Custodian Web Services

Version 2.10

Land Victoria

Version/Change Summary

Version	Change Summary	Date
0.01	Preliminary Edition	9th December, 2014
1.0	Updated section 2.3.8 to provide the correct attribute name for CustodianIdentifier XML node. Updated section 3.2.2 to add the location of schema and wsdl. Also mentioned that the response schema is same as Custodian Web Service 1.10.	27th March, 2020

Management Summary

This specification covers the Web Services Interface for custodians, developed by LANDATA® on behalf of Land Victoria and intended for use as a standard. It builds upon the Structured E-mail standard to provide an alternative means for the delivery of certificate requests to custodians and for delivery of the certificates from custodians to Agents.
There may be a number of agencies that procure certificates on behalf of their clients that will use this standard.

The Web Services provide :

1. an interface, to be hosted by custodians, to service requests for Vendor Statement Certificates and subsequent status checks.
2. an interface hosted by agencies to enable custodians to fulfil requests by delivering the resulting certificate(s) for an order(s) and to "push" processing status if desired.

The objectives of the interface are to:

- Provide a secure on-line service for the efficient delivery of Vendor Statement requests and the resulting certificates.   This should directly translate to reduction in service times and improved cost efficiencies for custodians.

- Assist custodians in locating properties of interest by provision of additional property identifiers via value-adding systems such as LANDATA's Property Identifier Translation System (PTS).

- Facilitate full integration with custodian systems in a platform independent and standard way.

- Maintain full compatibility with the XML documents used by the LANDATA® Structured E-mail standard so that the latter

service is viable as a fall-back communications mechanism if desired and to facilitate migration between the two alternative "transports".

- Provide an asynchronous request/response protocol to allow for arbitrarily long service times for requests.

Contents

Appendices

1   Document Overview

1.1   Purpose

1.1.1   Introduction

This document describes the Web Services Interface for Custodians and specifies the format of the messages exchanged.

1.1.2   Document Content

The contents of the document are as follows:

- Chapter 2 provides a description of the Web Services interface.

The following appendices are also provided:

- Appendix A: Request Definition – definitions of the request provided by agencies to custodians.

- Appendix B: Response Definition – definitions of the response provided by custodians to the requesting agency when certificates are returned by e-mail.

- Appendix C: documents important request elements/fields.

1.1.3   Target Audience

The target audience for this document is IT management, package vendor and custodian software developers.

Exposure to Internet and XML technologies is desirable.

2   Web Services Interface

2.1   Introduction

This chapter provides a description of the Web Services Interface for custodians. This is a type of application to application (A2A) protocol using standard Web Services to transport request and responses as standard XML documents.

2.2   Business Perspective

2.2.1   Purpose

The protocol facilitates automated order fulfilment processes provided by agencies and custodians such as councils and water authorities.

The objectives of the interface are to:

- Deliver Vendor Statement (Section 32) requests and receive responses including certificates responsively and securely on-line.

- Reduce order fulfillment times by using appropriate automation to improve delivery times.

- Improve cost effectiveness for custodians in responding to certificate requests.

2.2.2   Business Functions Performed

LANDATA® Web Services provide the following services:

- Delivery of requests to custodians.

- Providing for certificates returned.

- The interface captures data for application tracking reports and processing history.

2.3   Technical Perspective

2.3.1   Technologies Employed

The structured e-mail interface is designed to support Application-to-Application exchange of Property Certificate requests using standard and widely available Internet technologies as follows:

- Web Services is used as the document transport and interchange standard

- XML (eXtensible Markup Language) is used in the body of the Web Service messages to describe requests and responses.

- Secure access, authentication and encryption based on the SSL/TLS protocol and agreed X.509 Public Key Infrastructure certificates.

- These technologies are platform neutral.

2.3.2   Exchange of Identifiers

To support the processing workflow and pursuit of status checks, agencies such as LANDATA supply application id and certificate number (with a check number) references for return by custodians.

The check number is retained for compatibility with the e-mail based system.

The purpose of the status check is to follow-up a possibly lost requests when a response has not been received within accepted time-limits. This will contain all of the information required to request a certificate – but a new order should not be initiated if one is already in progress (as would be expected).

Custodians can also "push" status to the requesting agency (if technically convenient) so as to notify important processing events.

Custodians can supply transaction references which can be stored by Agents to support status checks, billing enquiries etc.

2.3.3   Security

This standard employs X.509 certificates for authentication and authorisation purposes. Web Services are called using HTTPS instead of the less secure HTTP protocol. Secure Sockets Layer (SSL/TLS) technology invoked by HTTPS ensures that transactions are encrypted and safe from outside influences.

In effect, certificates attach a *digital ID* to the Web Services requests. A *digital ID* is composed of a *public key*, a *private key*, and a *digital signature*. The combination of a digital signature and public key is called a "certificate."

Recipients use this digital signature to verify the sender's identity and take subsequent action depending on appropriate authorisations.

2.3.4 Custodian Web Services

The web service calls to be supported by custodians would be as follows:

CertificateRequest (customerRequest, out custodianResponse, out exception)

- *customerRequest* is the XML request document. Refer to section 2.3.7

- *custodianResponse* is the XML acknowledgement response document. Refer to section 2.3.8

- *exception* is an output array of string error messages.

CertificateStatus (customerRequest, out custodianResponse, out exception)

- *customerRequest* is the XML request document. Refer to section 2.3.7

- *custodianResponse* is the XML acknowledgement response document. Refer to section 2.3.8

- *exception* is an array of string error messages.

NODRequest (nodRequest1, out custodianResponse, out exception)

- *nodRequest1* is the XML request document. Refer to section 2.3.11

- *custodianResponse* is the XML acknowledgement response document. Refer to section 2.3.8

- *exception* is an output array of string error messages.

2.3.5 Agency Web Services

The web service call to be supported by requesting agencies would be as follows:

CertificateProvision (custodianCertificate, custodianAttachment, out exception)

- *custodianCertificate* is the XML response document including custodian identifier and certificate text when applicable. Refer to section 2.3.9.

- *custodianAttachment* is the PDF file as an encoded string where applicable. When no PDF file is available (eg when the certificate is provided as text via the parameter above), this can be set to NULL.

- *exception* is an array of string error messages.

CertificateStatusPush (custodianResponse, out exception)

- *custodianResponse* is the XML acknowledgement response document. Refer to section 2.3.8

- *exception* is a returned array of string error messages.

2.3.6 Return Values & Exception Array

In the event of errors occurring, the exception array will contain descriptive information.

All Web Services return an integer return value as follows:

Return Value	Meaning	Exception
0	Success	Not applicable
-1	System Exception - Possibly retryable	One element containing : *Exception Code*: *Exception Text*.
-2	System Exception - Not retryable (eg non-existent service)	One element containing : *Exception Code*: *Exception Text*.
1	Information (eg application direction or processing instruction)	One or more elements containing information or application directions or processing instructions.
2	Warning (eg validation error)	One or more elements containing warning messages.
3	Error (eg validation error)	One or more elements containing error messages.

2.3.7 XML Messages

Although use of XML in describing the request and response documents might appear daunting to those unfamiliar with the technology, it is actually simple, standard and straight-forward.

The following points should be borne in mind:

- XML requests and responses are simply text messages.

- The document data is flexible and "self describing" so inflexible, fixed message layouts can be avoided.

- Modern IT platforms contain tools to process XML documents eg using script based tools.

Note that most of the data provided in the standard application form can be carried via the XML documents. Custodians may only require a subset of the data contained in the message. Any data not required can simply be ignored

Example request and reply messages appear overleaf.

2.3.8 customerRequest XML

An example customerRequest XML document might be:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<CustomerRequests>
  <CustomerRequest>
    <AgentReference>
        <ApplicationId>1249874</ApplicationId>
        <CertificateNumber>006</CertificateNumber>
        <CheckNumber>3</CheckNumber>
    </AgentReference>
    <Agent>LANDATA</Agent>
    <MessageType>REQ</MessageType>
    <CustomerReference>Fred0930</CustomerReference>
    <PropertyPfi>8649537</PropertyPfi>
    <SettlementDate>2003-06-20</SettlementDate>
    <PropertyAddress>
        <DisplayAddress>
            <StreetLocation>FLAT 155, 55-57</StreetLocation>
            <StreetName>BAMFIELD ROAD</StreetName>
            <Suburb>HEIDELBERG HEIGHTS</Suburb>
            <Postcode>3081</Postcode>
        </DisplayAddress>
        <ParsedAddress>
            <UnitType>Flat</UnitType>
            <UnitNumber1>155</UnitNumber1>
            <StreetNumber1>55</StreetNumber1>
            <StreetNumber2>57</StreetNumber2>
            <Street>BAMFIELD</Street>
            <StreetType>ROAD</StreetType>
            <Suburb>HEIDELBERG HEIGHTS</Suburb>
            <Postcode>3081</Postcode>
        </ParsedAddress>
    </PropertyAddress>
    <Municipality>BANYULE</Municipality>
    <Titles>
        <Title>
            <VolumeFolio>10012/768</VolumeFolio>
        </Title>
    </Titles>
    <LotPlansAndCrownAllotments>
        <LotPlan>
            <Lots>1</Lots>
            <PlanNumber>PS305372</PlanNumber>
        </LotPlan>
    </LotPlansAndCrownAllotments>
    <CustodianIdentifiers>
        <CustodianIdentifier name="City of Banyule" type="CPN">
            247296</CustodianIdentifier>
        <CustodianIdentifier name="Yarra Valley Water"
            type="property">2437425966</CustodianIdentifier>
    </CustodianIdentifiers>
    <MapReferences>
        <MapReference mapEdition="31st">
            <MapName>Melway</MapName>
            <MapPage>31</MapPage>
            <MapGrid>A2</MapGrid>
        </MapReference>
    </MapReferences>
    <ProprietorNames>
        <ProprietorName>ROBINSON, CHRISTOPHER</ProprietorName>
    </ProprietorNames>
    <CertificateName code="24">Land Information
Statement</CertificateName>
    <TimeStamp>2003-11-22T12:54:03</TimeStamp>
  </CustodianRequest>
</CustodianRequests>
```

2.3.9 custodianResponse XML

An example custodianResponse XML document might be:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<CustodianResponses>
    <CustodianResponse>
        <AgentReference>
            <ApplicationId>1249874</ApplicationId>
            <CertificateNumber>006</CertificateNumber>
            <CheckNumber>3</CheckNumber>
        </AgentReference>
        <MessageType>ACK</MessageType>
        <OrderStatus code="InProgress">Expect completion by Thursday
27/11/2003.</OrderStatus>
        <CustodianReferences>
            <CustodianReference>31092</CustodianReference>
        </CustodianReferences>
        <TimeStamp>2003-11-22T12:54:03</TimeStamp>
    </CustodianResponse>
</CustodianResponses>
```

2.3.10 custodianCertificate XML

An example custodianCertificate XML document might be:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<CustodianResponses>
  <CustodianResponse>
    <AgentReference>9666738</AgentReference>
    <MessageType>CER</MessageType>
    <OrderStatus code="Completed">Completed Monday
25/11/2003</OrderStatus>
    <CertificateType>PDF</CertificateType>
    <CustodianReferences>
        <CustodianReference>31092</CustodianReference>
    </CustodianReferences>
    <Exceptions>
        <Exception code="0"/>
    </Exceptions>
    <TimeStamp>2003-11-22T12:54:03</TimeStamp>
  </CustodianResponse>
</CustodianResponses>
```

2.3.11 nodRequest XML

An example nodRequest XML document might be:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<NODRequest
xmlns="http://www.landata.vic.gov.au/reseller/index.xhtml">
    <NODRequest>
        <AgentReference>25153135:43780650</AgentReference>
        <Agent>SAIGPROPERTY</Agent>
        <MessageType>REQ</MessageType>
        <CustomerReference>16867590</CustomerReference>
        <PropertyAddress>
            <DisplayAddress>
                <StreetLocation>67</StreetLocation>
                <StreetName>Arncliffe</StreetName>
                <Suburb>GREENVALE</Suburb>
                <Postcode>3059</Postcode>
            </DisplayAddress>
            <ParsedAddress>
                <StreetNumber1>67</StreetNumber1>
                <Street>Arncliffe</Street>
                <StreetType>Boulevard</StreetType>
                <Suburb>GREENVALE</Suburb>
                <Postcode>3059</Postcode>
            </ParsedAddress>
        </PropertyAddress>
        <Titles>
            <Title>
                <VolumeFolio>9872/512</VolumeFolio>
            </Title>
        </Titles>
        <LotPlansAndCrownAllotments>
            <LotPlan>
                <Lots>369</Lots>
                <PlanNumber>LP213739</PlanNumber>
            </LotPlan>
        </LotPlansAndCrownAllotments>
        <ExtraInformation>30074728</ExtraInformation>
        <ApplicantDetails>
            <ApplicantName>Casual Client C/O SAI Global via SAI
Global Property</ApplicantName>
            <ApplicantAddress1>Level 3 355 Spencer
Street</ApplicantAddress1>
            <ApplicantAddress2>WEST MELBOURNE VIC
3003</ApplicantAddress2>
            <ApplicantPhone>1300 730 000</ApplicantPhone>
            <ApplicantFax>1300 741 033</ApplicantFax>

<ApplicantEmail>certificates@property.saiglobal.com</ApplicantEmail>
            <PreferredDeliveryMethod>Email</PreferredDeliveryMethod>
        </ApplicantDetails>
        <CertificateName code="107">VICYVW_ENOD</CertificateName>
        <TimeStamp>2014-11-27T02:21:53</TimeStamp>
        <VendorDetails>
            <CustomerType>PERSON</CustomerType>
            <PartyType>
                <Title>MR</Title>
                <Surname>Iloski</Surname>
                <GivenNames>Donco</GivenNames>
                <Address>
                    <UnitType>Lot</UnitType>
                    <UnitNumber>369</UnitNumber>
                    <StreetNumber>67</StreetNumber>
                    <Street>Arncliffe</Street>
                    <StreetType> Boulevard</StreetType>
                    <StreetSuffix></StreetSuffix>
                    <Suburb>Greenvale</Suburb>
                    <Postcode>3059</Postcode>
                    <State>VIC</State>
                    <Country>AUS</Country>
                </Address>
                <FutureNoticesAddress>
                    <StreetNumber>12</StreetNumber>
```

```xml
                        <Street>Coonawarra</Street>
                        <StreetType> Drive</StreetType>
                        <StreetSuffix></StreetSuffix>
                        <Suburb>THOMASTOWN</Suburb>
                        <Postcode>3074</Postcode>
                        <State>VIC</State>
                        <Country>AUS</Country>
                    </FutureNoticesAddress>
                    <Phone>03 94662287</Phone>
                </PartyType>
            </VendorDetails>
            <PurchaserDetails>
                <CustomerType>PERSON</CustomerType>
                <PartyType>
                    <Title>MR</Title>
                    <Surname>Iloski</Surname>
                    <GivenNames>Robert</GivenNames>
                    <Address>
                        <UnitType>Unit</UnitType>
                        <UnitNumber>1</UnitNumber>
                        <StreetNumber>67</StreetNumber>
                        <Street>Arncliffe</Street>
                        <StreetType> Boulevard</StreetType>
                        <StreetSuffix></StreetSuffix>
                        <Suburb>Greenvale</Suburb>
                        <Postcode>3059</Postcode>
                        <State>VIC</State>
                        <Country>AUS</Country>
                    </Address>
                    <FutureNoticesAddress>
                        <StreetNumber>67</StreetNumber>
                        <Street>Merri</Street>
                        <StreetType> Concourse</StreetType>
                        <StreetSuffix></StreetSuffix>
                        <Suburb>CAMPBELLFIELD</Suburb>
                       <Postcode>3061</Postcode>
                        <State>VIC</State>
                        <Country>AUS</Country>
                    </FutureNoticesAddress>
                </PartyType>
            </PurchaserDetails>
            <TransferDate>2014-07-04</TransferDate>
            <ChangeOfOwnerType>LICENSEAGREEMENT</ChangeOfOwnerType>
            <VendorSolicitorAgentDetails>
                <SolicitorAgentPartyType>
                    <Name>Robert Iloski</Name>
                    <Phone>+61403303312</Phone>
                    <LegalCertification>No</LegalCertification>
                </SolicitorAgentPartyType>
            </VendorSolicitorAgentDetails>
            <PurchaserSolicitorAgentDetails>
                <SolicitorAgentPartyType>
                    <Name>Robert Iloski</Name>
                    <Phone>+61403303312</Phone>
                </SolicitorAgentPartyType>
            </PurchaserSolicitorAgentDetails>
        </NODRequest>
</NODRequest>
```

3 Message Definitions

3.1 Introduction

This chapter describes the document definitions and the meaning of important elements. These messages are identical to those defined for the standard e-mail.

3.2 Document Structure

3.2.1 Introduction

There are two types of messages:

- The request document sent to the custodian from the Agent

- The response document sent to the requesting agent from the custodian with the optional PDF certificate attachment.

These conform to the schema described in section 3.2.2.

3.2.2 XML Schema

Input and output messages conform to standard schema initially defined by LANDATA. The XML Schema is a widely used W3C standard that defines the legal structure for an XML document.

The XML Schema itself is defined in XML and offers advantages in extensibility for future additions and supports data types for validation.

XML schema are provided as follows:

- Custodian Request message schema refer to Appendix A.

- Custodian Response message schema refer to Appendix B which is same schema used by Custodian Web Services 1.10.

Appendices A & B contain diagrams of the XML schema and Appendix C documents important request elements/fields.

The actual schema are distributed as .XSD files and WSDL files and are available on-line at https://www.landata.vic.gov.au/CustodianWebServices/2.10/.

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4   Glossary of Technical Terms

This table provides a glossary of the technical terms.

Term	Explanation
API	Application Programming Interface.
A2A	Application to Application
HTTP	HyperText Transport Protocol - a W3C standard. The primary protocol supporting the World Wide Web.
HTTPS	Secure HTTP
PCS	The LANDATA® Property Certificates System.
PKI	Public Key Infrastructure.
PTS	The LANDATA® Property Identifier Translation Service.
SPI	Standard Parcel Identifier.
SSL	A secure web protocol based on PKI. Netscape's Secure Sockets Layer (SSL), created as a security protocol to accommodate emerging e-commerce applications, soon gave rise to the open protocol Transport Layer Security (TLS).
TLS	Transport Layer Security – see SSL
WSDL	Web Service Definition Language – an XML based definition of a Web Service.
W3C	World Wide Web Consortium
XML	eXtensible Markup Language - a subset of Standard Generalized Markup Language (SGML) optimized for delivery over the Web. XML provides a uniform, vendor and application independent method for describing and exchanging structured data.
X.509	A standard for digital certificates.