

Test Compatibility Suite Verification

This page tracks the conformance of the [Fedora-API-Test-Suite](#) to the [Fedora API Specification](#). Verification in this context means that the tests as written conform to the actual specification. Conformance means an attempt was made to determine if individual tests appear reasonable, in comparison to the written specification, via inspection of test classes and interactions with actual implementations.

FYI: Test classes are annotated with [TestNG](#) to coordinate execution, and individual tests most often make use of [REST-assured](#) to test and interact with the target endpoint. Knowledge of both is essential to be able to judge test implementations for their conformance to the specification. Likewise, [LDP](#) knowledge is essential to interpret the Fedora API specifications being tested.

To assist in conformance validation, it is helpful to see the actual responses from Fedora during test execution. These can be seen in 'report/testsuite-execution.log'.

Status date: 3-12-2018

API Test Suite version: dcce6ea

Test	Specification as reported by test	Conforms to spec	Notes and issues
3.1.1-A - Container-CreateLDPC (Code)	Implementations must support the creation and management of [LDP] Containers.	YES Randall Floyd	
3.1.1-B - Container-ldpcContainment Triples (Code)	LDP Containers must distinguish [containment triples]	YES Randall Floyd	
3.1.1-C - Container-ldpcMembership Triples (Code)	LDP Containers must distinguish [membership] triples.	YES Randall Floyd	
3.1.1-D - Container-ldpcMinimalContainerTriples (Code)	LDP Containers must distinguish [minimal-container] triples.	YES Randall Floyd	
3.1.2-A - LDPNR-LDPNRCreationLinkType (Code)	If, in a successful resource creation request, a Link: rel="type" request header specifies the LDP-NR interaction model (http://www.w3.org/ns/ldp#NonRDFSource , regardless of Content-Type: value), then the server should handle subsequent requests to the newly created resource as if it is an LDP-NR. ([LDP] 5.2.3.4 extension)	YES Randall Floyd	The test is valid but more consistent printing of header values, as done in 3.1.1.* tests, to the logs on POST would aid in troubleshooting.
3.1.2-B - LDPNR-LDPNRCreationWrongLinkType (Code)	If, in a successful resource creation request, a Link: rel="type" request header specifies the LDP-NR interaction model (http://www.w3.org/ns/ldp#NonRDFSource , regardless of Content-Type: value), then the server should handle subsequent requests to the newly created resource as if it is an LDP-NR. ([LDP] 5.2.3.4 extension)	YES Randall Floyd	The test is valid but more consistent printing of header values, as done in 3.1.1.* tests, to the logs on POST would aid in troubleshooting.
3.2.1-A - HttpGet-AdditionalValuesForPreferHeader (Code)	In addition to the requirements of [LDP], an implementation may support the value http://www.w3.org/ns/oa#PreferContainedDescriptions and should support the value http://fedora.info/definitions/fcrepo#PreferInboundReferences for the Prefer header when making GET requests on LDPC resources.	YES Randall Floyd see issue #50	
3.2.2-A - HttpGet-LDPRS-ResponsePreferenceAppliedHeader (Code)	Responses to GET requests that apply a Prefer request header to any LDP-RS must include the Preference-Applied response header as defined in [RFC7240] section 3.	YES Randall Floyd	
3.2.2-B - HttpGet-LDPRS-ResponseDescriptionHeader (Code)	When a GET request is made to an LDP-RS that describes an associated LDP-NR (3.5 HTTP POST and [LDP] 5.2.3.12), the response must include a Link: rel="describes" header referencing the LDP-NR in question, as defined in [RFC6892].	YES Randall Floyd	
3.2.3-A - HttpGet-RespondWantDigest (Code)	Testing for supported digest GET requests to any LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]	YES Randall Floyd	
3.2.3-B - HttpGet-RespondWantDigestTwoSupported (Code)	Testing for two supported digests with no weights GET requests to any LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]	YES Randall Floyd	

3.2.3-C - HttpGet- RespondWantDigestTwoSupportedQvalueNonZero (Code)	Testing for two supported digests with different weights GET requests to any LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]	YES Randall Floyd	
3.2.3-D - HttpGet- RespondWantDigestTwoSupportedQvalueZero (Code)	Testing for two supported digests with different weights q=0.3,q=0 GET requests to any LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]	YES Randall Floyd	
3.2.3-E - HttpGet- RespondWantDigestNonSupported (Code)	Testing for one supported digest and one unsupported digest. GET requests to any LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]	YES Randall Floyd	
3.3-A - HttpHead- ResponseNoBody	The HEAD method is identical to GET except that the server must not return a message-body in the response, as specified in [RFC7231] section 4.3.2.	YES Randall Floyd	
3.3-B - HttpHead- ResponseDigest	The server must send the same Digest header in the response as it would have sent if the request had been a GET (or omit it if it would have been omitted for a GET).	YES Randall Floyd	
3.3-C - HttpHead- ResponseHeadersSameAsHttpGet	In other cases, The server should send the same headers in response to a HEAD request as it would have sent if the request had been a GET, except that the payload headers (defined in [RFC7231] section 3.3) may be omitted.	YES Randall Floyd	
3.4-A - HttpOptions- HttpOptionsSupport	Any LDPR must support OPTIONS per [LDP] 4.2.8. 4.2.8.1 LDP servers must support the HTTP OPTIONS method.	YES Randall Floyd	
3.4-B - HttpOptions- HttpOptionsSupportAllow	Any LDPR must support OPTIONS per [LDP] 4.2.8. LDP servers must indicate their support for HTTP Methods by responding to a HTTP OPTIONS request on the LDPR's URL with the HTTP Method tokens in the HTTP response header Allow.	YES Randall Floyd	
3.5-A - HttpPost	Any LDPC (except Version Containers (LDPCv)) must support POST ([LDP] 4.2.3 / 5.2.3).	YES Randall Floyd	
3.5-B - HttpPost- ConstrainByResponseHeader	The default interaction model that will be assigned when there is no explicit Link header in the request must be recorded in the constraints document referenced in the Link: rel="http://www.w3.org/ns/ldp#constrainedBy" header ([LDP] 4.2.1.6 clarification).	YES Randall Floyd	
3.5-C - NonRDFSSource- PostNonRDFSSource	Any LDPC must support creation of LDP-NRs on POST ([LDP] 5.2.3.3 may becomes must).	YES Randall Floyd	Appears to have been moved down into 3.5.1. Labels should probably be shifted to reflect this as 3.5.1-A.
3.5-D - NonRDFSSource- PostResourceAndCheckAssociatedResource	On creation of an LDP-NR, an implementation must create an associated LDP-RS describing that LDP-NR ([LDP] 5.2.3.12 may becomes must).	UNCLEAR Randall Floyd	Appears to have been moved down into 3.5.1. Labels should probably be shifted to reflect this as 3.5.1-B. Conformance issue: It is unclear if the test applied in this line would catch multi valued header fields correctly: https://github.com/fcrepo4-labs/Fedora-API-Test-Suite/blob/master/src/main/java/com/ibrfedora/testsuite/HttpPost.java#L161 This will work if the multi valued 'Link' field is comma separated, but not if they are truly multiples (FIFO?). For example, Fedora at d7731a086 is failing this test for this reason. Which is correct for multi-valued fields, comma separated or multiple fields?
3.5.1-A - NonRDFSSource- PostDigestResponseHeaderAuthentication	An HTTP POST request that would create an LDP-NR and includes a Digest header (as described in [RFC3230]) for which the instance-digest in that header does not match that of the new LDP-NR must be rejected with a 409 Conflict response.	YES Randall Floyd	Since 3.5-C and D should be 3.5.1-A and 3.5.1-B, this should be 3.5.1-C.
3.5.1-B - NonRDFSSource- PostDigestResponseHeaderVerification	An HTTP POST request that includes an unsupported Digest type (as described in [RFC3230]), should be rejected with a 400 Bad Request response.	YES Randall Floyd	Since 3.5-C and D should be 3.5.1-A and 3.5.1-B, this should be 3.5.1-D.

3.6-B - HttpPut	When accepting a PUT request against an existant resource, an HTTP Link: rel="type" header may be included. If that type is a value in the LDP namespace and is not either a current type of the resource or a subtype of a current type of the resource, the request must be rejected with a 409 Conflict response.	YES Randall Floyd	
3.6.1-A - HttpPut-UpdateTriples	Any LDP-RS must support PUT to update statements that are not server-managed triples (as defined in [LDP] 2). [LDP] 4.2.4.1 and 4.2.4.3 remain in effect.	YES Randall Floyd	
3.6.1-B - HttpPut-UpdateDisallowedTriples	If an otherwise valid HTTP PUT request is received that attempts to modify resource statements that a server disallows (not ignores per [LDP] 4.2.4.1), the server must fail the request by responding with a 4xx range status code (e.g. 409 Conflict).	YES Randall Floyd	
3.6.1-C - HttpPut-UpdateDisallowedTriplesResponse	The server must provide a corresponding response body containing information about which statements could not be persisted. ([LDP] 4.2.4.4 shouldbecomes must).	YES Randall Floyd	
3.6.1-D - HttpPut-UpdateDisallowedTriplesConstrainedByHeader	In that response, the restrictions causing such a request to fail must be described in a resource indicated by a Link: rel="http://www.w3.org/ns/ldp#constrainedBy" response header per [LDP] 4.2.1.6.	YES Randall Floyd	
3.6.2-A - HttpPutNR	Any LDP-NR must support PUT to replace the binary content of that resource.	YES Randall Floyd	
3.6.2-B - NonRDFSource-PutDigestResponseHeaderAuthentication	An HTTP PUT request that includes a Digest header (as described in [RFC3230]) for which any instance-digest in that header does not match the instance it describes, must be rejected with a 409 Conflict response.	YES Randall Floyd	
3.6.2-C - NonRDFSource-PutDigestResponseHeaderVerification	An HTTP PUT request that includes an unsupported Digest type (as described in [RFC3230]), should be rejected with a 400 (Bad Request) response.	YES Randall Floyd	
3.7-A - HttpPatch-SupportHttpPatch	Any LDP-RS must support PATCH ([LDP] 4.2.7 may becomes must). [sparql11-update] must be an accepted content-type for PATCH.	YES Randall Floyd	
3.7-B - HttpPatch-LDPPatchContentTypeSupport	Other content-types (e.g. [ldpatch]) may be available.	YES Randall Floyd	
3.7-C - HttpPatch-ServerManagedPropertiesModification	If an otherwise valid HTTP PATCH request is received that attempts to modify statements to a resource that a server disallows (not ignores per [LDP] 4.2.4.1), the server must fail the request by responding with a 4xx range status code (e.g. 409 Conflict).	YES Randall Floyd	
3.7-D - HttpPatch-StatementNotPersistedResponseBody	The server must provide a corresponding response body containing information about which statements could not be persisted. ([LDP] 4.2.4.4 should becomes must).	YES Randall Floyd	
3.7-E - HttpPatch-StatementNotPersistedConstrainedByHeader	In that response, the restrictions causing such a request to fail must be described in a resource indicated by a Link: rel="http://www.w3.org/ns/ldp#constrainedBy" response header per [LDP] 4.2.1.6.	YES Randall Floyd	
3.7-F - HttpPatch-SuccessfulPatchStatusCode	A successful PATCH request must respond with a 2xx status code; the specific code in the 2xx range may vary according to the response body or request state.	YES Randall Floyd	
3.7.1 - HttpPatch-DisallowPatchContainmentTriples	The server should not allow HTTP PATCH to update an LDPC's containment triples; if the server receives such a request, it should respond with a 409 (Conflict) status code.	YES Randall Floyd	
3.7.2 - HttpPatch-DisallowChangeResourceType	The server must disallow a PATCH request that would change the LDP interaction model of a resource to a type that is not a subtype of the current resource type. That request must be rejected with a 409 Conflict response.	YES Randall Floyd	
3.8.1-A - httpDeleteOptionsCheck	An implementation that cannot recurse should not advertise DELETE in response to OPTIONS requests for containers with contained resources.	UNCLEAR Randall Floyd	I don't understand the test as written, especially compared with the Fedora responses under test, but that doesn't mean it isn't valid. A second opinion would be appreciated.

3.8.1-C - httpDeleteStatusCheck	An implementation must not return a 200 (OK) or 204 (No Content) response unless the entire operation successfully completed.	YES Randall Floyd	
3.8.1-D - httpDeleteStatusCheckTwo	An implementation must not emit a message that implies the successful DELETE of a resource until the resource has been successfully removed.	YES Randall Floyd	
3.9-A - ExternalBinaryContent-PostCreate	Fedora servers should support the creation of LDP-NRs with Content-Type of message/external-body and access-type parameter of url.	YES Randall Floyd	
3.9-A - ExternalBinaryContent-PutCreate	Fedora servers should support the creation of LDP-NRs with Content-Type of message/external-body and access-type parameter of url.	YES Randall Floyd	
3.9-A - ExternalBinaryContent-PutUpdate	Fedora servers should support the creation of LDP-NRs with Content-Type of message/external-body and access-type parameter of url.	YES Randall Floyd	
3.9-B - ExternalBinaryContent-createExternalBinaryContentCheckAccessType	Fedora servers must advertise support in the Accept-Post response header for each supported access-type parameter value of Content-Type: message/external-body.	YES Randall Floyd	
3.9-C - ExternalBinaryContent-PostCheckUnsupportedMediaType	Fedora servers receiving requests that would create or update a LDP-NR with a message/external-body with an unsupported type parameter must respond with HTTP 415 UNSUPPORTED MEDIA TYPE. In the case that a Fedora server does not support external LDP-NR content, all message/external-body messages must be rejected with HTTP 415.	YES Randall Floyd	
3.9-C - ExternalBinaryContent-PutCheckUnsupportedMediaType	Fedora servers receiving requests that would create or update a LDP-NR with a message/external-body with an unsupported type parameter must respond with HTTP 415 UNSUPPORTED MEDIA TYPE. In the case that a Fedora server does not support external LDP-NR content, all message/external-body messages must be rejected with HTTP 415.	YES Randall Floyd	
3.9-D - ExternalBinaryContent-checkUnsupportedMediaType	In the case that a Fedora server does not support external LDP-NR content, all message/external-body messages must be rejected with 415 (Unsupported Media Type).	YES Randall Floyd	
3.9-E - ExternalBinaryContent-postCheckHeaders	Fedora servers receiving requests that would create or update an LDP-NR with Content-Type: message/external-body must not accept the request if it cannot guarantee all of the response headers required by the LDP-NR interaction model in this specification.		
3.9-E - ExternalBinaryContent-putUpdateCheckHeaders	Fedora servers receiving requests that would create or update an LDP-NR with Content-Type: message/external-body must not accept the request if it cannot guarantee all of the response headers required by the LDP-NR interaction model in this specification.		
3.9-F - ExternalBinaryContent-HttpGetCheckContentLocationHeader	GET and HEAD responses for any external LDP-NR should include a Content-Location header with a URI representation of the location of the external content if the Fedora server is proxying the content.		
3.9-F - ExternalBinaryContent-HttpHeadCheckContentLocationHeader	GET and HEAD responses for any external LDP-NR should include a Content-Location header with a URI representation of the location of the external content if the Fedora server is proxying the content.		
3.9-G - ExternalBinaryContent-respondWantDigestExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230].		

3.9-G - ExternalBinaryContent- respondWantDigestExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230].		
3.9-H - ExternalBinaryContent- respondWantDigestTwoSupportedExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. With two supported digests.		
3.9-H - ExternalBinaryContent- respondWantDigestTwoSupportedExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. With two supported digests.		
3.9-I - ExternalBinaryContent- respondWantDigestTwoSupportedQvalueNonZeroExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. Two digests with different weights, q values.		
3.9-I - ExternalBinaryContent- respondWantDigestTwoSupportedQvalueNonZeroExternalBinaryContentHead	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. Two digests with different weights, q values.		
3.9-J - ExternalBinaryContent- respondWantDigestNonSupportedExternalBinaryContent	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. One supported and an unsupported Digest.		
3.9-J - ExternalBinaryContent- respondWantDigestNonSupportedExternalBinaryContentHead	GET and HEAD requests to any external LDP-NR must correctly respond to the Want-Digest header defined in [RFC3230]. One supported and an unsupported Digest.		