Test Assertions for the SCA WS-BPEL Client and Implementation Version 1.1 Specification

Working Draft 03

26 March 2009

Specification URIs:

This Version:

http://docs.oasis-open.org/sca-bpel/[additional path/filename].html

http://docs.oasis-open.org/sca-bpel/[additional path/filename].odt

http://docs.oasis-open.org/sca-bpel/[additional path/filename].pdf

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Technical Committee:

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Related Work:

This specification is related to:

- Service Component Architecture WS-BPEL Client and Implementation Specification Version 1.1

Declared XML Namespace(s):

[list namespaces here]
[list namespaces here]

Abstract:

[Summary of the technical purpose of the document.]

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1 Introduction

This document defines the Test Assertions for the SCA WS-BPEL Client and Implementation Version 1.1 specification.

The test assertions in this document follow the format defined in the OASIS Test Assertion Guidelines specification [TA-GUIDE].

1.1 Example Test Assertion

Test assertions are presented in a tabular format with rows corresponding to the entry types defined in [TA-GUIDE].

Assertion ID	SBL-TA-xxxx
Source	[SBPELyyyy]
Target	<kitchenSink/> element of composite file
Prerequisites	The <kitchenSink/> element has a @drain attribute
Predicate	The @drain attribute value of the <kitchenSink/> element is a URI that identifies a portal into the sewage system of the Domain.
Prescription Level	Mandatory
Tags	kitchenSink drain sewage

Assertion ID: Is a unique ID for the test assertion. Its format starts with a 3 letter string that identifies the specification to which it relates - "SBL" is for the SCA WS-BPEL Client and Implementation specification. This is followed by "-TA-" to indicate that this identifier is for a test assertion. This is then followed by a unique 4 digit number.

Source: Is the identifier(s) of the normative statement(s) in the specification to which this assertion relates.

Target: Identifies the target which is addressed by this assertion. This is typically some SCA document element, or other SCA artifact but possibly could identify an SCA runtime and its behaviour.

Prerequisites: Defines any prerquisites for this test assertion. The prerequisites may be defined in terms of one or more other test assertions that must be true.

Predicate: The meat of the assertion - something that should evaluate to true or false for the given target.

Prescription Level: Mandatory (for MUST requirements) or Preferred (for SHOULD requirements) or Permitted (for MAY requirements).

Tags: Zero or more labels that may be attached to this test assertion - these tags can be used to group sets of assertions.

1.2 Terminology

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in IETF RFC 2119 Error: Reference source not found.

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1.3 Normative References

[RFC 2119] S. Bradner. *Key words for use in RFCs to Indicate Requirement Levels*. IETF RFC 2119, March 1997. http://www.ietf.org/rfc/rfc2119.txt.

[TA-GUIDE] Test Assertion Guidelines, Draft 0.9.9.6, 16 November, 2008.

1.4 Non-normative References

[TBD] [TBD]

NOTE: The proper format for a citation to an OASIS Technical Committee's work (whether Normative or Non-Normative) is:

OASIS
Stage (Committee Draft 01, Committee Draft 02, Committee Specification 01, etc. or Standard)
Title (italicized or in quotation marks)
Approval Date (Month YYYY)
URI of the actual Authoritative Specification (namespace is not acceptable as the content changes over time)

For example:

[EDXL-HAVE] OASIS Standard, "Emergency Data Exchange Language (EDXL) Hospital AVailability Exchange (HAVE) Version 1.0", November 2008. http://docs.oasis-open.org/emergency/edxl-have/os/emergency_edxl_have-1.0-spec-os.doc

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2 Test Assertions

Assertion ID	SBL-TA-1001
Source	[SBPEL1001]
Target	The @process attribute of a <implementation.bpel> element
Prerequisites	The <component> element has a <implementation.bpel> child element
Predicate	The value of the @process attribute is a QName that identifies an executable BPEL process
Prescription Level	Mandatory
Tags	“implementation.bpel” “BPEL process”
Comment	

Assertion ID	SBL-TA-2001
Source	[SBPEL2001] [SBPEL2002]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	A partner link of a BPEL process that is pointed to by <implementation.bpel> has the @sca-bpel:service attribute specified
Predicate	The component type contain a <service> element that corresponds to the partner link and whose @name attribute value is the same as the @sca:service attribute value
Prescription Level	Mandatory
Tags	“component type” “service” “sca-bpel:service” “partner link”
Comment	

Assertion ID	SBL-TA-2002
Source	[SBPEL2003] [SBPEL2004]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	A partner link of a BPEL process that is pointed to by <implementation.bpel> has the @sca-bpel:reference attribute specified
Predicate	The component type contains a <reference> element that corresponds to the partner link and whose @name attribute value is the same as the @sca:service attribute value
Prescription Level	Mandatory
Tags	“component type” “reference” “sca-bpel:reference” “partner link”
Comment	

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Assertion ID	SBL-TA-2003
Source	[SBPEL2005]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	The partner link of a BPEL process that is pointed to by <implementation.bpel>: a) does not have either the @sca-bpel:service attribute nor the @sca-bpel:reference attribute b) static analysis of the process determines that it is possible that the first message for the partner link will be received in a <receive> activity, the <onMessage> element of a <pick> activity or the <onEvent> element of an event handler
Predicate	The component type contains a <service> element that corresponds to the partner link
Prescription Level	Mandatory
Tags	“component type” “service” “partner link” “static analysis”
Comment	

Assertion ID	SBL-TA-2004
Source	[SBPEL2006]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	a) Those specified for SBL-TA-2003 b) The name of the partner link is unique within the BPEL process
Predicate	The component type contains a <service> element that corresponds to the partner link and the @name attribute value of the <service> element is the same as the @name attribute value of the <bpel:partnerLink> element
Prescription Level	Mandatory
Tags	“component type” “service” “partner link” “static analysis”
Comment	

Assertion ID	SBL-TA-2005
Source	[SBPEL2007]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	a) A partner link of a BPEL process that is pointed to by <implementation.bpel> has neither the @sca-bpel:reference or the @sca-bpel:service attribute specified b) static analysis of the process does not determines that it is possible that the first message for the partner link will be received in a <receive> activity, the <onMessage> element of a <pick> activity or the <onEvent> element of

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	an event handler
Predicate	The component type contains a <reference> element that corresponds to the partner link
Prescription Level	Mandatory
Tags	“component type” “reference” “partner link” “static analysis”
Comment	SBPEL2007 incorrectly talks about the range SBPEL2001-SBPEL2006. It is actually the rules: 2001, 2003 and 2005.

Assertion ID	SBL-TA-2006
Source	[SBPEL2008]
Target	The component type of the component that uses <implementation.bpel>
Prerequisites	a) Those specified for SBL-TA-2005 b) The name of the partner link is unique within the BPEL process
Predicate	The component type contains a <reference> element that corresponds to the partner link and the @name attribute value of the <reference> element is the same as the @name attribute value of the <bpel:partnerLink> element
Prescription Level	Mandatory
Tags	“component type” “reference” “partner link” “static analysis”
Comment	

Assertion ID	SBL-TA-SP01
Source	[SBPEL3011]
Target	A partnerLink element with sca-bpel:multiRefFrom attribute.
Prerequisites	The WS-BPEL process definition has • A variable representing a multi-valued Reference in a manner specified by the section 3.2 (see SBPEL3004 and SBPEL3005). • A partnerLink associated with the multi-valued reference via a sca-bpel:multiRefFrom attribute (see SBPEL3010, SBPEL3008 and SBPEL3009).
Predicate	The partnerLinkType and partnerRole attributes of the partnerLink and the multi-valued reference variable have same values.
Prescription Level	Mandatory
Tags	“sca bpel extensions” “multi-valued references”
Comment	

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Assertion ID	SBL-TA-SP02
Source	[SBPEL3012]
Target	A WS-BPEL process definition
Prerequisites	The WS-BPEL process definition has • A variable representing a multi-valued Reference in a manner specified by the section 3.2 (see SBPEL3005 and SBPEL3004). • A partnerLink associated with the multi-valued reference via a sca-bpel:multiRefFrom attribute (see SBPEL3011, SBPEL3010, SBPEL3009 and SBPEL3008).
Predicate	At least one code path exists that copies the values from the multi-valued reference to the partner link.
Prescription Level	Mandatory
Tags	“sca bpel extension” “multi-valued references”
Comment	A code analyzer for the WS-BPEL process definition will be required for testing this assertion. The predicate for this assertion will have to be formatted in a manner required by the WS-BPEL code analyzer.

Assertion ID	SBL-TA-SP03
Source	[SBPEL3015]
Target	WS-BPEL process definition
Prerequisites	A partnerLink with sca-bpel:service attribute
Predicate	The component type for the component that uses the WS-BPEL process as an implementation does not have another service with the same name as that of the service generated for the partnerLink targeted by this assertion.
Prescription Level	Mandatory
Tags	“sca bpel extensions”
Comment	Implicitly covers [SBPEL3014] and partially (the service part) of [SBPEL3013]

Assertion ID	SBL-TA-SP04
Source	[SBPEL3016]
Target	partnerLink element with sca-bpel:service attribute
Prerequisites	• A partnerLink with sca-bpel:service attribute • The partner link type of the partnerLink has only one role
Predicate	The partnerRole attribute of the partnerLink is not the only role of the partner link type.
Prescription Level	Mandatory
Tags	“sca bpel extensions”

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Comment	

Assertion ID	SBL-TA-SP05
Source	[SBPEL3018]
Target	WS-BPEL process definition
Prerequisites	A partnerLink with sca-bpel:reference attribute
Predicate	The component type for the component that uses the WS-BPEL process as an implementation does not have another reference with the same name as that of the reference generated for the partnerLink targeted by this assertion.
Prescription Level	Mandatory
Tags	“sca bpel extensions”
Comment	Implicitly covers [SBPEL3017] and partially (the reference part) of [SBPEL3013]

Assertion ID	SBL-TA-SP06
Source	[SBPEL3019]
Target	partnerLink element with sca-bpel:reference attribute
Prerequisites	• A partnerLink with sca-bpel:reference attribute • The partner link type of the partnerLink has only one role
Predicate	The myRole attribute of the partnerLink is not the only role of the partner link type.
Prescription Level	Mandatory
Tags	“sca bpel extensions”
Comment	

Assertion ID	SBL-TA-SP07
Source	[SBPEL3020]
Target	partnerLink element
Prerequisites	
Predicate	partnerLink element does not have both the sca-bpel:service and sca-bpel:reference attributes.
Prescription Level	Mandatory
Tags	“sca bpel extensions”

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Comment	Although the target of the conformance statement is the WS-BPEL process definition, the test assertion targets the individual partnerLink elements.

Assertion ID	SBL-TA-SP08
Source	[SBPEL3022]
Target	WS-BPEL process definition
Prerequisites	sca-bpel:requires attribute of partnerLink element
Predicate	The value of sca-bpel:requires is valid as per the specification of the sca:requires attribute defined in the SCA Policy Framework (space seperated list of SCA intent Qnames).
Prescription Level	Mandatory
Tags	“sca bpel extensions” “required intents”
Comment	Testing this SCA BPEL assertion should invoke (or borrow code from) a SCA Policy Framework test for validating the value of sca:requires attribute.

Assertion ID	SBL-TA-SP09
Source	[SBPEL3023]
Target	Component type of a component that uses <implementation.bpel>
Prerequisites	partnerLink element(s) in the implementing WS-BPEL process definition has sca-bpel:requires attribute.
Predicate	The service or reference in the component type has an sca:requires attribute with the same value as that of the sca-bpel:requires attribute of the corresponding partnerLink in the WS-BPEL process definition.
Prescription Level	Mandatory
Tags	“sca bpel extensions” “required intents”
Comment	

Assertion ID	SBL-TA-XXXX
Source	[SBPELYYYY]
Target	
Prerequisites	
Predicate	
Prescription Level	
Tags	
Comment	

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2.1 Cross Mapping of Conformance Statements to Assertions

Conformance statement	Test Assertion
SBPEL3011	SBL-TA-SP01
SBPEL3012	SBL-TA-SP02
SBPEL3013 (implicitly covered)	SBL-TA-SP03, SBL-TA-SP05
SBPEL3014 (implicitly covered)	SBL-TA-SP03
SBPEL3015	SBL-TA-SP03
SBPEL3016	SBL-TA-SP04
SBPEL3017 (implicitly covered)	SBL-TA-SP05
SBPEL3018	SBL-TA-SP05
SBPEL3019	SBL-TA-SP06
SBPEL3020	SBL-TA-SP07
SBPEL3021	
SBPEL3022	SBL-TA-SP08
SBPEL3023	SBL-TA-SP09

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Conformance

The last numbered section in the specification must be the Conformance section. Conformance Statements/Clauses go here.

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Appendix A. Acknowledgments

The following individuals have participated in the creation of this specification and are gratefully acknowledged

Participants:

- [Participant name, affiliation | Individual member]
- [Participant name, affiliation | Individual member]
- [Participant name, affiliation | Individual member]

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Appendix B. Non-Normative Text

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Appendix C. Revision History

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