
**Information technology —
Telecommunications and information
exchange between systems — WS-
Session — Web services for application
session services**

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Session WS — Services web pour
services de session d'application*
iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 25437:2012

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC 25437:2012](https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012)

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction.....	vi
1 Scope	1
2 Conformance	1
3 Normative references	1
4 Terms, definitions and namespaces	2
4.1 Terms and definitions	2
4.2 Prefixes and namespaces	2
5 Abstract WSDL Definitions.....	3
5.1 Provider WSDL	3
5.2 Notification WSDL	4
6 SOAP Binding	4
6.1 SOAP Binding for Provider WSDL.....	5
6.2 SOAP Binding for Notification WSDL.....	5
6.3 SOAP Binding of sessionID.....	5
6.4 SOAP Fault Messages.....	6
7 Event Subscription and Notification	7
Annex A (normative) Event Subscription Using WS-Eventing	8
A.1 General	8
A.2 Subscription Fault	8
Annex B (normative) Subscription Using WS-BaseNotification Option	9
B.1 General	9
B.2 Subscription Fault	9
Annex C (normative) Asynchronous Response to Subscription Request Option.....	10
Annex D (informative) Example WS-Session WSDL binding with SOAP/HTTP	11
D.1 Service Provider WSDL with SOAP/HTTP Binding	11
D.2 Notification WSDL with SOAP/HTTP Binding.....	12
Annex E (informative) SOAP XML Templates for ISO/IEC 22534 (ECMA-354) Messages	13
E.1 StartApplicationSession request message template	13
E.1.1 StartApplicationSession Positive response message template	13
E.1.2 StartApplicationSession negative response message template.....	13
E.2 StopApplicationSession request message template.....	14
E.2.1 StopApplicationSession positive response message template	14
E.2.2 StopApplicationSession negative response message template.....	14
E.3 ResetApplicationSessionTimer request message template	14
E.3.1 ResetApplicationSessionTimer positive response message template	15
E.3.2 Reset Application Session Timer negative response message template	15
E.4 ApplicationSessionTerminated.....	15
E.4.1 Template of ApplicationSessionTerminated event notification for unwrapped event sink which applies to both WS-Eventing and WS-BaseNotification options	15
E.4.2 Template of ApplicationSessionTerminated event notification to wrapped event sink of WS-Eventing	16
E.4.3 Template of ApplicationSessionTerminated event notification to wrapped event sink of WS-BaseNotification	16

Annex F (informative) WS-Eventing SOAP XML Message Templates17
F.1 ApplicationSessionTerminated Event Subscription SOAP message template17
F.2 Template of positive response to the event subscription17
F.3 Template of negative response (fault) to event subscription18
F.4 Template of Unsubscribe message18
F.5 Template of positive response to Unsubscribe message18
Annex G (informative) WS-BaseNotification SOAP XML Message Templates19
G.1 ApplicationSessionTerminated Event Subscription SOAP message template19
G.2 Template of positive response to the event subscription19
G.3 Template of negative response to the event subscription20
G.4 Template of Unsubscribe message20
G.5 Template of positive response to Unsubscribe message21
Annex H (informative) Summary of Changes22

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/IEC 25437:2012](https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012)

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 25437 was prepared by Ecma International (as ECMA-366) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in parallel with its approval by national bodies of ISO and IEC.

This third edition cancels and replaces the second edition (ISO/IEC 25437:2009), which has been technically revised.

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

Introduction

ISO/IEC 22534, Application Session Services, specifies XML protocols that can be used to create and manage application sessions that are independent of the transport layer protocols. This International Standard (WS-Session) specifies Web services for ISO/IEC 22534.

For Service Requester to receive the event notification from the Service Provider and from web services (e.g. [ECMA-348](#)) that use this International Standard for session management, this International Standard introduces WS-Eventing as the mandatory mechanism and WS-BaseNotification as an Option to manage the event channel. This International Standard uses the approach in A.2 of WS-Eventing to specify the ApplicationSessionTerminated as an operation in the Notification WSDL.

Since WS-Eventing has advanced to a W3C Proposed Recommendation at W3C, the 3rd edition of this International Standard incorporates and complies with the latest edition of WS-Eventing.

Heeding the guidance in the WS-I Profiles that WS-Eventing adopted, this Standard only uses a subset of WSDL Services, in particular, this Standard does not use the WSDL 1.1 Notification and Solicit-response operations.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC 25437:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

Information technology — Telecommunications and information exchange between systems — WS-Session — Web services for application session services

1 Scope

This International Standard specifies Web Services (in WSDL, in [Clause 5](#)) and SOAP bindings (in [Clause 6](#)) for the Application Session Services defined in ISO/IEC 22534. The Application Session Services allow Applications to create and maintain a relationship with Servers termed Application Session. The Web services specified herein, allow Service Requesters (Applications in ISO/IEC 22534) and Service Providers (Servers in ISO/IEC 22534) to create and maintain such Application Sessions.

This International Standard builds upon and imports the XML schema definitions from ISO/IEC 22534. The method of making the WSDL description of the specified services available to Service Provider and Requester is out of the scope of this International Standard.

The Notification WSDL specifies the ApplicationSessionTerminated operation. The operation specifies one input message for the event notification that Service Requesters receive from the Service Provider. Service Requesters may also receive the event notifications from web services, e.g. [ECMA-348](#), that use this International Standard for session management.

ISO/IEC 25437:2012

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

2 Conformance

The Service Requester and Service Provider conform to the Application and Server conformance specified in ISO/IEC 22534, using the WSDL definitions, SOAP bindings, and event subscription and notification specified in Clause 5, 6 and 7 respectively.

The Service Provider implements and publishes the operations in the Provider WSDL in 5.1 and the Notification WSDL in 5.2. The Service Provider implements and publishes the required operations from Annex A and it may additionally implement and publish operations from Annex B.

The Service Requester implements the operation in the Notification WSDL in 5.2.

The Service Provider supports synchronous responses to Event Subscriptions and may also implement the asynchronous response Option specified in Annex C.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 22534:2005 (ECMA-354), *Information technology — Telecommunications and information exchange between systems — Application session services*

SOAP 1.1 Simple Object Access Protocol 1.1, W3C Note 08 May 2000

WSDL 1.1 Web Service Description Language 1.1, W3C Note 15 March 2001

XML Schema 1.0: XML Schema Language Part 1: Structure, W3C Recommendation 28 October 2004

XML Schema Language Part 2: Data Types, W3C Recommendation 28 October 2004

WS-Addressing 1.0 Web Services Addressing 1.0 – Core W3C Recommendation (ISO/IEC 40240:2011)

Web Services Addressing 1.0 - SOAP Binding W3C Recommendation (ISO/IEC 40250:2011)

Web Services Addressing 1.0 – Metadata, W3C (ISO/IEC 40260:2011)

Web Services Eventing (WS-Eventing), W3C Recommendation 13 December 2011, <http://www.w3.org/TR/ws-eventing/>

WS-BaseNotification 1.3 Web Services Base Notification 1.3 (WS-BaseNotification) OASIS Standard, 1 October 2006

4 Terms, definitions and namespaces

4.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 22534 and the following apply.

4.1.1

Service Requester

Web Service equivalent of Application in ISO/IEC 22534

iTeh STANDARD PREVIEW
(standards.iteh.ai)

4.1.2

Service Provider

Web Service equivalent of Server in ISO/IEC 22534

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c4d5d4/iso-iec-25437-2012>

ISO/IEC 25437:2012

4.2 Prefixes and namespaces

This International Standard uses the following Ecma prefixes and namespaces.

1. **aps** (http://www.ecma-international.org/standards/ecma-354/appl_session): This International Standard imports all XML messages defined in ISO/IEC 22534 from the **aps** namespace.
2. **wss** (<http://www.ecma-international.org/standards/ecma-366/ws-session/ed3>): The WSDL target namespace for this International Standard.

This International Standard refers to these other prefixes and namespaces.

1. **wSDL** (<http://schemas.xmlsoap.org/wSDL/>): This contains the W3C WSDL 1.1 schema.
2. **xs** (<http://www.w3.org/2001/XMLSchema>): This contains the W3C XML Schema definition.
3. **S** (<http://schemas.xmlsoap.org/wSDL/soap>): This contains the W3C SOAP 1.1 bindings for WSDL 1.1.
4. **wsa** (<http://www.w3.org/2005/08/addressing>): The namespace for WS-Addressing 1.0.
5. **wse** (<http://www.w3.org/2011/03/ws-evt>): The target namespace for WS-Eventing.
6. **wsnt** (<http://docs.oasis-open.org/wsn/b-2>): The target namespace for WS-BaseNotification 1.3.

5 Abstract WSDL Definitions

This Clause specifies the abstract WSDL definitions to support the services specified in ISO/IEC 22534. There are two abstract WSDL definitions and both of them are specified by the Service Provider: 1) "Provider WSDL" that specifies the interface the Service Provider shall implement; 2) "Notification WSDL" that specifies the interface the Service Requester shall implement in order to receive the event in a particular format using Annex A and the Option in Annex B.

5.1 Provider WSDL

```

<definitions xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:aps="http://www.ecma-international.org/standards/ecma-354/appl_session"
  xmlns:wss="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3"
  targetNamespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3">

  <types>
    <xs:schema>
      <xs:import namespace="http://www.ecma-international.org/standards/ecma-354/appl_session"
        schemaLocation="http://www.ecma-international.org/standards/ecma-354/appl_session/start-application-session.xsd"/>
      <xs:import namespace="http://www.ecma-international.org/standards/ecma-354/appl_session"
        schemaLocation="http://www.ecma-international.org/standards/ecma-354/appl_session/stop-application-session.xsd"/>
      <xs:import namespace="http://www.ecma-international.org/standards/ecma-354/appl_session"
        schemaLocation="http://www.ecma-international.org/standards/ecma-354/appl_session/reset-application-session-timer.xsd"/>
    </xs:schema>
  </types>

  <message name="startApplicationSession">
    <part name="parameter" element="aps:StartApplicationSession"/>
  </message>
  <message name="startApplicationSessionPosResponse">
    <part name="parameter" element="aps:StartApplicationSessionPosResponse"/>
  </message>
  <message name="startApplicationSessionNegResponse">
    <part name="parameter" element="aps:StartApplicationSessionNegResponse"/>
  </message>
  <message name="stopApplicationSession">
    <part name="parameter" element="aps:StopApplicationSession"/>
  </message>
  <message name="stopApplicationSessionPosResponse">
    <part name="parameter" element="aps:StopApplicationSessionPosResponse"/>
  </message>
  <message name="stopApplicationSessionNegResponse">
    <part name="parameter" element="aps:StopApplicationSessionNegResponse"/>
  </message>
  <message name="resetApplicationSessionTimer">
    <part name="parameter" element="aps:ResetApplicationSessionTimer"/>
  </message>
  <message name="resetApplicationSessionTimerPosResponse">
    <part name="parameter" element="aps:ResetApplicationSessionTimerPosResponse"/>
  </message>
  <message name="resetApplicationSessionTimerNegResponse">
    <part name="parameter" element="aps:ResetApplicationSessionTimerNegResponse"/>
  </message>

```

```

<portType name="ApplicationSessionServicesPortType">
  <operation name="StartApplicationSessionOp">
    <input message="wss:startApplicationSession"/>
    <output message="wss:startApplicationSessionPosResponse"/>
    <fault name="StartFault" message="wss:startApplicationSessionNegResponse"/>
  </operation>
  <operation name="StopApplicationSessionOp">
    <input message="wss:stopApplicationSession"/>
    <output message="wss:stopApplicationSessionPosResponse"/>
    <fault name="StopFault" message="wss:stopApplicationSessionNegResponse"/>
  </operation>
  <operation name="ResetApplicationSessionTimerOp">
    <input message="wss:resetApplicationSessionTimer"/>
    <output message="wss:resetApplicationSessionTimerPosResponse"/>
    <fault name="ResetFault" message="wss:resetApplicationSessionTimerNegResponse"/>
  </operation>
</portType>
</definitions>

```

5.2 Notification WSDL

iTeh STANDARD PREVIEW
(standards.iteh.ai)

```

<definitions xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:aps="http://www.ecma-international.org/standards/ecma-354/appl_session"
  xmlns:wss="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3"
  targetNamespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3">
  <types>
    <xs:schema
      base="http://www.ecma-international.org/standards/ecma-354/appl_session"
      schemaLocation="http://www.ecma-international.org/standards/ecma-354/appl_session/application-session-terminated.xsd"/>
    </xs:schema>
  </types>
  <message name="applicationSessionTerminated">
    <part name="parameter" element="aps:ApplicationSessionTerminated"/>
  </message>
  <portType name="ApplicationSessionSinkPortType">
    <operation name="ApplicationSessionTerminatedOp">
      <input message="wss:applicationSessionTerminated"/>
    </operation>
  </portType>
</definitions>

```

6 SOAP Binding

This Clause specifies the binding templates of the abstract WSDL definitions in Clause 5 with SOAP Messages without a specific transport protocol. Any SOAP binding to transport shall contain elements and attributes in this binding template.

6.1 SOAP Binding for Provider WSDL

```

<definitions xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:aps="http://www.ecma-international.org/standards/ecma-354/appl_session"
  xmlns:wss="http://www.ecma-international.org/standards/ecma-354/ws-session/ed3"
  targetNamespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3">
  <import namespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3"
    location="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3/abstract-provider.wsdl" />
  <binding name="xs:nmtoken" type="wss:ApplicationSessionServicesPortType">
    <soap:binding style="document" transport="xs:anyURI"/>
    <operation name="StartApplicationSessionOp">
      <input><soap:body use="literal"/></input>
      <output> <soap:body use="literal"/></output>
      <fault name="StartFault"><soap:fault name="StartFault" use="literal"/></fault>
    </operation>
    <operation name="StopApplicationSessionOp">
      <input><soap:body use="literal"/></input>
      <output> <soap:body use="literal"/></output>
      <fault name="StopFault"><soap:fault name="StopFault " use="literal"/></fault>
    </operation>
    <operation name="ResetApplicationSessionTimerOp">
      <input><soap:body use="literal"/></input>
      <output> <soap:body use="literal"/></output>
      <fault name="ResetFault"><soap:fault name="ResetFault " use="literal"/></fault>
    </operation>
  </binding>
</definitions>

```

iteh STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 25437:2012

6.2 SOAP Binding for Notification WSDL

<https://standards.iteh.ai/catalog/standards/sist/a6173ffa-2bb4-453c-b079-097a0c44d5d4/iso-iec-25437-2012>

```

<definitions xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:aps="http://www.ecma-international.org/standards/ecma-354/appl_session"
  xmlns:wss="http://www.ecma-international.org/standards/ecma-354/ws-session/ed3"
  targetNamespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3">
  <import namespace="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3"
    location="http://www.ecma-international.org/standards/ecma-366/ws-session/ed3/abstract-notification.wsdl" />
  <binding name="xs:nmtoken" type="wss:ApplicationSessionSinkPortType">
    <soap:binding style="document" transport="xs:anyURI"/>
    <operation name="ApplicationSessionTerminatedOp">
      <input><soap:body use="literal"/></input>
    </operation>
  </binding>
</definitions>

```

6.3 SOAP Binding of sessionID

The `aps:sessionID` element shall be included as a direct child element of the SOAP header for each application SOAP message, such as event notification message, exchanged over the application session. The recipient (Service Provider or Requester) of the application message shall verify that the `sessionID` is valid; otherwise it shall ignore the message or send a fault.

6.4 SOAP Fault Messages

The negative responses from Service Providers shall be bound to the SOAP 1.1 fault properties: faultcode, faultstring and detail, using the following template.

```
<S:Envelope
  xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:aps="http://www.ecma-international.org/standards/ecma-354/appl_session">
  <S:Body>
    <S:Fault>
      <faultcode>[faultcode]</faultcode>
      <faultstring>[faultstring]</faultstring>
      <detail>[detail]</detail>
    </S:Fault>
  </S:Body>
</S:Envelope>
```

The contents of fault properties are defined by the following table for each type of negative response.

Table 1 — Fault names and properties for WS-Session services

Fault Name	StartFault
faultcode	ISO/IEC 22534 defined standard error names: invalidApplicationInfo, requestedProtocolVersionNotSupported, serverResourcesBusy, maxNumberSessions, or application error name.
faultstring	For ISO/IEC 22534 standard errors, it is the Description of corresponding error in Table 4-3 of ISO/IEC 22534. Additional text can be provided to elaborate the error message, for example, the maximal session number allowed by the service provider. For application errors, a proper English description shall be provided.
detail	Element aps:StartApplicationSessionNegResponse.
Fault Name	StopFault
faultcode	ISO/IEC 22534 defined standard error names: invalidSessionID, or application error name.
faultstring	For ISO/IEC 22534 standard errors, it is the Description of corresponding error in Table 4-6 of ISO/IEC 22534. Additional text can be provided to elaborate the error message, for example, the valid session ID format allowed by the service provider. For application errors, a proper English description shall be provided.
detail	Element aps:StopApplicationSessionNegResponse.
Fault Name	ResetFault
faultcode	ISO/IEC 22534 defined standard error names: invalidSessionID, serverCannotResetSessionDuration, or application error name.
faultstring	For ISO/IEC 22534 standard errors, it is the Description of corresponding error in Table 4-9 of ISO/IEC 22534. Additional text can be provided to elaborate the error message, for example, the duration allowed by the service provider. For application errors, a proper English description shall be provided.
detail	Element aps:ResetApplicationSessionTimerNegResponse.