

# SCA JMS Binding Specification v1.1 Test Assertions Version 1.0

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#### **Technical Committee:**

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#### Related work:

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Service Component Architecture JMS Binding Specification Version 1.1

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None

#### Abstract:

This document defines the Test Assertions for the SCA JMS Binding specification.

The Test Assertions represent the testable items relating to the normative statements made in the SCA JMS Binding specification. The Test Assertions provide a bridge between the normative statements in the specification and the conformance TestCases that are designed to check that an SCA runtime conforms to the requirements of the specification.

#### Status:

This document was last revised or approved by the OASIS Service Component Architecture / Bindings (SCA-Bindings) TC on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

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## 1 Introduction

- 2 This document defines Test Assertions for the SCA JMS Binding specification [SCA-JMS].
- 3 The test assertions in this document follow the format defined in the OASIS Test Assertion Guidelines
- 4 specification [TA-GUIDE].

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## 1.1 Example Test Assertion

Test assertions are presented in a tabular format with rows corresponding to the entry types defined in the OASIS Test Assertions Guidelines

Assertion ID	BJM-TA-nnnnn
	[BJMnnnnn]
Target	<xyuvbghs></xyuvbghs> element of composite file
Prerequisites	The [ <xyuvbghs></xyuvbghs> element] has a @foobar attribute
Predicate	The @foobar attribute of [the <xyuvbghs></xyuvbghs> element] is a URI that references a foobar element in the SCA Domain-
Prescription Level	Mandatory
Tags	foobar references

- 8 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 "BJM" for the SCA JMS Binding specification. This is followed by "-TA-"
   to indicate that this identifier is for a test assertion. This is then followed by a unique 5 digit number
- 11 **Source:** Is the identifier(s) of the normative statement(s) in the specification to which this assertion
- 12 relates.
- 13 Target: Identifies the target which is addressed by this assertion. This is typically some SCA document
- 14 element, but possibly could identify an SCA runtime and its behaviour.
- 15 **Prerequisites:** Defines any prerequisites for this test assertion. The prerequisites may be defined in
- 16 terms of one or more other test assertions that must be true.
- 17 **Predicate:** The meat of the assertion something that should evaluate to true or false for the given target.
- 18 **Prescription Level:** Mandatory (for MUST requirements) or Preferred (for SHOULD requirements) or
- 19 Permitted (for MAY requirements).
- 20 Tags: Zero or more labels that may be attached to this test assertion these tags can be used to group
- 21 sets of assertions.

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# 1.2 Terminology

- The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD",
- 24 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described
- 25 in RFC Keywords [RFC2119].
- 26 This specification uses predefined namespace prefixes throughout; they are given in the following list.
- 27 Note that the choice of any namespace prefix is arbitrary and not semantically significant.
- 28 Table 1-1 Prefixes and Namespaces used in this specification

Prefix	Namespace	Notes

XS	"http://www.w3.org/2001/XMLSchema"	Defined by XML Schema 1.0 specification
sca	"http://docs.oasis-open.org/ns/opencsa/sca/200912"	Defined by the SCA specifications

## 1.3 Normative References

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30 31	[RFC2119]	S. Bradner, Key words for use in RFCs to Indicate Requirement Levels, http://www.ietf.org/rfc/rfc2119.txt, IETF RFC 2119, March 1997.
32 33 34	[SCA-JMS]	OASIS Committee Specification Draft 05, SCA JMS Binding Specification Version 1.1, November 2010 http://docs.oasis-open.org/opencsa/sca-bindings/sca-jmsbinding-1.1-spec-csd05.pdf
35 36 37	[TA-GUIDE]	OASIS Committee Draft 05, <i>Test Assertions Guidelines Version 1.0</i> , August 2010 http://docs.oasis-open.org/tag/guidelines/v1.0/cd05/testassertionsguidelines-cd-05.pdf
38 39	[JCA15]	J2EE Connector Architecture Specification Version 1.5 http://java.sun.com/j2ee/connector/
40 41 42	[IETFJMS]	M. Phillips, P. Easton, D. Rokicki, E. Johnson, <i>URI Scheme for Java™ Message Service 1.0</i> http://www.ietf.org/id/draft-merrick-jms-uri-09.txt, IETF Internet-Draft September 2010¹
43 44 45	[SCA-Assembly]	OASIS Committee Draft 06, Service Component Architecture Assembly Model Specification Version 1.1, August 2010 http://docs.oasis-open.org/opencsa/sca-assembly/sca-assembly-1.1-spec-cd06.pdf

## 1.4 Naming Conventions

47 The naming conventions used by artefacts defined in this specification are:

- The naming conventions defined by section 1.3 of the SCA Assembly Specification [SCA-Assembly].
- Where the names of elements and attributes consist partially or wholly of acronyms, the letters of the acronyms use the same case. When the acronym appears at the start of the name of an element or an attribute, or after a period, it is in lower case. If it appears elsewhere in the name of an element or an attribute, it is in upper case. For example, an attribute might be named "uri" or "jndiURL".
- Where the names of types consist partially or wholly of acronyms, the letters of the acronyms are in all upper case. For example, an XML Schema type might be named "JCABinding" or "MessageID".
- Values, including local parts of QName values, follow the rules for names of elements and attributes
  as stated above, with the exception that the letters of acronyms are in all upper case. For example, a
  value might be "JMSDefault" or "namespaceURI".

<sup>1</sup> Note that this URI scheme is currently in draft. The reference for this specification will be updated when the IETF standard is finalized

# 2 Test Assertions for JMS Binding Specification

# 59 **2.1 Section 3**

Assertion ID	BJM-TA-30001
Source	[BJM30001]
Target	The @uri attribute of a <binding.jms> element</binding.jms>
Prerequisites	
Predicate	The @uri attribute matches the syntax defined in [IETFJMS]
Prescription Level	Mandatory
Tags	uri
Comment	The value of the @uri attribute MUST have the format defined by the IETF URI Scheme for Java™ Message Service 1.0 [IETFJMS]

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Assertion ID	BJM-TA-30002
Source	[BJM30002]
Target	The @uri attribute of a <binding.jms> element</binding.jms>
Prerequisites	One or more of the JNDI resources identified by the destination and jndiConnectionFactoryName in the @uri attribute does not exist
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	uri, jndi
Comment	When the @uri attribute is specified, the SCA runtime MUST raise an error if the referenced resources do not already exist

Assertion ID	BJM-TA-30003
Source	[BJM30003]
Target	The @correlationScheme attribute of a <binding.jms> element</binding.jms>
Prerequisites	1) <binding.jms> element child of a <service> element has the @correlationScheme attribute set to "sca:messageID"</service></binding.jms>
	2) the <service> element has an interface that includes at least one request/reply operation</service>
Predicate	The correlation ID of a reply message is set to the value of the message ID of the corresponding request message when a request/reply operation is invoked

Prescription Level	Mandatory
Tags	request/reply, correlation, service
Comment	If the value of the @correlationScheme attribute is "sca:messageID" the SCA runtime MUST set the correlation ID of replies to the message ID of the corresponding request

Assertion ID	BJM-TA-30004
Source	[BJM30004]
Target	The @correlationScheme attribute of a <binding.jms> element</binding.jms>
Prerequisites	1) binding.jms> element child of a <service> element has the @correlationScheme attribute set to "sca:correlationID"</service>
	2) the <service> element has an interface that includes at least one request/reply operation</service>
Predicate	The correlation ID of a reply message is set to the value of the correlation ID of the corresponding request message when a request/reply operation is invoked
Prescription Level	Mandatory
Tags	request/reply, correlation, service
Comment	If the value of the @correlationScheme attribute is "sca:correlationID" the SCA runtime MUST set the correlation ID of replies to the correlation ID of the corresponding request

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Assertion ID	BJM-TA-30005
Source	[BJM30005]
Target	The @correlationScheme attribute of a <binding.jms> element</binding.jms>
Prerequisites	1) <binding.jms> element child of a <service> element has the @correlationScheme attribute set to "sca:none"</service></binding.jms>
	2) the <service> element has an interface that includes at least one request/reply operation</service>
Predicate	The correlation ID of a reply message is unset when a request/reply operation is invoked
Prescription Level	Mandatory
Tags	request/reply, correlation, service
Comment	If the value of the @correlationScheme attribute is "sca:none" the SCA runtime MUST NOT set the correlation ID in responses that it sends

Assertion ID	BJM-TA-30006
Source	[BJM30006]

Target	The @correlationScheme attribute of a <binding.jms> element</binding.jms>
Prerequisites	<binding.jms> element child of a <service> element has the @correlationScheme attribute set to some value other than "sca:messageID", "sca:correlationID", "sca:none".</service></binding.jms>
	The value selected has a specific meaning for the target SCA runtime
Predicate	SCA runtime does not raise an error
Prescription Level	Optional
Tags	request/reply, correlation, service
Comment	SCA runtimes MAY allow other values of the @correlationScheme attribute to indicate other correlation schemes
	This is untestable. Each SCA runtime may accept additional values, however it will still reject values that it does not understand.

Assertion ID	BJM-TA-30007
Source	[BJM30007]
Target	The @correlationScheme attribute of a <binding.jms> element child of a <reference> element</reference></binding.jms>
Prerequisites	1) ding.jms> element child of a <reference> element has the @correlationScheme attribute set to "sca:correlationID"</reference>
Predicate	The correlation ID of request messages is set to a non-null value.
Prescription Level	Mandatory
Tags	correlation, reference
Comment	If the value of the @correlationScheme attribute is "sca:correlationID" the SCA runtime MUST set a non-null correlation ID value in requests that it sends

Assertion ID	BJM-TA-30010
Source	[BJM30010]
Target	SCA Runtime
Prerequisites	interface with at least one request/reply operation
	2) <service> with a child <binding.jms> element</binding.jms></service>
	3) JMS client application invokes request/reply operation
Predicate	One and only one response is received by the JMS client application
Prescription Level	Mandatory
Tags	request/reply, service
Comment	Whatever the value of the destination/@type attribute, the SCA runtime MUST ensure

a single response is delivered for request/response operations
This is untestable as there is no defined timescale over which the second response
could appear

Assertion ID	BJM-TA-30011
Source	[BJM30011]
Target	@create attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
Prerequisites	1) @create attribute value is "always"
	@jndiName attribute specified
	3) Resource of the required type cannot be created at the JNDI location
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec element is "always" and the @jndiName attribute is present and the resource cannot be created at the location specified by the @jndiName attribute then the SCA runtime MUST raise an error

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Assertion ID	BJM-TA-30012
Source	[BJM30012]
Target	@create attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
Prerequisites	@create attribute value is "ifNotExist"
Predicate	The @jndiName attribute specifies the location of the resource
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec element is "ifNotExist" then the @jndiName attribute MUST specify the location of the possibly existing resource

BJM-TA-30013
[BJM30013]
@create attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
@create attribute value is "ifNotExist"     @jndiName attribute specified
-

	3) resource does not exist at given JNDI location, and cannot be created there
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec element is "ifNotExist" and the resource does not exist at the location identified by the @jndiName attribute and cannot be created there then the SCA runtime MUST raise an error

Assertion ID	BJM-TA-30014
Source	[BJM30014]
Target	@jndiName attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
Prerequisites	1) @create attribute value is "ifNotExist"
	2) The @jndiName attribute refers to an existing resource
	3) The existing resource is not of the correct type
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec element is "ifNotExist" and the @jndiName attribute refers to an existing resource that is not a JMS Destination of the approprate type, a JMS connection factory or a JMS activation spec respectively then the SCA runtime MUST raise an error

Assertion ID	BJM-TA-30015
Assemblin	B0101-1 A-300 13
Source	[BJM30015]
Target	@create attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
Prerequisites	1) @create attribute value is "never"
	2a) @jndiName not specified, or
	2b) @jndiName specified but refers to a non-existent resource, or
	2c) @jndiName specified but refers to a resource of an incorrect type
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec

element is "never" and the @jndiName attribute is not specified, or the resource is not
present at the location identified by the @jndiName attribute, or the location refers to a
resource of an incorrect type then the SCA runtime MUST raise an error

Assertion ID	BJM-TA-30017
Source	[BJM30017]
Target	   
Prerequisites	
Predicate	The <binding.jms> element does not have both a <connectionfactory> and <activationspec> child element</activationspec></connectionfactory></binding.jms>
Prescription Level	Mandatory
Tags	connectionFactory, activationSpec
Comment	A binding.jms element MUST NOT include both a connectionFactory element and an activationSpec element

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Assertion ID	BJM-TA-30018
Source	[BJM30018]
Target	<connectionfactory> element child of <binding.jms> element</binding.jms></connectionfactory>
Prerequisites	   
Predicate	The destination is defined either by the <destination> element child of the     dinding.jms&gt; element or by the @uri attribute of the     dinding.jms&gt; element</destination>
Prescription Level	Mandatory
Tags	connectionFactory, destination
Comment	When the connectionFactory element is present as a child of the binding.jms element, then the destination MUST be defined either by the destination element child of the binding.jms element or the @uri attribute of the binding.jms element

Assertion ID	BJM-TA-30019
Source	[BJM30019]
Target	<activationspec> element child of <binding.jms> element</binding.jms></activationspec>
Prerequisites	1) <binding.jms> element with an <activationspec> child</activationspec></binding.jms>
	2) destination is defined either by the <destination> element or by the @uri attribute of the <binding.jms> element</binding.jms></destination>
Predicate	The destination defined by the <destination> element or @uri attribute refers to the same JMS destination as the <activationspec></activationspec></destination>
Prescription	Mandatory

Level	
Tags	activationSpec, destination
Comment	If the activationSpec element is present as a child of the binding.jms element and the destination is also specified via a destination element child of the binding.jms element or the @uri attribute of the binding.jms element then it MUST refer to the same JMS destination as the activationSpec

Assertion ID	BJM-TA-30020
Source	[BJM30020]
Target	   
Prerequisites	   
Predicate	The <binding.jms> element does not have an <activationspec> child</activationspec></binding.jms>
Prescription Level	Mandatory
Tags	reference, activationSpec
Comment	The activationSpec element MUST NOT be present when the binding is being used for an SCA reference

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Assertion ID	BJM-TA-30021
Source	[BJM30021]
Target	<response> element</response>
Prerequisites	        
Predicate	The <response> element does not include both a <connectionfactory> and <activationspec> child</activationspec></connectionfactory></response>
Prescription Level	Mandatory
Tags	response, connectionFactory, activationSpec
Comment	A response element MUST NOT include both a connectionFactory element and an activationSpec element

Assertion ID	BJM-TA-30022
Source	[BJM30022]
Target	<response> element</response>
Prerequisites	<response> element with both <destination> and <activationspec> child elements</activationspec></destination></response>
Predicate	The <destination> and <activationspec> elements refer to the same destination</activationspec></destination>
Prescription Level	Mandatory

Tags	response, activationSpec, destination
Comment	If a response/destination and response/activationSpec element are both specified they MUST refer to the same JMS destination

Assertion ID	BJM-TA-30023
Source	[BJM30023]
Target	<response> element</response>
Prerequisites	<service> element with <binding.jms> element child with <response> element child</response></binding.jms></service>
Predicate	The <response> element does not have an <activationspec> child element</activationspec></response>
Prescription Level	Mandatory
Tags	response, activationSpec, service
Comment	The response/activationSpec element MUST NOT be present when the binding is being used for an SCA service

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Assertion ID	BJM-TA-30024-1
Source	[BJM30024]
Target	SCA runtime
Prerequisites	@uri attribute including parameters specifying values for type, deliveryMode, timeToLive and priority
Predicate	JMS messages sent have JMSType, JMSDeliveryMode, JMSTimeToLive and JMSPriority headers set as specified by the @uri element
Prescription Level	Mandatory
Tags	uri, headers
Comment	When sending messages for a JMS binding, the SCA runtime MUST set each of the JMSType, JMSDeliveryMode, JMSTimeToLive and JMSPriority headers to values specified in the binding definition in the following priority order:
	1) the value for the header specified in the @uri attribute (highest priority);
	2) the value for the header specified in the operationProperties/headers element matching the operation being invoked;
	3) the value for the header specified in the headers element;
	4) the default value for the header as specified by the definition of the binding.jms/headers element (lowest priority)

Assertion ID	BJM-TA-30024-2
Source	[BJM30024]
Target	SCA runtime

Prerequisites	operationProperties/headers element corresponding to the operation being invoked with values specified for one or more of @type, @deliveryMode, @timeToLive and @priority     @uri attribute not present or not including parameters specifying values for those headers
Predicate	JMS messages sent have JMSType, JMSDeliveryMode, JMSTimeToLive and JMSPriority headers set as specified by the operationProperties/headers element for the operation being invoked
Prescription Level	Mandatory
Tags	uri, headers, operationProperties
Comment	Priority 2 case for BJM30024

Assertion ID	BJM-TA-30024-3
Source	[BJM30024]
Target	SCA runtime
Prerequisites	headers element with values specified for one or more of @type, @deliveryMode,     @timeToLive and @priority
	2) No operationProperties/headers element corresponding to the operation being invoked, or the operationProperties/headers element that does correspond to the operation being invoked does not have values specified those headers
	3) @uri attribute not present, or not including parameters specifying values for those headers
Predicate	JMS messages sent have JMSType, JMSDeliveryMode, JMSTimeToLive and JMSPriority headers set as specified by the headers element
Prescription Level	Mandatory
Tags	uri, headers, operationProperties
Comment	Priority 3 case for BJM30024

Assertion ID	BJM-TA-30024-4
Source	[BJM30024]
Target	SCA runtime
Prerequisites	no headers element, or headers element no values specified for one or more of @type, @deliveryMode, @timeToLive and @priority
	2) No operationProperties/headers element corresponding to the operation being invoked, or the operationProperties/headers element that does correspond to the operation being invoked does not have values specified those headers
	3) @uri attribute not present, or not including parameters specifying values for those headers
Predicate	JMS messages sent have JMSDeliveryMode, JMSTimeToLive and JMSPriority

	headers set to default values of "persistent", 0, and 4 respectively
Prescription Level	Mandatory
Tags	uri, headers, operationProperties
Comment	Priority 4 case for BJM30024; note that there is no defined default for the type parameter.

Assertion ID	BJM-TA-30025-1
Source	[BJM30025]
Target	SCA runtime
Prerequisites	operationProperties element corresponding to the operation being invoked with one or more headers/property children
Predicate	JMS messages sent include a user property for each operationProperties/headers/property element, with the given name, type and value
Prescription Level	Mandatory
Tags	headers, operationProperties
Comment	When sending messages for a JMS binding, the SCA runtime MUST set each named user property with type and value specified in the binding definition in the following priority order:
	1) the type and value for the named user property specified in an operationProperties/headers/property element matching the name of the operation being invoked (highest priority);
	2) the type and value for the named user property specified in a <i>headers/property</i> element (lowest priority)

Assertion ID	BJM-TA-30025-2
Source	[BJM30025]
Target	SCA runtime
Prerequisites	headers element with one or more headers/property children
	No operationProperties element corresponding to the operation being invoked, or an operationProperties element corresponding to the operation being invoked with no headers/property children with the same names as those in the headers element
Predicate	JMS messages sent include a user property for each headers/property element, with the given name, type and value
Prescription Level	Mandatory
Tags	headers, operationProperties
Comment	Priority 2 case for BJM30025

Assertion ID	BJM-TA-30026-1
Source	[BJM30026]
Target	SCA runtime
Prerequisites	@uri attribute including selector parameter
Predicate	Only messages received by the binding matching the selector specified in the @uri attribute are delivered to the component
Prescription Level	Mandatory
Tags	uri, selector
Comment	When receiving messages for a JMS binding, the SCA runtime MUST use a message selector if specified in the binding definition in the following priority order:
	1) the value for the message selector specified in the @uri attribute value's "selector" parameter (highest priority);
	<ol> <li>the value for the message selector specified in the messageSelection/@selector attribute;</li> </ol>
	3) otherwise no message selector is used (lowest priority)

Assertion ID	BJM-TA-30026-2
Source	[BJM30026]
Target	SCA runtime
Prerequisites	messageSelection/@selector attribute present     @uri attribute not present, or not incl7uding selector parameter
Predicate	Only messages received by the binding matching the selector specified in the messageSelection/@selector attribute are delivered to the component
Prescription Level	Mandatory
Tags	uri, selector
Comment	Priority 2 case for BJM30026

Assertion ID	BJM-TA-30026-3
Source	[BJM30026]
Target	SCA runtime
Prerequisites	1) messageSelection/@selector attribute not present
	2) @uri attribute not present, or not including selector parameter
Predicate	All messages received by the binding are delivered to the component
Prescription Level	Mandatory

Tags	uri, selector
Comment	Priority 3 case for BJM30026

Assertion ID	BJM-TA-30028
Source	[BJM30028]
Target	<resourceadapter> element</resourceadapter>
Prerequisites	
Predicate	
Prescription Level	Optional
Tags	
Comment	SCA runtimes MAY place restrictions on the properties of the resource adapter Java bean that can be set using the resourceAdapter element Nothing to test

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Assertion ID	BJM-TA-30029
Source	[BJM30029]
Target	@selectedOperation attribute
Prerequisites	Multiple operationProperties/@selectedOperation attributes in the same binding.jms element
Predicate	All @selectedOperation attributes of operationProperties elements have different values
Prescription Level	Mandatory
Tags	selectedOperation, operationProperties
Comment	The value of the operationProperties/@selectedOperation attribute MUST be unique across the containing binding.jms element

Assertion ID	BJM-TA-30030
Source	[BJM30030]
Target	<pre><operationproperties> element</operationproperties></pre>
Prerequisites	
Predicate	
Prescription Level	Preferred
Tags	selectedOperation, operationProperties

Comment	The SCA runtime SHOULD make the operationProperties element corresponding to the selectedOperation available to the wireFormat implementation Nothing to test
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Assertion ID	BJM-TA-30031
Source	[BJM30031]
Target	<resourceadapter> element</resourceadapter>
Prerequisites	JMS provider for the resources referenced by the JMS binding is implemented using JCA 1.5 [JCA15]
	Destination, connectionFactory or activationSpec element with @create attribute value of "always" or "ifNoExist".
Predicate	The <resourceadapter> element is present</resourceadapter>
Prescription Level	Mandatory
Tags	resource adapter, destination, connectionFactory, activationSpec
Comment	The resourceAdapter element MUST be present when JMS resources are to be created for a JMS provider that implements the JCA 1.5 Specification [JCA15] specification, and is ignored otherwise

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Assertion ID	BJM-TA-30034
Source	[BJM30034]
Target	   
Prerequisites	   
Predicate	The <binding.jms> element has no <destination> child element</destination></binding.jms>
Prescription Level	Mandatory
Tags	uri, destination
Comment	When the @uri attribute is specified, the destination element MUST NOT be present

Assertion ID	BJM-TA-30036
Source	[BJM30036]
Target	   
Prerequisites	
Predicate	The <binding.jms> element conforms to the XML schema</binding.jms>
Prescription Level	Mandatory
Tags	

Comment	The binding.jms element MUST conform to the XML schema defined in sca-binding-ims-1.1.xsd
	Jillo 11100d

Assertion ID	BJM-TA-30037
Source	[BJM30037]
Target	@create attribute of a <destination>, <connectionfactory> or <activationspec> element</activationspec></connectionfactory></destination>
Prerequisites	1) @create attribute value is "always"
	2) @jndiName attribute not specified
	3) Resource of the required type cannot be created
Predicate	SCA runtime raises an error
Prescription Level	Mandatory
Tags	jndi, connectionFactory, activationSpec, destination
Comment	If the @create attribute value for a destination, connectionFactory or activationSpec element is "always" and the @jndiName attribute is not present and the resource cannot be created, then the SCA runtime MUST raise an error

# 2.2 Section 4

Assertion ID	BJM-TA-40001
Source	[BJM40001]
Target	SCA runtime
Prerequisites	<binding.jms> element with either no <wireformat> child or a <wireformat.jmsdefault> child, and either no <operationselector> child or a <operationselector.jmsdefault> child.</operationselector.jmsdefault></operationselector></wireformat.jmsdefault></wireformat></binding.jms>
Predicate	Messages sent by the service or reference adhere to the default wire format and operation selector behaviour, and messages received by the service or reference that follow this behaviour are correctly processed.
Prescription Level	Mandatory
Tags	wireFormat, operationSelector, default
Comment	The SCA runtime MUST support the default JMS wire format and operation selector behavior, and MAY provide additional means to override it

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Assertion ID	BJM-TA-40002
Source	[BJM40002]
Target	SCA runtime
Prerequisites	   

Predicate	The SCA runtime behaves as if <operationselector.jmsdefault> was specified on the binding</operationselector.jmsdefault>
Prescription Level	Mandatory
Tags	operationSelector default
Comment	If no operationSelector element is specified then SCA runtimes MUST use operationSelector.jmsDefault as the default

Assertion ID	BJM-TA-40003
Source	[BJM40003]
Target	SCA runtime
Prerequisites	<service> element with:</service>
	<binding.jms> element with either no <wireformat> child or <wireformat.jmsdefault></wireformat.jmsdefault></wireformat></binding.jms>
	<interface> element that identifies an interface with more than one operation, and at least one operation with a single parameter</interface>
	An invocation from a component connected to the service of one of the operations with a single parameter
Predicate	The JMS message sent from the service has the JMS user property "scaOperationName" set to the name of the operation being invoked
Prescription Level	Mandatory
Tags	wireFormat, operation name
Comment	When using the default wire format to send request messages, if there is a single parameter and the interface includes more than one operation, the SCA runtime MUST set the JMS user property "scaOperationName" to the name of the operation being invoked

Assertion ID	BJM-TA-40004
Source	[BJM40004]
Target	SCA runtime
Prerequisites	   
Predicate	The SCA runtime behaves as if <operationselector.jmsdefault> was specified on the binding</operationselector.jmsdefault>
Prescription Level	Mandatory
Tags	wireFormat, default
Comment	If no wireFormat element is specified in a JMS binding then SCA runtimes MUST use wireFormat.jmsDefault as the default

Assertion ID	BJM-TA-40005
Source	[BJM40005]
Target	SCA runtime
Prerequisites	A <service> or <reference> element with a <binding.jms> element with either no <wireformat> child or a <wireformat.jmsdefault> child</wireformat.jmsdefault></wireformat></binding.jms></reference></service>
Predicate	Response messages sent to the reference and request messages sent to the service are accepted using either JMS text or JMS bytes format
Prescription Level	Mandatory
Tags	wireFormat, default
Comment	When using the default wire format an SCA runtime MUST be able to receive both JMS text and bytes messages

Assertion ID	BJM-TA-40006
Source	[BJM40006]
Target	SCA runtime
Prerequisites	A <service> or <reference> element with a <binding.jms> element with either no <wireformat> child or a <wireformat.jmsdefault> child</wireformat.jmsdefault></wireformat></binding.jms></reference></service>
Predicate	Response messages sent by the service and request messages sent by the reference are either JMS text or JMS bytes
Prescription Level	Mandatory
Tags	wireFormat, default
Comment	When using the default wire format an SCA runtime MUST send either a JMS text or a JMS bytes message

Assertion ID	BJM-TA-40007
Source	[BJM40007]
Target	   
Prerequisites	<binding.jms> element with either no <wireformat> child element or the <wireformat.jmsdefault> child element.</wireformat.jmsdefault></wireformat></binding.jms>
Predicate	
Prescription Level	Optional
Tags	wireFormat, default
Comment	When using the default wire format an SCA runtime MAY provide additional configuration to allow selection between JMS text or bytes messages to be sent Nothing to test here

Assertion ID	BJM-TA-40008
Source	[BJM40008]
Target	SCA runtime
Prerequisites	<pre><service> element with <binding.jms> child with either no <operationselector> child or a <operationselector.jmsdefault> child</operationselector.jmsdefault></operationselector></binding.jms></service></pre>
Predicate	The resolved operation name is identified using the JMS default operation selector algorithm
Prescription Level	Mandatory
Tags	operationSelector, default
Comment	When a binding.jms element specifies the operationSelector.jmsDefault element, the SCA runtime MUST use the default operation selection algorithm to determine the selected operation

Assertion ID	BJM-TA-40009
Source	[BJM40009]
Target	SCA runtime
Prerequisites	<service> or <reference> with <binding.jms> child with <wireformat.jmsdefault> child</wireformat.jmsdefault></binding.jms></reference></service>
Predicate	Messages sent by the service or reference adhere to the default wire format behaviour, and messages received by the service or reference that follow this behaviour are correctly processed.
Prescription Level	Mandatory
Tags	wireFormat, default
Comment	When a binding.jms element specifies the wireFormat.jmsDefault element, the SCA runtime MUST use the default wire format

Assertion ID	BJM-TA-40010
Source	[BJM40010]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>
	Resolved operation name in the target component's interface
Predicate	The target component's operation corresponding to the resolved operation name is invoked
Prescription Level	Mandatory
Tags	resolved operation, operationSelector

Comment	When a message is received at an SCA service with JMS binding and the resolved operation name is in the target component's interface, the SCA runtime MUST invoke the target component using the resolved operation name
	the target component using the resolved operation hame

Assertion ID	BJM-TA-40011
Source	[BJM40011]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>
	Resolved operation name not in the target component's interface
Predicate	An error is raised by the SCA runtime
Prescription Level	Mandatory
Tags	resolved operation, operationSelector
Comment	When a message is received at an SCA service with JMS binding and the resolved operation name is not in the target component's interface the SCA runtime MUST raise an error

# 106 **2.3 Section 5**

Assertion ID	BJM-TA-50001
Source	[BJM50001]
Target	SCA runtime
Prerequisites	SCA service or reference element with requires="JMS" and binding.jms child.
Predicate	The SCA runtime does not report this as an error
Prescription Level	Mandatory
Tags	JMS intent
Comment	JMS binding implementations MUST support the JMS intent

Assertion ID	BJM-TA-50002
Source	[BJM50002]
Target	JMS <bindingtype> element</bindingtype>
Prerequisites	   
Predicate	The <bindingtype> element includes the JMS intent in the @alwaysProvides attribute</bindingtype>
Prescription Level	Mandatory
Tags	JMS intent

Comment	The JMS intent MUST always be included in the @alwaysProvides attribute of the JMS bindingType
	Smarry 1 year

# 108 **2.4 Section 6**

Assertion ID	BJM-TA-60001
Source	[BJM60001]
Target	SCA runtime
Prerequisites	<pre><reference> element with:</reference></pre>
Predicate	JMS messages sent by the reference's JMS binding have a null JMSReplyTo destination
Prescription Level	Preferred
Tags	JMSReplyTo unidirectional reference one-way
Comment	For an SCA reference with a JMS binding and unidirectional interface, when a request message is sent as part of a one-way MEP, the SCA runtime SHOULD NOT set the JMSReplyTo destination header in the JMS message that it creates, regardless of whether the JMS binding has a response element with a destination defined

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Assertion ID	BJM-TA-60002
Source	[BJM60002]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>
	Request message corresponding to a one-way operation in the service's interface sent to the service's JMS binding with a non-null JMSReplyTo
Predicate	No error is raised
Prescription Level	Mandatory
Tags	JMSReplyTo unidirectional service one-way
Comment	For an SCA service with a JMS binding and unidirectional interface, when a request message is received as part of a one-way MEP, the SCA runtime MUST ignore the JMSReplyTo destination header in the JMS message, and not raise an error

Assertion ID	BJM-TA-60003
Source	[BJM60003]
Target	SCA runtime
Prerequisites	<reference> element with <binding.jms> child with <response> child with <destination></destination></response></binding.jms></reference>

	child element.
Predicate	Responses are received according to the value of the @correlationScheme attribute
Prescription Level	Mandatory
Tags	reference request/response correlation
Comment	For an SCA reference with a JMS binding that has a destination specified via the response element, the SCA runtime MUST receive response messages as defined by the binding's @correlationScheme attribute

Assertion ID	BJM-TA-60004
Source	[BJM60004]
Target	SCA runtime
Prerequisites	<reference> element with <binding.jms> child with <response> child with <destination> child</destination></response></binding.jms></reference>
	Request/response operation invoked using the JMS reference binding
Predicate	Request messages sent by the JMS reference binding have the JMSReplyTo set to the destination specified in the <destination> element</destination>
Prescription Level	Mandatory
Tags	JMSReplyTo reference destination request/response
Comment	For an SCA reference with a JMS binding, when a request message is sent as part of a request/response MEP, and the JMS binding has a response element with a destination defined, then the SCA runtime MUST use that destination for the JMSReplyTo header in the JMS message it creates for the request

Assertion ID	BJM-TA-60005
Source	[BJM60005]
Target	SCA runtime
Prerequisites	<pre><reference> element with <binding.jms> child with either no <response> child, or a <response> child with no <destination> child.</destination></response></response></binding.jms></reference></pre>
	Request/response operation invoked using the JMS reference binding
Predicate	Request messages sent by the JMS reference binding have the JMSReplyTo set to a non-null destination
Prescription Level	Mandatory
Tags	JMSReplyTo reference destination request/response
Comment	For an SCA reference with a JMS binding, when a request message is sent as part of a request/response MEP, and the JMS binding does not have a response element with a destination defined, the SCA runtime MUST provide an appropriate destination on which to receive response messages and use that destination for the JMSReplyTo

header in the JMS message it creates for the request

Assertion ID	BJM-TA-60006
Source	[BJM60006]
Target	SCA runtime
Prerequisites	<pre><reference> element with <binding.jms> child, with either no <response> child, or a <response> child with no <destination> child element.</destination></response></response></binding.jms></reference></pre>
Predicate	Responses are received either on unique destinations, or according to the value of the @correlationScheme attribute
Prescription Level	Mandatory
Tags	Reference request/response destination correlation
Comment	For an SCA reference with a JMS binding that does not have a destination specified via the response element, the SCA runtime MUST either receive response messages as defined by the binding's @correlationScheme attribute, or use a unique destination for each request/response interaction

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Assertion ID	BJM-TA-60007
Source	[BJM60007]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>
	Request message received as part of a request/response MEP with non-null JMSReplyTo destination
Predicate	Response message is sent by the service JMS binding to the JMSReplyTo destination
Prescription Level	Mandatory
Tags	JMSReplyTo service response destination
Comment	For an SCA service with a JMS binding, when a response message is sent as part of a request/response MEP where the request message included a non-null JMSReplyTo destination, the SCA runtime MUST send the response message to that destination

Assertion ID	BJM-TA-60008
Source	[BJM60008]
Target	SCA runtime
Prerequisites	<pre><service> element with <binding.jms> child with <response> child with <destination>   child</destination></response></binding.jms></service></pre>
	Request message received as part of a request/response MEP with null JMSReplyTo destination
Predicate	Response message is sent by the service JMS binding to the binding's response

Assertion ID	BJM-TA-60009
Source	[BJM60009]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child with either no <response> child, or a  <response> child with no <destination> child</destination></response></response></binding.jms></service>
	Request message received as part of a request/response MEP with null JMSReplyTo destination
Predicate	An error is raised by the SCA runtime
Prescription Level	Preferred
Tags	JMSReplyTo service response destination
Comment	For an SCA service with a JMS binding, when a response message is sent as part of a request/response MEP where the request message included a null JMSReplyTo destination and the JMS binding does not include a response/destination then an error SHOULD be raised by the SCA runtime

Assertion ID	BJM-TA-60010
Source	[BJM60010]
Target	SCA runtime
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>
	Request message is received by the service JMS binding as part of a request/response MEP
Predicate	Response message sent by the service JMS binding with the correlation identifier set as defined by the @correlationScheme attribute
Prescription Level	Mandatory
Tags	Service response correlation
Comment	For an SCA service with a JMS binding, when a response message is sent as part of a request/response MEP the SCA runtime MUST set the correlation identifier in the JMS message that it creates for the response as defined by the JMS binding's @correlationScheme attribute

Assertion ID	BJM-TA-60011
Source	[BJM60011]
Target	SCA runtime
Prerequisites	<reference> with <binding.jms> child and bidirectional interface</binding.jms></reference>
Predicate	Request messages sent by the reference JMS binding for request/response interactions include the scaCallbackDestination user property whose value is a JMS URI string, in the format defined by the IETF URI Scheme for Java™ Message Service 1.0 [IETFJMS], that identifies the destination to which callback messages are to be sent
Prescription Level	Mandatory
Tags	Reference bidirectional callback destination
Comment	For an SCA reference with a JMS binding and a bidirectional interface, when a request message is sent as part of a request/response MEP the SCA runtime MUST set the <i>scaCallbackDestination</i> user property in the message it creates to a JMS URI string, in the format defined by the IETF URI Scheme for Java™ Message Service 1.0 [IETFJMS], that identifies the destination to which callback messages are to be sent

Assertion ID	BJM-TA-60012
Source	[BJM60012]
Target	SCA runtime
Prerequisites	<reference> element with <binding.jms> child and bidirectional interface, one-way operation invoked</binding.jms></reference>
Predicate	JMSReplyTo set to the destination for callback messages
Prescription Level	Mandatory
Tags	
Comment	For an SCA reference with a JMS binding and bidirectional interface, when a request message is sent as part of a one-way MEP the SCA runtime MUST set the destination to which callback messages are to be sent as the <i>JMSReplyTo</i> destination in the message it creates

Assertion ID	BJM-TA-60013
Source	[BJM60013]
Target	SCA runtime
Prerequisites	<reference> element with <binding.jms> child and bidirectional interface Request message sent as part of a request/response MEP</binding.jms></reference>
Predicate	Request messages sent by the reference JMS binding have the JMSReplyTo header set as in section 6.2

Assertion ID	BJM-TA-60014-1
Source	[BJM60014]
Target	SCA runtime
Prerequisites	<pre><reference> with:</reference></pre>
Predicate	Request messages sent by the reference JMS binding include the scaCallbackDestination user property set to the specified callback destination
Prescription Level	Mandatory
Tags	Reference bidirectional callback destination
Comment	For an SCA reference with a JMS binding and bidirectional interface, the SCA runtime MUST identify the callback destination from the reference's callback service binding if present, or supply a suitable callback destination if not present

Assertion ID	BJM-TA-60014-2		
Source	[BJM60014]		
Target	SCA runtime		
Prerequisites	<pre><reference> with:</reference></pre>		
Predicate	Request messages sent by the reference JMS binding include the scaCallbackDestination user property set to a specified callback destination provided by the SCA runtime		
Prescription Level	Mandatory		
Tags	Reference bidirectional callback destination		
Comment	For an SCA reference with a JMS binding and bidirectional interface, the SCA runtime MUST identify the callback destination from the reference's callback service binding if		

present, or supply a suitable callback destination if not present

Assertion ID	BJM-TA-60015		
Source	[BJM60015]		
Target	SCA runtime		
Prerequisites	<ul> <li><service> element with <binding.jms> child</binding.jms></service></li> <li>Callback destination identified as follows, in order of priority:         <ul> <li>The scaCallbackDestination identified by an earlier request, if not null;</li> <li>the JMSReplyTo destination identified by an earlier one-way request, if not null;</li> <li>the request destination of the service's callback reference JMS binding, if specified</li> </ul> </li> </ul>		
Predicate	Request messages sent by the service's callback JMS reference are sent to the callback destination		
Prescription Level	Mandatory		
Tags	Service callback destination		
Comment	For an SCA service with a JMS binding, when a callback request message is sent for either a one-way or request/response MEP, the SCA runtime MUST send the callback request message to the callback destination.		

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Assertion ID	BJM-TA-60016			
Source	[BJM60016]			
Target	SCA runtime			
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>			
	No scaCallbackDestination identified by an earlier request			
	No JMSReplyTo destination identified by an earlier one-way request			
	No request destination specified by the service's callback reference JMS binding			
Predicate	When a callback request is made an exception is thrown			
Prescription Level	Mandatory			
Tags	JMSReplyTo service callback destination			
Comment	For an SCA service with a JMS binding, when a callback request message is sent and no callback destination can be identified then the SCA runtime SHOULD raise an error, and MUST throw an exception to the caller of the callback operation			

Assertion ID	BJM-TA-60017	
Source	[BJM60017]	

Target	SCA runtime	
Prerequisites	<service> element with <binding.jms> child</binding.jms></service>	
Predicate	Callback request messages have the JMSReplyTo set as defined in section 6.1 or 6.2 as appropriate	
Prescription Level	Mandatory	
Tags	JMSReplyTo service callback destination	
Comment	For an SCA service with a JMS binding, when a callback request message is sent the SCA runtime MUST set the JMSReplyTo destination in the callback request message as defined in sections 6.1 or 6.2 as appropriate for the type of the callback operation invoked	

Assertion ID	BJM-TA-60018		
Source	[BJM60018]		
Target	 <binding.jms> element</binding.jms>		
Prerequisites	<service> or <reference> with <binding.jms> child, bidirectional interface and callback   &lt;</binding.jms></reference></service>		
Predicate	Behaviour as defined in section 6.4 and its subsections is observed		
Prescription Level	Mandatory		
Tags			
Comment	SCA runtimes MUST follow the behavior described in section 6.4 and its subsections when binding.jms is used in both the forward and callback directions		

# 128 3 Conformance

129 There are no conformance statements relating to the Test Assertions.

# A. Cross Mapping of Conformance Statements to Test Assertions

This section contains a list of conformance items for the SCA JMS Binding specification and the corresponding Test Assertions.

Conformance ID	Test Assertion
BJM30001	BJM-TA-30001
BJM30002	BJM-TA-30002
BJM30003	BJM-TA-30003
BJM30004	BJM-TA-30004
BJM30005	BJM-TA-30005
BJM30006	BJM-TA-30006
BJM30007	BJM-TA-30007
BJM30010	BJM-TA-30010
BJM30011	BJM-TA-30011
BJM30012	BJM-TA-30012
BJM30013	BJM-TA-30013
BJM30014	BJM-TA-30014
BJM30015	BJM-TA-30015
BJM30017	BJM-TA-30017
BJM30018	BJM-TA-30018
BJM30019	BJM-TA-30019
BJM30020	BJM-TA-30020
BJM30021	BJM-TA-30021
BJM30022	BJM-TA-30022
BJM30023	BJM-TA-30023
BJM30024	BJM-TA-30024-1, BJM-TA-30024-2, BJM-TA-30024-3, BJM-TA-30024-4
BJM30025	BJM-TA-30025-1, BJM-TA-30025-2
BJM30026	BJM-TA-30026-1, BJM-TA-30026-2, BJM-TA-30026-3
BJM30028	BJM-TA-30028
BJM30029	BJM-TA-30029
BJM30030	BJM-TA-30030

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BJM30034         BJM-TA-30036           BJM30037         BJM-TA-30037           BJM40001         BJM-TA-40001           BJM40002         BJM-TA-40002           BJM40003         BJM-TA-40003           BJM40004         BJM-TA-40004           BJM40005         BJM-TA-40005           BJM40006         BJM-TA-40006           BJM40007         BJM-TA-40007           BJM40008         BJM-TA-40008           BJM40009         BJM-TA-40010           BJM40010         BJM-TA-40011           BJM50001         BJM-TA-50001           BJM50002         BJM-TA-50002           BJM60003         BJM-TA-60001           BJM60004         BJM-TA-60002           BJM60005         BJM-TA-60006           BJM60006         BJM-TA-60001           BJM60007         BJM-TA-60001           BJM60008         BJM-TA-60006           BJM60009         BJM-TA-60001           BJM6001         BJM-TA-60001           BJM6001         BJM-TA-60001           BJM6001         BJM-TA-60001           BJM6001         BJM-TA-60001           BJM6001         BJM-TA-6001           BJM6001         BJM-TA-60014           BJM60	BJM30031	BJM-TA-30031	
BJM30037         BJM-TA-30037           BJM40001         BJM-TA-40001           BJM40002         BJM-TA-40002           BJM4003         BJM-TA-40003           BJM4004         BJM-TA-40004           BJM40005         BJM-TA-40005           BJM40006         BJM-TA-40006           BJM40007         BJM-TA-40007           BJM40008         BJM-TA-40008           BJM4009         BJM-TA-40010           BJM4001         BJM-TA-40011           BJM50001         BJM-TA-50001           BJM50002         BJM-TA-50002           BJM60001         BJM-TA-60001           BJM60003         BJM-TA-60003           BJM60004         BJM-TA-60004           BJM60005         BJM-TA-600005           BJM60006         BJM-TA-600006           BJM60009         BJM-TA-600001           BJM60010         BJM-TA-60001           BJM60010         BJM-TA-60010           BJM60011         BJM-TA-60011           BJM60012         BJM-TA-60013           BJM60014         BJM-TA-60014-1, BJM-TA-60014-2	BJM30034	BJM-TA-30034	
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BJM60016	BJM-TA-60016	
BJM60017	BJM-TA-60017	
BJM60018	BJM-TA-60018	

# **B.** Acknowledgements

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# **C.** Revision History

[optional; should not be included in OASIS Standards]

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Revision	Date	Editor	Changes Made
wd01	2009-07-24	Simon Holdsworth	Initial draft
wd02	2009-09-24	Simon Holdsworth	Completed assertions from sections 4 and 6
wd03	2009-10-15	Simon Holdsworth	Various updates
wd04	2010-01-24	Simon Holdsworth	Updated for resolutions to issues BINDINGS-48 BINDINGS-93 BINDINGS-94 BINDINGS-96 BINDINGS-97 BINDINGS-103 BINDINGS-108 BINDINGS-110
wd05	2010-02-12	Simon Holdsworth	As per sca-jmsbinding-1.1-spec-cd03-rev1  Updated for resolutions to issues  BINDINGS-95  BINDINGS-104  BINDINGS-105  BINDINGS-106  As per sca-jmsbinding-1.1-spec-cd03-rev2
wd06	2010-03-16	Simon Holdsworth	Fixed application of BINDINGS-108 Updated assembly reference to CD05
wd07	2010-09-23	Simon Holdsworth	Editorial cleanup Reduced acknowledgements to TC voting members
wd08	2010-10-26	Simon Holdsworth	Updated for resolutions to issues BINDINGS-136 BINDINGS-141 As per sca-jmsbinding-1.1-spec-cd04-rev2
wd09	2010-10-29	Simon Holdsworth	Updated for resolutions to issues BINDINGS-140 As per sca-jmsbinding-1.1-spec-cd04-rev2 Updated external references