 

ws-ISBM 1.0

Web Service Information Service Bus Model

OpenO&M Standard

2014-09-08

WSDLs

<http://www.openoandm.org/isbm/1.0/wsdl/ChannelManagementService.wsdl>

<http://www.openoandm.org/isbm/1.0/wsdl/NotificationService.wsdl>

<http://www.openoandm.org/isbm/1.0/wsdl/ProviderPublicationService.wsdl>

<http://www.openoandm.org/isbm/1.0/wsdl/ConsumerPublicationService.wsdl>

<http://www.openoandm.org/isbm/1.0/wsdl/ProviderRequestService.wsdl>

<http://www.openoandm.org/isbm/1.0/wsdl/ConsumerRequestService.wsdl>

Packaged Specification

<http://www.openoandm.org/isbm/ws-isbm-1.0.zip>

Latest Version

<http://www.openoandm.org/isbm>

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# Abstract

This document defines a SOAP Web Service implementation of the ISA 95.00.06 Messaging Service Model. The ws-ISBM defines a minimal interface subset to Enterprise Service Buses (ESB) and other message exchange middleware, using a standard interface consisting of channels and topics. The benefit from this approach is to allow applications to expose a single, standardized interface rather than having to be custom built for every version and format of ESB or message exchange system.

# Status

This specification was last revised and approved by OpenO&M on the above date. Check the [Latest Version](http://www.openoandm.org/isbm) for possible later revisions of this document.

This document is considered stable and may be used as reference material or cited as a normative reference from another document.

The latest stable version of the editor's draft of this specification is always available on the [MIMOSA ISBM Git repository](https://github.com/mimosa-org/isbm).

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# 1 Introduction

This ws-ISBM specification defines a SOAP Web Service implementation of the ISA 95.00.06 Messaging Service Model.

The ws-ISBM defines a minimal interface subset to Enterprise Service Buses (ESB) and other message exchange middleware using a standard Web Service interface. Publish-subscribe and request-response messaging patterns are supported through a consistent and unified model. Message routing is conducted through shared channels and topics, and optionally, XPath filtering for granular content-based filtering. An asynchronous Web Service callback is also provided to clients for notification of applicable messages. Token-based security for channels is specified to support multiple authorization models, from basic credential exchange to federated identity providers.

The benefit of a ws-ISBM implementation is to allow applications to expose a single, standardized interface rather than having to be custom built for every version and format of ESB or message exchange system. The goal is to further interoperability in application to application communications.

## 1.2 Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](http://www.ietf.org/rfc/rfc2119.txt).

This specification uses the following syntax to define XML structures: Element Name (Type) [Cardinality]. The namespaces for Types are defined in [the following section](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#namespaces). For example, the Topic element defined as an XML Schema string with one to many cardinality would be defined as: Topic (xs:string) [1..\*].

## 1.3 Namespaces

The following namespaces are used in this document:

|  |  |
| --- | --- |
| Prefix | Namespace |
| xs | http://www.w3.org/2001/XMLSchema |
| isbm | http://www.openoandm.org/isbm/ |

# 2 Service Requirements

The following items define shared requirements that are applicable across the various services defined in [Service Definitions](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#service-definitions). These requirements supplement the service requirements specified by ISA 95.00.06 but are contextualized for SOAP Web Services.

## 2.1 Message Content Format

Content is associated with a message through the use of an XML Schema any element. The XML content MUST be valid XML. A ws-ISBM Service Provider SHOULD preserve significant whitespace and comments within the XML content.

Note As only an XML element is associated with a message, an XML declaration specifically for the content is not supported. Instead, the message content will inherit the XML declaration of the SOAP body.

## 2.2 Security

Security in the ws-ISBM specification only provide authorization of channels. Authorization of services is considered out-of-scope.

All ws-ISBM implementations MUST support transport layer security (e.g. SSL/TLS) in order to secure tokens and messages, and to prevent replay attacks.

All ws-ISBM implementations MUST support the [WS-Security UsernameToken](https://www.oasis-open.org/committees/download.php/16782/wss-v1.1-spec-os-UsernameTokenProfile.pdf) using PasswordText as a basic level of security token. Examples of its use can be found in [Example HTTP Flows](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#example-http-flows).

A ws-ISBM Service Provider MAY choose to support additional forms of security tokens (e.g. SAML assertions, OAuth tokens) and it is RECOMMENDED that a ws-ISBM Service Provider support out-of-band token exchange standards such as [SAML](http://saml.xml.org/saml-specifications), [WS-Federation](http://docs.oasis-open.org/wsfed/federation/v1.2/os/ws-federation-1.2-spec-os.html) or [OAuth](http://oauth.net/).

As security tokens in the [Channel Management Service](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-management-service) are specified using XML Schema any element, tokens MUST be able to be represented in an XML format. For tokens that do not have a canonical XML representation, a ws-ISBM Service Provider MUST define the supported formats.

A ws-ISBM Service Provider MUST validate security tokens for every service operation except for the Channel Management Service [CreateChannel operation](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#create-channel) (since the channel does not exist at the point in time when invoking CreateChannel). For the provider and consumer services, tokens are validated upon every operation to ensure that an application has valid credentials even after a session is opened (in the event of token revocation).

## 2.3 Error Handling

### 2.3.1 SOAP Faults

SOAP Faults MUST have an accompanying human readable explanation. For a SOAP 1.1 implementation this is provided through the SOAP faultstring element (see [SOAP 1.1, SOAP Fault](http://www.w3.org/TR/soap11/#_Toc478383507)). For a SOAP 1.2 implementation this is provided through the SOAP Reason element (see [SOAP 1.2, SOAP Reason Element](http://www.w3.org/TR/soap12-part1/#faultstringelement)).

Note The declared SOAP Faults specified by the services and WSDLs do not have any elements or attributes defined. This is because the sender can interpret the fault based on the supplied parameters and/or the operation behavior. For example, a ChannelFault returned by the DeleteChannel operation means that the ChannelURI provided by the sender did not exist.

### 2.3.2 Parameter Faults

If any parameter for an operation is malformed or not optional and blank, then a ws-ISBM Service Provider MUST return a SOAP Fault and SHOULD include undeclared isbm:ParameterFault element in the fault details to aid senders in determining the type of error. The fault MUST carry the offending parameter name/s.

### 2.3.3 Invalid Notification URL

If a provider/consumer application provides an invalid URL or a URL that does not host a NotifyListener service, the ws-ISBM Service Provider MAY choose not to send or defer a NotifyListener SOAP request.

## 2.4 Content-Based Filtering

To allow efficient content-based filtering of messages, an XPath expression MAY be added to a subscription or read request session to provide a filtering definition. The XPath expression MUST be defined as an XPath v1.0 expression. An XPath evaluation that returns an empty value or node set MUST NOT cause a notification to be generated nor will the message be visible to the receiving system. For an XPath expression that use namespaces, multiple namespace prefixes and names are added upon session creation.

Note An empty result from an XPath evaluation will result in the whole message being is filtered; the message content itself is not filtered.

## 2.5 Message Expiry

During posting of certain messages, a sender MAY specify an expiry duration for the message. A ws-ISBM Service Provider MUST hide an expired message from potential receivers unless the receiver has already read the message, in which case it will always remain visible to that particular receiver. This is to ensure the message is still available to the receiver to ensure message removal removes the correct message.

If a sender specifies a negative Expiry duration, then a ws-ISBM Service Provider MUST consider it equivalent to a blank duration.

Note Responses can still be posted for an expired request message, and Consumers will still receive response notifications and be able to read and remove these responses.

# 3 Service Definitions

All services defined in ISA 95.00.06 are defined as SOAP Web Services in this specification. The SOAP service definitions below are to be interpreted in the context of the corresponding ISA 95.00.06 service.

Note ISA 95.00.06 does not define a Expire Request operation within the Consumer Request Service, but it has been specified below for a consistent message expiry model across services.

All service operations have corresponding HTTP examples shown in [Example HTTP Flows](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#example-http-flows).

## 3.1 Terminology

ChannelDescription

The description of a channel.

ChannelType

Indicates whether the channel is for publications or requests/responses. Defined ChannelTypes are Publication and Request.

ChannelURI

The primary identifier for a channel.

Expiry

The duration until the expiration of the message.

ListenerURL

The URL endpoint, reachable by the ws-ISBM Service Provider, which hosts a ws-ISBM Notification Service. Used to indicate when a new message is available for a session.

MessageContent

The XML content of a message.

MessageID

An identifier generated by the ws-ISBM Service Provider upon creation of a message.

NamespaceName

The namespace name used for an XPath filter expression.

NamespacePrefix

The namespace prefix used for an XPath filter expression.

SecurityToken

A token that can be assigned to a channel to control authorization.

SessionID

An identifier generated by the ws-ISBM Service Provider upon creation of a session. Identifiers SHOULD be made non-obvious and not easily guessable.

Topic

The topic name.

XPathExpression

The XPath 1.0 expression that is used to filter message content.

## 3.2 Channel Management Service

The Channel Management Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/ChannelManagementService.wsdl).

### 3.2.1 Create Channel

|  |  |
| --- | --- |
| Name | CreateChannel |
| Description | Creates a new channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  ChannelType ([isbm:ChannelType](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-type-xml)) [1]  ChannelDescription ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1]  SecurityToken ([isbm:SecurityToken](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#security-token-xml)) [0..\*] |
| Behavior | If the ChannelURI already exists then a ChannelFault is returned.  The SecurityTokens are assigned to the channel upon its creation.  If duplicate SecurityTokens exist, these result in a single token being assigned to the channel to maintain a distinct list. |
| Output | N/A |
| Faults | ChannelFault |

### 3.2.2 Add Security Tokens

|  |  |
| --- | --- |
| Name | AddSecurityTokens |
| Description | Adds security tokens to a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  SecurityToken ([isbm:SecurityToken](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#security-token-xml)) [1..\*] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If a specified SecurityToken is already assigned to the channel, then no further action is taken to maintain a distinct list. |
| Output | N/A |
| Faults | ChannelFault |

### 3.2.3 Remove Security Tokens

|  |  |
| --- | --- |
| Name | RemoveSecurityTokens |
| Description | Removes security tokens from a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  SecurityToken ([isbm:SecurityToken](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#security-token-xml)) [1..\*] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If any specified SecurityToken is not assigned to the channel, then an SecurityTokenFault is returned. No tokens are removed from the channel, even if they are valid. |
| Output | N/A |
| Faults | ChannelFault  SecurityTokenFault |

### 3.2.4 Delete Channel

|  |  |
| --- | --- |
| Name | DeleteChannel |
| Description | Deletes a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  The channel along with associated sessions and messages are deleted. No notification is provided to any applications with active sessions. |
| Output | N/A |
| Faults | ChannelFault |

### 3.2.5 Get Channel

|  |  |
| --- | --- |
| Name | GetChannel |
| Description | Gets information about a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned. |
| Output | Channel ([isbm:Channel](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-xml)) [1], composed of:      ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      ChannelType ([isbm:ChannelType](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-type-xml)) [1]      ChannelDescription ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1] |
| Faults | ChannelFault |

### 3.2.6 Get Channels

|  |  |
| --- | --- |
| Name | GetChannels |
| Description | Gets information about all channels. |
| Input | N/A |
| Behavior | The channels returned are filtered by those that match the security token. Any channel that does not have security tokens assigned are returned regardless. |
| Output | Channel ([isbm:Channel](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-xml)) [0..\*], composed of:      ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      ChannelType ([isbm:ChannelType](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#channel-type-xml)) [1]      ChannelDescription ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1] |
| Faults | N/A |

## 3.3 Notification Service

The Notification Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/NotificationService.wsdl).

### 3.3.1 Notify Listener

|  |  |
| --- | --- |
| Name | NotifyListener |
| Description | Provides a notification of a new message being able to be read for a session. The Listener URL invoked was provided when the application desiring notifications subscribed to the channel. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..\*]  RequestMessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1] |
| Behavior | Topic MUST NOT be used for consumer request session response notification.  RequestMessageID allows correlation with the original request and thus it MUST only be used for consumer request session response notification. |
| Output | N/A |
| Faults | N/A |

## 3.4 Provider Publication Service

The Provider Publication Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/ProviderPublicationService.wsdl).

### 3.4.1 Open Publication Session

|  |  |
| --- | --- |
| Name | OpenPublicationSession |
| Description | Opens a publication session for a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If the channel type is not a Publication type, then an OperationFault is returned. |
| Output | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | ChannelFault  OperationFault |

### 3.4.2 Post Publication

|  |  |
| --- | --- |
| Name | PostPublication |
| Description | Posts a publication message on a channel. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1]  Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1..\*]  Expiry ([xs:duration](http://www.w3.org/TR/xmlschema-2/#duration)) [0..1] |
| Behavior | If the SessionID does not exist or does not correspond to a publication session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | SessionFault |

### 3.4.3 Expire Publication

|  |  |
| --- | --- |
| Name | ExpirePublication |
| Description | Expires a posted publication. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a publication session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  If the MessageID does not correspond with the SessionID or the corresponding message has already expired, then no further action is taken.  The message is expired for all topics associated with the message. |
| Output | N/A |
| Faults | SessionFault |

### 3.4.4 Close Publication Session

|  |  |
| --- | --- |
| Name | ClosePublicationSession |
| Description | Closes a publication session. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist (non-existent or already closed) or does not correspond to a publication session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  All unexpired messages that have been posted during the session will be expired. |
| Output | N/A |
| Faults | SessionFault |

## 3.5 Consumer Publication Service

The Consumer Publication Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/ConsumerPublicationService.wsdl).

### 3.5.1 Open Subscription Session

|  |  |
| --- | --- |
| Name | OpenSubscriptionSession |
| Description | Opens a subscription session for a channel. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1..\*]  ListenerURL ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1]  XPathExpression ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1]  XPathNamespace ([isbm:Namespace](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#namespace-xml)) [0..\*], composed of:      NamespacePrefix ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      NamespaceName ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If the channel type is not a Publication type, then an OperationFault is returned.  If multiple NamespacePrefixes exist with different NamespaceNames, then a NamespaceFault is returned. |
| Output | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | ChannelFault  NamespaceFault  OperationFault |

### 3.5.2 Read Publication

|  |  |
| --- | --- |
| Name | ReadPublication |
| Description | Returns the first non-expired publication message or a previously read expired message that satisfies the session message filters. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a subscription session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | PublicationMessage ([isbm:PublicationMessage](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#publication-message-xml)) [0..1], composed of:      MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1]      Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1..\*] |
| Faults | SessionFault |

### 3.5.3 Remove Publication

|  |  |
| --- | --- |
| Name | RemovePublication |
| Description | Removes the first, if any, publication message in the subscription queue. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a subscription session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | N/A |
| Faults | SessionFault |

### 3.5.4 Close Subscription Session

|  |  |
| --- | --- |
| Name | CloseSubscriptionSession |
| Description | Closes a subscription session. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist (non-existent or already closed) or does not correspond to a publication session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | N/A |
| Faults | SessionFault |

## 3.6 Provider Request Service

The Provider Request Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/ProviderRequestService.wsdl).

### 3.6.1 Open Provider Request Session

|  |  |
| --- | --- |
| Name | OpenProviderRequestSession |
| Description | Opens a provider request session for a channel for reading requests and posting responses. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1..\*]  ListenerURL ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1]  XPathExpression ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1]  XPathNamespace ([isbm:Namespace](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#namespace-xml)) [0..\*], composed of:      NamespacePrefix ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      NamespaceName ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If the channel type is not a Request type, then an OperationFault is returned.  If multiple NamespacePrefixes exist with different NamespaceNames, then a NamespaceFault is returned. |
| Output | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | ChannelFault  NamespaceFault  OperationFault |

### 3.6.2 Read Request

|  |  |
| --- | --- |
| Name | ReadRequest |
| Description | Returns the first non-expired request message or a previously read expired message that satisfies the session message filters. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a provider request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  The returned Topic will correspond to the first topic that matched the posted request. |
| Output | RequestMessage ([isbm:RequestMessage](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#request-message-xml)) [0..1], composed of:      MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1]      Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | SessionFault |

### 3.6.3 Remove Request

|  |  |
| --- | --- |
| Name | RemoveRequest |
| Description | Deletes the first request message, if any, in the session message queue. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a provider request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | N/A |
| Faults | SessionFault |

### 3.6.4 Post Response

|  |  |
| --- | --- |
| Name | PostResponse |
| Description | Posts a response message on a channel. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  RequestMessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a provider request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  If there is no request message that can be matched to RequestMessageID, then no further action is taken. |
| Output | MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | SessionFault |

### 3.6.5 Close Provider Request Session

|  |  |
| --- | --- |
| Name | CloseProviderRequestSession |
| Description | Closes a provider request session. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist (non-existent or already closed) or does not correspond to a Request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | N/A |
| Faults | SessionFault |

## 3.7 Consumer Request Service

The Consumer Request Service is [available as a WSDL description](http://www.openoandm.org/ws-isbm/1.0/wsdl/ConsumerRequestService.wsdl).

### 3.7.1 Open Consumer Request Session

|  |  |
| --- | --- |
| Name | OpenConsumerRequestSession |
| Description | Opens a consumer request session for a channel for posting requests and reading responses. |
| Input | ChannelURI ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  ListenerURL ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [0..1] |
| Behavior | If the ChannelURI does not exist, then a ChannelFault is returned.  If the specified channel is assigned security tokens and the provided token does not match a token assigned to the channel, then a ChannelFault is returned.  If the channel type is not a Request type, then an OperationFault is returned. |
| Output | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | ChannelFault  OperationFault |

### 3.7.2 Post Request

|  |  |
| --- | --- |
| Name | PostRequest |
| Description | Posts a request message on a channel. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1]  Topic ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  Expiry ([xs:duration](http://www.w3.org/TR/xmlschema-2/#duration)) [0..1] |
| Behavior | If the SessionID does not exist or does not correspond to a consumer request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned. |
| Output | MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Faults | SessionFault |

### 3.7.3 Expire Request

|  |  |
| --- | --- |
| Name | ExpireRequest |
| Description | Expires a posted request message. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a consumer request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  If the MessageID does not correspond with the SessionID or the corresponding message has already expired, then no further action is taken. |
| Output | N/A |
| Faults | SessionFault |

### 3.7.4 Read Response

|  |  |
| --- | --- |
| Name | ReadResponse |
| Description | Returns the first response message, if any, in the session message queue associated with the request. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  RequestMessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a consumer request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  If the RequestMessageID does not correspond to a message in the message queue, then no message is returned. |
| Output | ResponseMessage ([isbm:ResponseMessage](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#response-message-xml)) [0..1], composed of:      MessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]      MessageContent ([isbm:MessageContent](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#message-content-xml)) [1] |
| Faults | SessionFault |

### 3.7.5 Remove Response

|  |  |
| --- | --- |
| Name | RemoveResponse |
| Description | Deletes the first response message, if any, in the session message queue associated with the request. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1]  RequestMessageID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist or does not correspond to a consumer request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  If the RequestMessageID does not correspond to a message in the message queue, then no further action is taken. |
| Output | N/A |
| Faults | SessionFault |

### 3.7.6 Close Consumer Request Session

|  |  |
| --- | --- |
| Name | CloseConsumerRequestSession |
| Description | Closes a consumer request session. |
| Input | SessionID ([xs:string](http://www.w3.org/TR/xmlschema-2/#string)) [1] |
| Behavior | If the SessionID does not exist (non-existent or already closed) or does not correspond to a Request session, then a SessionFault is returned.  If the channel associated with the session is assigned security tokens and the provided token does not match a token assigned to the channel, then a SessionFault is returned.  All unexpired requests that have been posted during the session will be expired. |
| Output | N/A |
| Faults | SessionFault |

# 4 XML Data Structures

The following data structures are used by the services defined in [Service Definitions](http://www.openoandm.org/ws-isbm/1.0/ws-isbm.html#service-definitions) and are defined using XML Schema. All types have a target namespace of http://www.openoandm.org/isbm/.

#### Channel

<xs:complexType name="Channel">  
 <xs:sequence>  
 <xs:element minOccurs="1" maxOccurs="1" name="ChannelURI" type="xs:string"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="ChannelType" type="isbm:ChannelType"/>  
 <xs:element minOccurs="0" maxOccurs="1" name="ChannelDescription" type="xs:string"/>  
 </xs:sequence>  
</xs:complexType>

#### ChannelType

<xs:simpleType name="ChannelType">  
 <xs:restriction base="xs:string">  
 <xs:enumeration value="Publication"/>  
 <xs:enumeration value="Request"/>  
 </xs:restriction>  
</xs:simpleType>

#### MessageContent

<xs:complexType name="MessageContent">  
 <xs:sequence>  
 <xs:any minOccurs="1" maxOccurs="1" namespace="##any" processContents="lax"/>  
 </xs:sequence>  
</xs:complexType>

#### Namespace

<xs:complexType name="Namespace">  
 <xs:sequence>  
 <xs:element minOccurs="1" maxOccurs="1" name="NamespacePrefix" type="xs:string"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="NamespaceName" type="xs:string"/>  
 </xs:sequence>  
</xs:complexType>

#### PublicationMessage

<xs:complexType name="PublicationMessage">  
 <xs:sequence>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageID" type="xs:string"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageContent" type="isbm:MessageContent"/>  
 <xs:element minOccurs="1" maxOccurs="unbounded" name="Topic" type="xs:string"/>  
 </xs:sequence>  
</xs:complexType>

#### RequestMessage

<xs:complexType name="RequestMessage">  
 <xs:sequence>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageID" type="xs:string"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageContent" type="isbm:MessageContent"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="Topic" type="xs:string"/>  
 </xs:sequence>  
</xs:complexType>

#### ResponseMessage

<xs:complexType name="ResponseMessage">  
 <xs:sequence>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageID" type="xs:string"/>  
 <xs:element minOccurs="1" maxOccurs="1" name="MessageContent" type="isbm:MessageContent"/>  
 </xs:sequence>  
</xs:complexType>

#### SecurityToken

<xs:complexType name="SecurityToken">  
 <xs:sequence>  
 <xs:any minOccurs="1" maxOccurs="1" namespace="##any" processContents="lax"/>  
 </xs:sequence>  
</xs:complexType>

# 5 Conformance

Any assessment of conformance of a ws-ISBM implementation MUST be qualified by the following:

1. Support for the Channel Management Service
2. Support for the Notification Service
3. Support for the Provider Publication Service
4. Support for the Consumer Publication Service
5. Support for the Provider Request Service
6. Support for the Consumer Request Service
7. Support for SOAP 1.1 and SOAP 1.2 services
8. Support for Filter Expressions in an XPath 1.0 format
9. Support for Security Tokens using WS-Security UsernameToken
10. Support for other Security Tokens formats
11. A statement of the total conformance concerning services and security methods supported or, in case of partial conformance, a statement identifying explicitly the areas of non-conformance

# Appendix A Example HTTP Flows

## A.1Channel Management Example



### 1. CreateChannel

The Application creates a channel on the ISBM Service Provider and assigns a WS-Security security token.

Note XML special characters must be escaped, as seen with the **<** character in the Password element.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 705  
SOAPAction: "http://www.openoandm.org/isbm/CreateChannel"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:CreateChannel xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:ChannelType>Publication</isbm:ChannelType>  
 <isbm:SecurityToken>  
 <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:Username>Application1</wsse:Username>  
 <wsse:Password>&lt;s9.vQfLDx9LgL</wsse:Password>  
 </wsse:UsernameToken>  
 </isbm:SecurityToken>  
 </isbm:CreateChannel>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 238  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:CreateChannelResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 2. AddSecurityToken

The Application assigns an additional security token to the channel.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 892  
SOAPAction: "http://www.openoandm.org/isbm/AddSecurityToken"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <soap:Header>  
 <wsse:Security>  
 <wsse:UsernameToken>  
 <wsse:Username>Application1</wsse:Username>  
 <wsse:Password>&lt;s9.vQfLDx9LgL</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:AddSecurityToken xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:SecurityToken>  
 <wsse:UsernameToken>  
 <wsse:Username>Application2</wsse:Username>  
 <wsse:Password>chHM?rFum{48mg</wsse:Password>  
 </wsse:UsernameToken>  
 </isbm:SecurityToken>  
 </isbm:AddSecurityToken>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 241  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:AddSecurityTokenResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 3. RemoveSecurityToken

The Application removes the original security token from the channel.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 898  
SOAPAction: "http://www.openoandm.org/isbm/RemoveSecurityToken"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <soap:Header>  
 <wsse:Security>  
 <wsse:UsernameToken>  
 <wsse:Username>Application2</wsse:Username>  
 <wsse:Password>chHM?rFum{48mg</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:RemoveSecurityToken xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:SecurityToken>  
 <wsse:UsernameToken>  
 <wsse:Username>Application1</wsse:Username>  
 <wsse:Password>&lt;s9.vQfLDx9LgL</wsse:Password>  
 </wsse:UsernameToken>  
 </isbm:SecurityToken>  
 </isbm:RemoveSecurityToken>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 244  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:RemoveSecurityTokenResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 4. GetChannel

The Application attempts to retrieve channel information using the original security token and receives an authorization failure.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 656  
SOAPAction: "http://www.openoandm.org/isbm/GetChannel"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>Application1</wsse:Username>  
 <wsse:Password>&lt;s9.vQfLDx9LgL</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:GetChannel xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 </isbm:GetChannel>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 500 Internal Server Error  
Content-Type: text/xml; charset=utf-8  
Content-Length: 401  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <soap:Fault>  
 <faultcode>soap:Client</faultcode>  
 <faultstring>Channel is not accessible.</faultstring>  
 <detail>  
 <isbm:ChannelFault xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </detail>  
 </soap:Fault>  
 </soap:Body>  
</soap:Envelope>

### 5. GetChannels

The Application retrieves information about channels filtered by the newly assigned security token.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 559  
SOAPAction: "http://www.openoandm.org/isbm/GetChannels"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>Application2</wsse:Username>  
 <wsse:Password>chHM?rFum{48mg</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:GetChannels xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 442  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:GetChannelsResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:Channel>  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:ChannelType>Publication</isbm:ChannelType>  
 </isbm:Channel>  
 </isbm:GetChannelsResponse>  
 </soap:Body>  
</soap:Envelope>

### 6. DeleteChannel

The Application removes the channel from the ws-ISBM Service Provider.

##### HTTP Request

POST /ChannelManagementService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 659  
SOAPAction: "http://www.openoandm.org/isbm/DeleteChannel"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>Application2</wsse:Username>  
 <wsse:Password>chHM?rFum{48mg</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:DeleteChannel xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 </isbm:DeleteChannel>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 238  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:DeleteChannelResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

## A.2 Publish-Subscribe Example



### 1. OpenSubscriptionSession

The Consumer Application opens a subscription session with the ISBM Service Provider and receives a session identifier.

##### HTTP Request

POST /ConsumerPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 812  
SOAPAction: "http://www.openoandm.org/isbm/OpenSubscriptionSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>Dj8(bCU)4bnhjc</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:OpenSubscriptionSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:Topic>Text</isbm:Topic>  
 <isbm:ListenerURL>http://consumer.example.com/NotificationService</isbm:ListenerURL>  
 </isbm:OpenPublicationSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 366  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:OpenSubscriptionSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>e94c645a-6450-411e-8ec7-4b70620d3a98</isbm:SessionID>  
 </isbm:OpenSubscriptionSessionResponse>  
 </soap:Body>  
</soap:Envelope>

### 2. OpenPublicationSession

The Provider Application opens a publication session with the ISBM Service Provider and receives a session identifier.

##### HTTP Request

POST /ProviderPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 684  
SOAPAction: "http://www.openoandm.org/isbm/OpenPublicationSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>qEJaz4F?U4rW;q</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:OpenPublicationSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 </isbm:OpenPublicationSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 364  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:OpenPublicationSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>ac0ee730-ca88-421a-b348-ce0a1babdb1c</isbm:SessionID>  
 </isbm:OpenPublicationSessionResponse>  
 </soap:Body>  
</soap:Envelope>

### 3. PostPublication

The Provider Application posts a publication message to the ISBM Service Provider and receives a message identifier.

##### HTTP Request

POST /ProviderPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 799  
SOAPAction: "http://www.openoandm.org/isbm/PostPublication"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>qEJaz4F?U4rW;q</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:PostPublication xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>ac0ee730-ca88-421a-b348-ce0a1babdb1c</isbm:SessionID>  
 <isbm:MessageContent>  
 <Text>Hello World!</Text>  
 </isbm:MessageContent>  
 <isbm:Topic>Text</isbm:Topic>  
 </isbm:PostPublication>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 350  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:PostPublicationResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:MessageID>8007a3fa-70e3-4e90-a2b9-d8469cae2e5a</isbm:MessageID>  
 </isbm:PostPublicationResponse>  
 </soap:Body>  
</soap:Envelope>

### 4. NotifyListener

The ISBM Service Provider notifies the Consumer Application of an applicable publication message.

##### HTTP Request

POST /NotifyListener HTTP/1.1  
Host: consumer.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 444  
SOAPAction: "http://www.openoandm.org/isbm/NotifyListener"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListener xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>e94c645a-6450-411e-8ec7-4b70620d3a98</isbm:SessionID>  
 <isbm:MessageID>8007a3fa-70e3-4e90-a2b9-d8469cae2e5a</isbm:MessageID>  
 <isbm:Topic>Text</isbm:Topic>  
 </isbm:NotifyListener>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 239  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListenerResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 5. ReadPublication

The Consumer Application reads the publication message from the ISBM Service Provider.

##### HTTP Request

POST /ConsumerPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 672  
SOAPAction: "http://www.openoandm.org/isbm/ReadPublication"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>Dj8(bCU)4bnhjc</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:ReadPublication xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>e94c645a-6450-411e-8ec7-4b70620d3a98</isbm:SessionID>  
 </isbm:ReadPublication>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 552  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:ReadPublicationResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:PublicationMessage>  
 <isbm:MessageID>8007a3fa-70e3-4e90-a2b9-d8469cae2e5a</isbm:MessageID>  
 <isbm:MessageContent>  
 <Text>Hello World!</Text>  
 </isbm:MessageContent>  
 <isbm:Topic>Text</isbm:Topic>  
 </isbm:PublicationMessage>  
 </isbm:ReadPublicationResponse>  
 </soap:Body>  
</soap:Envelope>

### 6. ExpirePublication

The Provider Application manually expires the publication message from the ISBM Service Provider. The message is still visible to the Consumer Application since it has already been read.

##### HTTP Request

POST /ProviderPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 752  
SOAPAction: "http://www.openoandm.org/isbm/ExpirePublication"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>qEJaz4F?U4rW;q</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:ExpirePublication xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>ac0ee730-ca88-421a-b348-ce0a1babdb1c</isbm:SessionID>  
 <isbm:MessageID>8007a3fa-70e3-4e90-a2b9-d8469cae2e5a</isbm:MessageID>  
 </isbm:ExpirePublication>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 242  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:ExpirePublicationResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 7. RemovePublication

The Consumer Application removes the publication message from the ISBM Service Provider.

##### HTTP Request

POST /ConsumerPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 677  
SOAPAction: "http://www.openoandm.org/isbm/RemovePublication"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>Dj8(bCU)4bnhjc</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:RemovePublication xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>e94c645a-6450-411e-8ec7-4b70620d3a98<</isbm:SessionID>  
 </isbm:RemovePublication>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 242  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:RemovePublicationResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 8. ClosePublicationSession

The Provider Application closes the publication session with the ISBM Service Provider.

##### HTTP Request

POST /ProviderPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 688  
SOAPAction: "http://www.openoandm.org/isbm/ClosePublicationSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>qEJaz4F?U4rW;q</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:ClosePublicationSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>ac0ee730-ca88-421a-b348-ce0a1babdb1c</isbm:SessionID>  
 </isbm:ClosePublicationSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 248  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:ClosePublicationSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 9. CloseSubscriptionSession

The Consumer Application closes the subscription session with the ISBM Service Provider.

##### HTTP Request

POST /ConsumerPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 690  
SOAPAction: "http://www.openoandm.org/isbm/ClosePublicationSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>Dj8(bCU)4bnhjc</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:CloseSubscriptionSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>e94c645a-6450-411e-8ec7-4b70620d3a98</isbm:SessionID>  
 </isbm:CloseSubscriptionSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 249  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:CloseSubscriptionSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

# A.3 Request-Response Example



### 1. OpenProviderRequestSession

The Provider Application opens a provider request session with the ISBM Service Provider and receives a session identifier.

##### HTTP Request

POST /ProviderRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 819  
SOAPAction: "http://www.openoandm.org/isbm/OpenProviderRequestSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>9gy#gXENxph8?W</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:OpenProviderRequestSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:Topic>Text</isbm:Topic>  
 <isbm:ListenerURL>http://provider.example.com/NotificationService</isbm:ListenerURL>  
 </isbm:OpenProviderRequestSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 372  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:OpenProviderRequestSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551</isbm:SessionID>  
 </isbm:OpenProviderRequestSessionResponse>  
 </soap:Body>  
</soap:Envelope>

### 2. OpenConsumerRequestSession

The Consumer Application opens a consumer request session with the ISBM Service Provider and receives a session identifier.

##### HTTP Request

POST /ConsumerRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 783  
SOAPAction: "http://www.openoandm.org/isbm/OpenConsumerRequestSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>^Um.7oFM9jrnnC</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:OpenConsumerRequestSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ChannelURI>/Enterprise/Site/Area/WorkCenter</isbm:ChannelURI>  
 <isbm:ListenerURL>http://consumer.example.com/NotificationService</isbm:ListenerURL>  
 </isbm:OpenConsumerRequestSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 372  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:OpenConsumerRequestSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 </isbm:OpenConsumerRequestSessionResponse>  
 </soap:Body>  
</soap:Envelope>

### 3. PostRequest

The Consumer Application posts a request message to the ISBM Service Provider and receives a message identifier.

##### HTTP Request

POST /ConsumerRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 748  
SOAPAction: "http://www.openoandm.org/isbm/PostRequest"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>^Um.7oFM9jrnnC</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:PostRequest xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 <isbm:MessageContent>  
 <Text>Ping!</Text>  
 </isbm:MessageContent>  
 </isbm:PostRequest>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 342  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:PostRequestResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:MessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:MessageID>  
 </isbm:PostRequestResponse>  
 </soap:Body>  
</soap:Envelope>

### 4. NotifyListener

The ISBM Service Provider notifies the Provider Application of an applicable request message.

##### HTTP Request

POST /NotifyListener HTTP/1.1  
Host: provider.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 444  
SOAPAction: "http://www.openoandm.org/isbm/NotifyListener"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListener xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551</isbm:SessionID>  
 <isbm:MessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:MessageID>  
 <isbm:Topic>Text</isbm:Topic>  
 </isbm:NotifyListener>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 239  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListenerResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 5. ReadRequest

The Provider Application reads the request message from the ISBM Service Provider.

##### HTTP Request

POST /ProviderRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 664  
SOAPAction: "http://www.openoandm.org/isbm/ReadRequest"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>9gy#gXENxph8?W</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:ReadRequest xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551</isbm:SessionID>  
 </isbm:ReadRequest>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 529  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:ReadRequestResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:RequestMessage>  
 <isbm:MessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:MessageID>  
 <isbm:MessageContent>  
 <Text>Ping!</Text>  
 </isbm:MessageContent>  
 <isbm:Topic>Text</isbm:Topic>  
 </isbm:RequestMessage>  
 </isbm:ReadRequestResponse>  
 </soap:Body>  
</soap:Envelope>

### 6. RemoveRequest

The Provider Application removes the request message from the ISBM Service Provider.

##### HTTP Request

POST /ProviderRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 669  
SOAPAction: "http://www.openoandm.org/isbm/RemoveRequest"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>9gy#gXENxph8?W</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:RemoveRequest xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551<</isbm:SessionID>  
 </isbm:RemoveRequest>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 238  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:RemoveRequestResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 7. PostResponse

The Provider Application posts a response message to the ISBM Service Provider.

##### HTTP Request

POST /ProviderRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 840  
SOAPAction: "http://www.openoandm.org/isbm/PostResponse"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>9gy#gXENxph8?W</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:PostResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551</isbm:SessionID>  
 <isbm:RequestMessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:RequestMessageID>  
 <isbm:MessageContent>  
 <Text>Pong!</Text>  
 </isbm:MessageContent>  
 </isbm:PostResponse>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 237  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:PostResponseResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 8. NotifyListener

The ISBM Service Provider notifies the Consumer Application of an applicable response message.

##### HTTP Request

POST /NotifyListener HTTP/1.1  
Host: consumer.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 498  
SOAPAction: "http://www.openoandm.org/isbm/NotifyListener"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListener xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 <isbm:MessageID>af250a33-d5af-4c25-bb57-56802d8fea79</isbm:MessageID>  
 <isbm:RequestMessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:RequestMessageID>  
 </isbm:NotifyListener>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 239  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:NotifyListenerResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 9. ReadResponse

The Consumer Application reads the response message from the ISBM Service Provider.

##### HTTP Request

POST /ConsumerRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 756  
SOAPAction: "http://www.openoandm.org/isbm/ReadResponse"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>^Um.7oFM9jrnnC</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:ReadResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 <isbm:RequestMessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:RequestMessageID>  
 </isbm:ReadResponse>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 495  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:ReadResponseResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:ResponseMessage>  
 <isbm:MessageID>af250a33-d5af-4c25-bb57-56802d8fea79</isbm:MessageID>  
 <isbm:MessageContent>  
 <Text>Pong!</Text>  
 </isbm:MessageContent>  
 </isbm:ResponseMessage>  
 </isbm:ReadResponseResponse>  
 </soap:Body>  
</soap:Envelope>

### 10. RemoveResponse

The Consumer Application removes the response message from the ISBM Service Provider.

##### HTTP Request

POST /ConsumerPublicationService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 760  
SOAPAction: "http://www.openoandm.org/isbm/RemoveResponse"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>^Um.7oFM9jrnnC</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:RemoveResponse xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 <isbm:RequestMessageID>e8cfecb1-d2fc-4167-88f7-c90d60fc53ee</isbm:RequestMessageID>  
 </isbm:RemoveResponse>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 239  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:RemoveResponseResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 11. CloseConsumerRequestSession

The Consumer Application closes the consumer request session with the ISBM Service Provider.

##### HTTP Request

POST /ConsumerRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 696  
SOAPAction: "http://www.openoandm.org/isbm/CloseConsumerRequestSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ConsumerApplication</wsse:Username>  
 <wsse:Password>^Um.7oFM9jrnnC</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:CloseConsumerRequestSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>a9b5c71a-d1b5-4fc8-81d1-ba1fee3af0df</isbm:SessionID>  
 </isbm:CloseConsumerRequestSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 252  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:CloseConsumerRequestSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

### 12. CloseProviderRequestSession

The Provider Application closes the provider request session with the ISBM Service Provider.

##### HTTP Request

POST /ProviderRequestService HTTP/1.1  
Host: ws-isbm.example.com  
Content-Type: text/xml; charset=utf-8  
Content-Length: 696  
SOAPAction: "http://www.openoandm.org/isbm/CloseProviderRequestSession"  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Header>  
 <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">  
 <wsse:UsernameToken>  
 <wsse:Username>ProviderApplication</wsse:Username>  
 <wsse:Password>9gy#gXENxph8?W</wsse:Password>  
 </wsse:UsernameToken>  
 </wsse:Security>  
 </soap:Header>  
 <soap:Body>  
 <isbm:CloseProviderRequestSession xmlns:isbm="http://www.openoandm.org/isbm/">  
 <isbm:SessionID>16ee00f6-8fa9-4e80-8c36-a9d6d2bdb551</isbm:SessionID>  
 </isbm:CloseProviderRequestSession>  
 </soap:Body>  
</soap:Envelope>

##### HTTP Response

HTTP/1.1 200 OK  
Content-Type: text/xml; charset=utf-8  
Content-Length: 252  
  
<?xml version="1.0" encoding="UTF-8"?>  
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">  
 <soap:Body>  
 <isbm:CloseProviderRequestSessionResponse xmlns:isbm="http://www.openoandm.org/isbm/"/>  
 </soap:Body>  
</soap:Envelope>

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