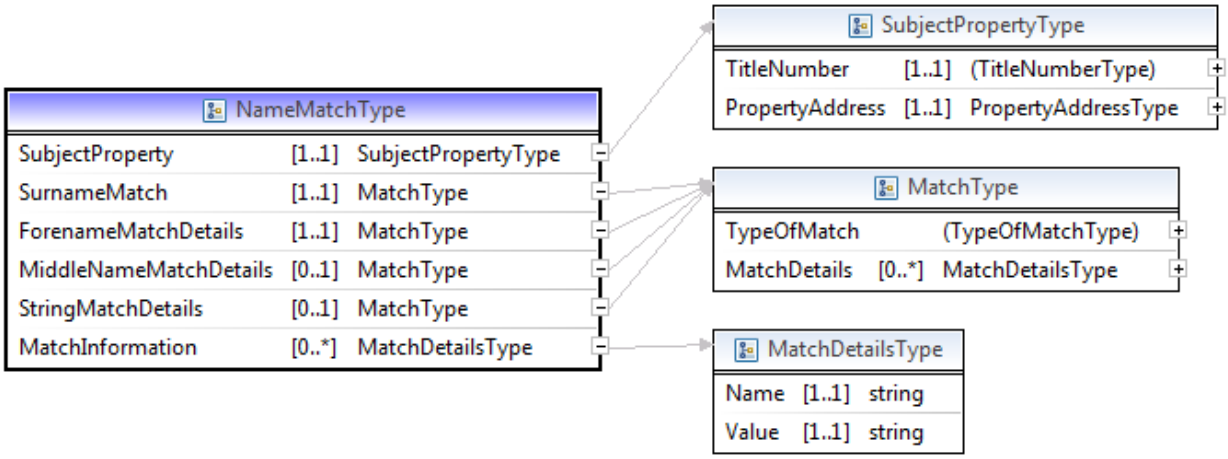
11.7 Result response structure



11.8 Result key elements

Element	Description	Rules for Use
Message	A free format text field to convey any further information about the response.	Optional
Reference	Reference associated with a case in Case Management System	Mandatory
MatchResult	Value will be either NO_MATCHES, SINGLE_MATCH, MULTIPLE_MATCHES	Mandatory
Match	Contains details of each Match. See Match Details.	Optional (0..*)

11.8.1 Match elements



Element	Description	Rules for Use
Subject Property	Contains the title number and address details for the property matched. See SubjectProperty	Mandatory
SurnameMatch	Indicates whether the Surname was matched and details of how it matched. See MatchType	Mandatory
ForenameMatchDetails	Indicates whether the Forename was matched and details of how it matched. See MatchType	Mandatory
MiddleNameMatchDetails	Indicates whether the Middle name was matched and details of how it matched. See MatchType	Optional
StringMatchDetails	Indicates if a match is found against the string concatenation of forename, middle name(s) and surname	Optional
MatchInformation	Contains additional details of the match. See Match Information	Optional (0..*)

Notes:
Forename and Middle name matches will only be returned if there has been a full match or partial match on Surname.

A string match will only be returned when there is no match on surname. For example the name to be searched in the request is Maria (FirstForename) Santos (MiddleName) Bueno (Surname) and the register of title holds Maria (forename), no middle name and Santos Bueno (surname).

11.8.2 SubjectProperty

SubjectProperty	Description	Rules for Use
TitleNumber	The title number for the property matched	Mandatory
PropertyAddress	Contains the address details for the property matched	Mandatory

11.8.3 PropertyAddress

The PropertyAddress contains the address details of the property matched.

PropertyAddress	Description	Rules for Use
BuildingName	Building name of the property matched	Optional
SubBuildingName	Sub building name of the property matched	Optional
BuildingNumber	Building number of the property matched	Optional
StreetName	Street name of the property matched	Optional
CityName	City name of the property matched	Optional
PostcodeZone	Postcode of the property matched	Optional
Tenure	Tenure of the property matched	Mandatory

11.8.4 MatchType

The MatchType element indicates the type of match and any additional match details

Element	Value	Rules for Use
TypeOfMatch	Indicates if an exact, partial or no match. Typical values MATCH, NO_MATCH, PARTIAL_MATCH or SKIPPED	Mandatory
MatchDetails	Contains additional details of the match. See Match Details	Mandatory

This could return a full match, an exact letter for letter match or a partial match, where the name matches in some way, i.e. minor spelling mistake, sounds like or first letter match.

The type of match for forename and middle name will be set to a value of ‘SKIPPED’ when there is NO match on surname.

The type of match for surname will be set to a value of ‘SKIPPED’ where there is no Private Individual proprietorship name found for a title number or where LR have no proprietorship details available for a title number.

12 Glossary Or Terms And Abbreviations

Acronym	Description
OOV	Online Owner Verification Service
HTTP	HyperText Transfer Protocol
XML	eXtensible Markup Language
Registered on date	The date HM Land Registry received the application

13 Annex

13.1.1 Acknowledgement Message

Message
Service is not currently available. System has queued your request, please poll at specified time.

13.1.2 Match Information

Name	Value
HistoricalMatch	true or false
ProprietorFrom *	Registered on date or unknown
ProprietorTo *	Registered on date or unknown
Ownership	Sole or Joint

* Only provided for Historical matches

13.1.3 Match Details

Name	Value
FORENAME_DISTANCE	true or false
FORENAME_SOUND	true or false
FORENAME_INITIAL	true or false
FORENAME_MIDDLE*	true or false
FORENAME_ALIAS	true or false
MIDNAME_DISTANCE	true or false
MIDNAME_SOUND	true or false
MIDNAME_INITIAL	true or false
SURNAME_DISTANCE	true or false
SURNAME_SOUND	true or false

*Indicates whether the forename supplied matches a middle name of the registered proprietor. e.g. Search name is Susan Brown and Proprietor name is Edith Susan Brown would return Forename Middle is 'true'

Distance matching uses Levenshtein. The distance is the number of changes needed to change one String into another, where each change is a single character modification (deletion, insertion or substitution). The returning integer is then checked and if <= (surname length/4) will return ‘true’ otherwise ‘false’.

Sound uses Double Metaphone, which looks through variant spellings by reducing surnames to phonetic codes. The "double" in the title stems from the fact that returning up to two codes for a single surname allows the algorithm to deal with common-case Anglo-Saxon and foreign-pronunciation variants simultaneously. A match on either will return ‘true’ otherwise ‘false’.

Sound and Distance Examples

Search Name	Proprietor Name	Sound Value	Distance Value
Steven	Stephen	Pass	Fail
Lin	Lynne	Pass	Fail
Smith	Smythe	Pass	Fail
Smith	Smyth	Pass	Pass
Smith	Schmidt	Pass	Fail
Goodbourn	Woodburn	Fail	Pass
Wooldridge	Aldridge	Pass	Fail

13.1.4 Rejection Codes

Code	Reason
bg.auth.fails	Login details are invalid.
bg.user.account.status.locked.password	Your account is locked. Please reset your password using Portal.
bg.outofhours.stop	Service is not currently available and your request will not be processed
bg.properties.nopropertyfound	No title number has been identified from the data supplied. This does not necessarily mean that a register of a title does not exist but only that insufficient data has matched.
bg.properties.novalidtitlefound	No valid title number has been identified from the data supplied for this service
bg.address.invalidaddresscriteria	Insufficient address details. Please provide house name or number and postcode OR house name or number, street and city
bg.postcode.invalid	Please provide valid postcode
bg.title.invalid	Title number is invalid
bg.properties.toomanyproperties	The property address you entered has matched with a large number of properties on our database. Please request again with refined address details.

13.1.5 Sample Messages

Sample request message

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<RequestOOV xmlns="http://www.landregistry.gov.uk/OOV/RequestOnlineOwnershipVerificationV1_0">
        <MessageId>OnlineOwnershipVerification-20131217-094743</MessageId>
        <Reference>ABC</Reference>
        <SubjectProperty>
                <PropertyAddress>
                <BuildingNumber>101A</BuildingNumber>
                <PostcodeZone>PL1 1QQ</PostcodeZone>
                </PropertyAddress>
        </SubjectProperty>
        <FirstForename>Jon</FirstForename>
        <MiddleName>Tomas</MiddleName>
        <Surname>Tankerman</Surname>
        <Indicators>
                <Indicator>
                <IndicatorType>ContinuIfOutOfHours</IndicatorType>
                <IndicatorValue>true</IndicatorValue>
                </Indicator>
        </Indicators>
</RequestOOV>
```

Sample response message

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<ResponseOOV
xmlns="http://www.landregistry.gov.uk/OOV/ResponseOnlineOwnershipVerificationV1_0">
	<TypeCode>30</TypeCode>
	<Result>
	<Reference>ABC</Reference>
	<MatchResult>SINGLE_MATCH</MatchResult>
	<Match>
		<SubjectProperty>
			<TitleNumber>NT100</TitleNumber>
			<PropertyAddress>
				<BuildingNumber>101A</BuildingNumber>
				<StreetName>APPLE ROAD</StreetName>
				<CityName>NOTTINGHAM</CityName>
				<PostcodeZone>PL1 1QQ</PostcodeZone>
				<Tenure>freehold</Tenure>
			</PropertyAddress>
		</SubjectProperty>
		<SurnameMatch>
			<TypeOfMatch>NO_MATCH</TypeOfMatch>
		</SurnameMatch>
		<StringMatchDetails>
			<TypeOfMatch>NO_MATCH</TypeOfMatch>
		</StringMatchDetails>
	</Match>
	<Match>
		<SubjectProperty>
			<TitleNumber>NT275842</TitleNumber>
			<PropertyAddress>
				<BuildingNumber>101A</BuildingNumber>
				<StreetName>APPLE ROAD</StreetName>
				<CityName>NOTTINGHAM</CityName>
				<PostcodeZone>PL1 1QQ</PostcodeZone>
				<Tenure>leasehold</Tenure>
			</PropertyAddress>
		</SubjectProperty>
		<SurnameMatch>
			<TypeOfMatch>MATCH</TypeOfMatch>
		</SurnameMatch>
		<ForenameMatchDetails>
			<TypeOfMatch>MATCH</TypeOfMatch>
		</ForenameMatchDetails>
```

```
            <MiddleNameMatchDetails>
                  <TypeOfMatch>MATCH</TypeOfMatch>
            </MiddleNameMatchDetails>
            <MatchInformation>
                  <Name>HistoricalMatch</Name>
                  <Value>true</Value>
            </MatchInformation>
            <MatchInformation>
                  <Name>Ownership</Name>
                  <Value>Joint</Value>
            </MatchInformation>
            <MatchInformation>
                  <Name>ProprietorFrom</Name>
                  <Value>26 Feb 2009</Value>
            </MatchInformation>
            <MatchInformation>
                  <Name>ProprietorTo</Name>
                  <Value>31 Dec 2012</Value>
            </MatchInformation>
      </Match>
      </Result>
</ResponseOOV>
```

13.1.6 Schemas

XML Schemas are compliant with e-GIF (Electronic Government Interoperability Framework) standards.

Schema files are named according to the standard *<filename>-vm-n.xsd* where *v* is the letter 'v', *m* is the major version number and *n* is the minor version number.

13.1.7 RequestOnlineOwnershipVerificationV1_0.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
      targetNamespace="http://www.landregistry.gov.uk/OOV/RequestOnlineOwnershipVerificat
ionV1_0"
      xmlns="http://www.landregistry.gov.uk/OOV/RequestOnlineOwnershipVerificationV1_0"
      elementFormDefault="qualified">
      <xs:element name="RequestOOV" type="RequestOnlineOwnershipVerificationType">
```

```
</xs:element>

<xs:complexType name="RequestOnlineOwnershipVerificationType">
	<xs:sequence>
		<xs:element name="MessageId" type="MessageIdTextContentType"
			minOccurs="1" maxOccurs="1">
		</xs:element>
		<xs:element name="Reference" type="ReferenceTextContentType"
			minOccurs="1" maxOccurs="1">
		</xs:element>
		<xs:element name="SubjectProperty" type="SubjectPropertyType"
			minOccurs="1" maxOccurs="1">
		</xs:element>
		<xs:element name="FirstForename" type="FirstForenameContentType"
			minOccurs="1" maxOccurs="1">
		</xs:element>
		<xs:element name="MiddleName" type="NameContentType"
			minOccurs="0" maxOccurs="1">
		</xs:element>
		<xs:element name="Surname" type="NameContentType" minOccurs="1"
			maxOccurs="1">
		</xs:element>
		<xs:element name="Indicators" type="IndicatorsType"
			minOccurs="1" maxOccurs="1">
		</xs:element>
	</xs:sequence>
</xs:complexType>

<xs:simpleType name="FirstForenameContentType">
	<xs:restriction base="xs:string">
		<xs:minLength value="1"></xs:minLength>
		<xs:pattern value="[a-zA-Z0-9\-']+"></xs:pattern>
	</xs:restriction>
</xs:simpleType>
<xs:simpleType name="NameContentType">
	<xs:restriction base="xs:string">
		<xs:minLength value="1"></xs:minLength>
		<xs:pattern value="[a-zA-Z0-9\-\s']+"></xs:pattern>
	</xs:restriction>
</xs:simpleType>

<xs:complexType name="SubjectPropertyType">
		<xs:choice minOccurs="1" maxOccurs="1" >
		<xs:element name="TitleNumber">
```

```
                        <xs:simpleType>
                              <xs:restriction base="xs:string">
                                    <xs:maxLength value="9"></xs:maxLength>
                                    <xs:minLength value="1"></xs:minLength>
                                    <xs:pattern value="[a-yA-
Y]{0,3}\d{1,6}|Z\d{1,6}Z"></xs:pattern>
                              </xs:restriction>
                        </xs:simpleType>
                        </xs:element>
                        <xs:element name="PropertyAddress" type="PropertyAddressType" />
                  </xs:choice>
            </xs:complexType>

            <xs:complexType name="PropertyAddressType">
                  <xs:sequence>

                        <xs:element name="BuildingName" type="BuildingNameTextContentType"
                              minOccurs="0" maxOccurs="1">
                              <xs:annotation>
                                    <xs:documentation>The name of the building or house on a
street
                                          of this address
                                    </xs:documentation>
                              </xs:annotation>
                        </xs:element>
                        <xs:element name="BuildingNumber" type="BuildingNumberTextContentType"
                              minOccurs="0" maxOccurs="1">
                              <xs:annotation>
                                    <xs:documentation>The number of a building or house on a
street
                                          of this address. Where the building or house
occupies a range of
                                          numbers on the street, e.g. '1-9 Main St', this
will be the lower
                                          number of the range.
                                    </xs:documentation>
                              </xs:annotation>
                        </xs:element>
                        <xs:element name="StreetName" type="StreetNameTextContentType"
                              minOccurs="0" maxOccurs="1">
                              <xs:annotation>
                                    <xs:documentation>Name of a street or thoroughfare
                                    </xs:documentation>
                              </xs:annotation>
```

```
                </xs:element>
                <xs:element name="CityName" type="CityTextContentType"
                        minOccurs="0" maxOccurs="1">
                        <xs:annotation>
                                <xs:documentation>The name of the city, town or village
of this
                                        address.</xs:documentation>
                        </xs:annotation>
                </xs:element>
                <xs:element name="PostcodeZone" type="PostcodeTextContentType"
                        minOccurs="0" maxOccurs="1">
                        <xs:annotation>
                                <xs:documentation>The identifier for one or more
properties
                                        according to the UK postal service; a group of
letters and numbers
                                        added to the postal address to assist in the
sorting of mail, as
                                        defined by the Royal Mail.
                                </xs:documentation>
                        </xs:annotation>
                </xs:element>
                <xs:element name="SpecificTenure" type="xs:string" minOccurs="0"
maxOccurs="1"></xs:element>
        </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="PostcodeTextContentType">
        <xs:restriction base="xs:string">
            <xs:minLength value="1" />
            <xs:maxLength value="8" />
            <xs:pattern value="[a-zA-Z]{1,2}[0-9R][0-9A-Za-z]? [0-9][A-Za-z-
[CIKMOVcikmov]]{2}" />
        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="CityTextContentType">
        <xs:restriction base="xs:string">
            <xs:minLength value="1" />
            <xs:maxLength value="35" />
            <xs:pattern value=".*\S.*" />
        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="StreetNameTextContentType">
        <xs:restriction base="xs:string">
            <xs:minLength value="1" />
```

```
                <xs:maxLength value="80" />
                <xs:pattern value=".*\S.*" />
            </xs:restriction>
        </xs:simpleType>
        <xs:simpleType name="BuildingNameTextContentType">
            <xs:restriction base="xs:string">
                <xs:minLength value="1" />
                <xs:maxLength value="50" />
                <xs:pattern value=".*\S.*" />
            </xs:restriction>
        </xs:simpleType>
        <xs:simpleType name="BuildingNumberTextContentType">
            <xs:restriction base="xs:string">
                <xs:minLength value="1" />
                <xs:maxLength value="5" />
                <xs:pattern value=".*\S.*" />
            </xs:restriction>
        </xs:simpleType>
        <xs:simpleType name="ReferenceTextContentType">
            <xs:restriction base="xs:string">
                <xs:minLength value="1" />
                <xs:maxLength value="25" />
                <xs:pattern
                    value="[A-Za-z0-9\s~!&amp;quot;@#$%'\(\)\*\+,\-
\./:;=&amp;gt;\?\[\\\]_\{\}\^&amp;#xa3;&amp;amp;]*" />
            </xs:restriction>
        </xs:simpleType>
        <xs:simpleType name="MessageIdTextContentType">
            <xs:restriction base="xs:string">
                <xs:minLength value="5" />
                <xs:maxLength value="50" />
                <xs:pattern value="[a-zA-Z0-9][a-zA-Z0-9\-]*" />
            </xs:restriction>
        </xs:simpleType>

        <xs:complexType name="MiddleNameType">
            <xs:sequence>
                <xs:element name="MiddleName" type="NameContentType"
                    minOccurs="1" maxOccurs="1"></xs:element>
            </xs:sequence>
        </xs:complexType>

        <xs:complexType name="IndicatorsType">
            <xs:sequence>
```

```
                <xs:element name="Indicator" type="IndicatorType" minOccurs="0"
                        maxOccurs="unbounded">
                </xs:element>
            </xs:sequence>
        </xs:complexType>

        <xs:complexType name="IndicatorType">
            <xs:sequence>
                <xs:annotation>
                    <xs:documentation>
                    The indicators are generic so that new options can be added in
the future without schema changes.
                    Expected indicators are:
                    ContinueIfOutOfHours
                    SkipPartialMatching
                    SkipHistoricalMatching
                    </xs:documentation>
                </xs:annotation>
                <xs:element name="IndicatorType" minOccurs="1" maxOccurs="1">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:minLength value="1"></xs:minLength>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="IndicatorValue" type="xs:boolean" minOccurs="1"
                    maxOccurs="1"></xs:element>
            </xs:sequence>
        </xs:complexType>
</xs:schema>
```

13.1.8 ResponseOnlineOwnershipVerificationV1_0.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
	targetNamespace="http://www.landregistry.gov.uk/OOV/ResponseOnlineOwnershipVerificationV1_0"
	xmlns="http://www.landregistry.gov.uk/OOV/ResponseOnlineOwnershipVerificationV1_0"
	elementFormDefault="qualified">

	<xs:element name="ResponseOOV" type="ResponseOnlineOwnershipVerificationType">
	</xs:element>

	<xs:complexType name="ResponseOnlineOwnershipVerificationType">
		<xs:sequence>
			<xs:element name="TypeCode" type="TypeCodes" maxOccurs="1" minOccurs="1"></xs:element>
			<xs:element name="Acknowledgement" type="AcknowledgementType" maxOccurs="1" minOccurs="0">
			</xs:element>
			<xs:element name="Rejection" type="RejectionType" maxOccurs="1" minOccurs="0"></xs:element>
			<xs:element name="Result" type="ResultType" maxOccurs="1" minOccurs="0"></xs:element>
		</xs:sequence>
	</xs:complexType>

	<xs:complexType name="ResponseType">
		<xs:sequence>
			<xs:element name="Code" type="xs:string"></xs:element>
			<xs:element name="Text" type="xs:string"></xs:element>
		</xs:sequence>
	</xs:complexType>

    <xs:simpleType name="TypeCodes">
	   <xs:restriction base="xs:string">
		<xs:enumeration value="10">
			<xs:annotation>
				<xs:documentation>Acknowledgement</xs:documentation>
			</xs:annotation></xs:enumeration>
		<xs:enumeration value="20">
			<xs:annotation>
				<xs:documentation>Rejections</xs:documentation>
			</xs:annotation></xs:enumeration>
		<xs:enumeration value="30">
```

```
                    <xs:annotation>
                          <xs:documentation>Result</xs:documentation>
                    </xs:annotation></xs:enumeration>
       </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="AcknowledgementType">
        <xs:sequence>
      <xs:element name="UniqueID" type="xs:string" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>Unique identifier used by end user to get the status update of
their request.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="ExpectedResponseDateTime" type="xs:dateTime" minOccurs="1"
maxOccurs="1">
        <xs:annotation>
          <xs:documentation>This element will hold expected time when Business Gateway
will try to process the queued request. This
element will contain date and time data as GMT format. This element should be marked as
mandatory</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="MessageDescription" type="xs:string" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>This will be a String type element and will be use to display
a message to end user. This element should be marked as mandatory</xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
    </xs:complexType>

    <xs:complexType name="RejectionType">
    <xs:annotation>
      <xs:documentation>Provides details of the reasons for the
rejection.</xs:documentation>
    </xs:annotation>
    <xs:sequence>
       <xs:element name="Reason" type="xs:string" minOccurs="1"
             maxOccurs="1">
             <xs:annotation>
                    <xs:documentation>
                          A description of the reason for rejection.
                    </xs:documentation>
```

```
            </xs:annotation>
        </xs:element>
        <xs:element name="Code" type="xs:string" minOccurs="1"
            maxOccurs="1">
            <xs:annotation>
                <xs:documentation>
                    A code signifying the reason for rejection
                </xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="OtherDescription" type="xs:string" minOccurs="0"
            maxOccurs="1">
            <xs:annotation>
                <xs:documentation>
                    Freeform text field to convey any further
                    information about the rejection.
                </xs:documentation>
            </xs:annotation>
        </xs:element>
        <xs:element name="ValidationErrors" type="ValidationErrorsType"
            minOccurs="0" maxOccurs="unbounded" />
        <xs:element name="Reference" type="xs:string" maxOccurs="1"
minOccurs="1"></xs:element>
    </xs:sequence>
    </xs:complexType>
   <xs:complexType name="ValidationErrorsType">
    <xs:sequence>
      <xs:element name="Code" type="xs:string" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>A character string (i.e. a finite set of characters) generally
in the form of words of a language.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="Description" type="xs:string" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>A character string (i.e. a finite set of characters) generally
in the form of words of a language.</xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
  </xs:complexType>

   <xs:complexType name="ResultType">
       <xs:sequence>
```

```
            <xs:element name="Message" type="xs:string" maxOccurs="1"
                  minOccurs="0">
            </xs:element>
            <xs:element name="Reference" type="xs:string" maxOccurs="1"
                  minOccurs="1">
            </xs:element>
            <xs:element name="MatchResult" type="MatchResultType" maxOccurs="1"
minOccurs="1"></xs:element>
            <xs:element name="Match" type="NameMatchType"
                  maxOccurs="unbounded" minOccurs="0">
            </xs:element>
      </xs:sequence>
   </xs:complexType>
   <xs:simpleType name="MatchResultType">
      <xs:restriction base="xs:string">
            <xs:enumeration value="NO_MATCHES"></xs:enumeration>
            <xs:enumeration value="SINGLE_MATCH"></xs:enumeration>
            <xs:enumeration value="MULTIPLE_MATCHES"></xs:enumeration>
      </xs:restriction>
   </xs:simpleType>
    <xs:complexType name="PropertyAddressType">
      <xs:sequence>
            <xs:element name="BuildingName" type="xs:string" minOccurs="0" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The name of the building or house on a street
                              of this address
                        </xs:documentation>
                  </xs:annotation>
            </xs:element>
            <xs:element name="SubBuildingName" type="xs:string" maxOccurs="1"
minOccurs="0"></xs:element>
            <xs:element name="BuildingNumber" type="xs:string" minOccurs="0"
maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The number of a building or house on a street
                              of this address. Where the building or house
                              occupies a range of numbers on the street,
                              e.g. '1-9 Main St', this will be the lower
                              number of the range.
                        </xs:documentation>
                  </xs:annotation>
            </xs:element>
```

```
            <xs:element name="StreetName" type="xs:string" minOccurs="0" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              Name of a street or thoroughfare
                        </xs:documentation>
                  </xs:annotation>
            </xs:element>
            <xs:element name="CityName" type="xs:string" minOccurs="0"maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The name of the city, town or village of this address.
                              </xs:documentation>
                        </xs:annotation>
            </xs:element>
            <xs:element name="PostcodeZone" type="xs:string" minOccurs="0" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The identifier for one or more properties according to
                        the UK postal service; a group
                              of letters and numbers added to the postal address to
                        assist in the sorting of mail,
                               as defined by the Royal Mail.
                        </xs:documentation>
                  </xs:annotation>
            </xs:element>
            <xs:element name="Tenure" type="xs:string" maxOccurs="1"
      minOccurs="1"></xs:element>
            </xs:sequence>
      </xs:complexType>
      <xs:complexType name="NameMatchType">
      <xs:sequence>
            <xs:element name="SubjectProperty" type="SubjectPropertyType" maxOccurs="1"
      minOccurs="1"></xs:element>
            <xs:element name="SurnameMatch" type="MatchType"maxOccurs="1"
      minOccurs="1"></xs:element>
            <xs:element name="ForenameMatchDetails" type="MatchType" maxOccurs="1"
      minOccurs="1"></xs:element>
            <xs:element name="MiddleNameMatchDetails" type="MatchType"maxOccurs="1"
      minOccurs="0"></xs:element>            <xs:element name="StringMatchDetails"
      type="MatchType"maxOccurs="1" minOccurs="0"></xs:element>
            <xs:element name="MatchInformation" type="MatchDetailsType"
      maxOccurs="unbounded" minOccurs="0"></xs:element>   </xs:sequence>
   </xs:complexType>
   <xs:complexType name="MatchType">
```

```
<xs:sequence>
```

```
                <xs:element name="TypeOfMatch">
                      <xs:simpleType>
                            <xs:restriction base="xs:string">
                                  <xs:enumeration value="MATCH"></xs:enumeration>
                                  <xs:enumeration value="NO_MATCH"></xs:enumeration>
                                  <xs:enumeration
value="PARTIAL_MATCH"></xs:enumeration>
                                  <xs:enumeration value="SKIPPED"></xs:enumeration>
                            </xs:restriction>
                      </xs:simpleType>
                </xs:element>
                <xs:element name="MatchDetails" type="MatchDetailsType"
maxOccurs="unbounded" minOccurs="0"></xs:element>
          </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MatchDetailsType">
          <xs:sequence>
                <xs:annotation>
                <xs:documentation>
                            Flexible name/value pair element to include various
values.
                            Possible options are:
                            Name                Values (string)
                      HistoricalMatch     true or false
                      ProprietorFrom      date or unknown
                      ProprietorTo        date or unknown
                      Ownership           Sole or Joint
                            FORENAME_DISTANCE   true or false
                            FORENAME_SOUND      true or false
                            FORENAME_INITIAL    true or false
                            FORENAME_MIDDLE     true or false
                            FORENAME_ALIAS      true or false
                            MIDNAME_DISTANCE    true or false
                            MIDNAME_SOUND true or false
                            MIDNAME_INITIAL     true or false
                            SURNAME_DISTANCE    true or false
                            SURNAME_SOUND true or false
                            Note: _DISTANCE is Levenshtein distance and _SOUND is
sounds like (DoubleMetaphone)                           </xs:documentation>
                </xs:annotation>
                <xs:element name="Name" type="xs:string" maxOccurs="1"
minOccurs="1"></xs:element>
```

```
                <xs:element name="Value" type="xs:string" maxOccurs="1"
minOccurs="1"></xs:element>
          </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SubjectPropertyType">
          <xs:sequence>
            <xs:element name="TitleNumber" maxOccurs="1" minOccurs="1">
                <xs:simpleType>
                      <xs:restriction base="xs:string">
                            <xs:minLength value="1"></xs:minLength>
                            <xs:maxLength value="9"></xs:maxLength>
                      </xs:restriction>
                </xs:simpleType>
          </xs:element>
            <xs:element name="PropertyAddress" type="PropertyAddressType" maxOccurs="1"
minOccurs="1">
          </xs:element>
          </xs:sequence>
    </xs:complexType>
</xs:schema>
```