Liberty ID-WSF 1.0 Static Conformance Requirements

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Abstract:

Defines the static conformance requirements for the Liberty Alliance ID-WSF 1.0 specifications.

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31 # Contents

35 1. Overview

36 Static conformance requirements (SCR) describe features that are mandatory and optional for implementations
37 conforming to the Liberty Alliance Identity Web Service Framework (ID-WSF) Specifications:

38 • LibertySOAPBinding (v1.1)

39 • LibertySecMech (v1.1)

40 • LibertyDisco (v1.1)

41 • LibertyInteract (v1.0 errata-v2.0)

42 • LibertyPAOS (v1.0)

43 • LibertyAuthn (v1.0)

44 • LibertyClientProfiles (v1.0)

45 • LibertyMetadata (v1.0-errata-v2.0)

46 • LibertyProtSchema (v1.2-errata-v2.0)

47 • LibertyBindProf (v1.2-errata-v2.0)

48 • LibertyAuthnContext (v1.2-errata-v1.0)

49 This document defines these requirements. This is a normative document with several non-normative explanatory
50 sections.

51 1.1. Definitions and Motivation

52 The Liberty specifications define a large number of features and variations. Applications often do not require all
53 the features within a specification. It is also possible that implementations may not be able to implement all the
54 features. In these cases, it may be desirable to partition the specifications into subsets of functionality. A profile is
55 a subset of the overall specifications that includes all of the functionality necessary to satisfy the requirements of a
56 particular community of users. This document identifies several Liberty conformance profiles based on subsets of
57 these specifications according to the following guidelines:

58 • The number of conformance profiles should be kept small.

59 • The profiles should correspond to the major roles within the specifications: Web Service Consumer (WSC), Web
60   Service Provider (WSP), Discovery Service (DS), Interaction Service (IS), and Identity Provider (IdP).

61 • The SCR should distinguish between software implementations and deployments. Allow deployments to option-
62   ally configure features that are mandatory in the conformance profiles.

63 • The SCR should place more stringent requirements on service providers as compared with service consumers to
64   promote interoperability.

65 • Implementations conforming to one (or more) profiles should be able to interoperate with another conforming
66   implementation of a complementary profile.

67 The resulting profiles are described below by means of tables indicating mandatory and optional features, with
68 references to the appropriate sections of the specification documents.

1.2. Notation

70 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD
71 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in
72 [RFC2119]: "they MUST only be used where it is actually required for interoperation or to limit behavior which has
73 potential for causing harm (e.g., limiting retransmissions)."

74 The normative sections of this document are identified with special formatting as indicated here:

75 **EXAMPLE**   This is an example of the format of the normative requirements. Each requirement is identified
76   by a requirement identifier ("EXAMPLE" in this example).

2. Conformance Profiles

2.1. Profile Matrix

The following tables summarize the features that comprise the conformance profiles. The detailed specifications for each profile follow in subsequent sections.

Table 1. Abstract Profile Matrix

Feature	WSC Common	WSP Common
Basic SOAP Binding	MUST	MUST
Basic Security Mechanisms	MUST	MUST
Interaction Header		MUST

Table 2. Concrete Profile Matrix

Feature	ID-FF SP WSC	LUAD WSC	ID-FF SP WSP	LUAD WSP	PAOS WSP	ID-FF IdP	LUAD IdP	DS	IS
WSC Common	MUST	MUST							
WSP Common			MUST	MUST	MUST			MUST	MUST
ID-FF SP WSC SOAP Binding	MUST								
Interaction Redirect	MUST		OPT					OPT	
Interaction Service			OPT	OPT				OPT	MUST
ID-FF DS Bootstrap	MUST					MUST			
Authentication Service		MUST					MUST		
SSO Service		OPT					OPT		
Service Registration			OPT	OPT				MUST	OPT
Service Discovery	MUST	MUST						MUST	
Service Invocation	MUST	MUST	MUST	MUST	MUST				
PAOS	OPT				MUST			OPT	OPT
LUAD		MUST		MUST				OPT	

2.2. Web Service Consumer (WSC) Common Conformance Profile

This section defines the common conformance requirements for all Web Service Consumer Profiles.

2.2.1. Basic SOAP Binding

Conforming WSCs MUST support the following SOAP Binding features

wsc-soapbind-001   The WSC MUST conform to the requirements for sending SOAP-bound ID-* messages and receiving their responses, as described in sections 4 and 5 of [LibertySOAPBinding]. This includes support for sending and processing the Correlation Header, and for failing if any unsupported Header is received with a `mustUnderstand` attribute set to true.

wsc-soapbind-002   The WSC MUST support processing of the ServiceInstanceUpdate Header, as described in section 6.4 of [LibertySOAPBinding]. Specifically, the WSC MUST (a) be able to retry an operation as specified by a ServiceInstanceUpdate Header received in combination with an EndpointMoved Fault and (b) be able to accept new credentials for use in subsequent operations as specified by a ServiceInstanceUpdate Header received in combination with a normal response Body.

97 2.2.2. Basic Security Mechanisms

98 Conforming WSCs MUST support the following Security Mechanisms:

99 **wsc-secmech-001**   The WSC MUST support null and TLS peer entity authentication mechanisms, as described in
100   section 6.2 of [LibertySecMech].

101 **wsc-secmech-002**   The WSC MUST support null, x509, SAML and Bearer message authentication mechanisms,
102   as described in section 6.3 of [LibertySecMech].

103 Combined, these requirements correspond to the following set of Security Mechanism URIs:

104 • urn:liberty:security:2003-08:null:null

105 • urn:liberty:security:2003-08:null:X509

106 • urn:liberty:security:2003-08:null:SAML

107 • urn:liberty:security:2004-04:null:Bearer

108 • urn:liberty:security:2003-08:TLS:null

109 • urn:liberty:security:2003-08:TLS:X509

110 • urn:liberty:security:2003-08:TLS:SAML

111 • urn:liberty:security:2004-04:TLS:Bearer

112 2.3. Web Service Provider (WSP) Common Conformance Profile

113 This section defines the common conformance requirements for all Web Service Provider Profiles.

114 2.3.1. Basic SOAP Binding

115 Conforming WSPs MUST support the following SOAP Binding features

116 **wsp-soapbind-001**   The WSP MUST conform to the requirements for receiving SOAP-bound ID-* messages and
117   sending their responses, as described in sections 4 and 5 of [LibertySOAPBinding]. This
118   includes support for sending and processing the Correlation Header, and for failing if any
119   unsupported Header is received with a `mustUnderstand` attribute set to true.

120 2.3.2. Basic Security Mechanisms

121 Conforming WSPs MUST support the following Security Mechanisms

122 **wsp-secmech-001**   The WSP MUST support null and TLS peer entity authentication mechanisms, as described in
123   section 6.2 of [LibertySecMech].

124 **wsp-secmech-002**   The WSP MUST support either null or Bearer or both x509 and SAML message authentication
125   mechanisms, as described in section 6.3 of [LibertySecMech].

126 Combined, these requirements correspond to the following sets of Security Mechanism URIs:

127   • urn:liberty:security:2003-08:null:null

128   • urn:liberty:security:2003-08:TLS:null

129 or

130   • urn:liberty:security:2004-04:null:Bearer

131   • urn:liberty:security:2004-04:TLS:Bearer

132 or

133   • urn:liberty:security:2003-08:null:X509

134   • urn:liberty:security:2003-08:null:SAML

135   • urn:liberty:security:2003-08:TLS:X509

136   • urn:liberty:security:2003-08:TLS:SAML

137 2.3.3. Interaction Header

138 Conforming WSPs MUST support the following Interaction features:

139 **wsp-interact-001**   The WSP MUST process the UserInteraction Header, as described in section 3 of [LibertyIn-
140   teract].

141 2.4. ID-FF Service Provider (SP) Web Service Consumer (WSC) Confor-
142 mance Profile

143 This section defines the requirements for the ID-FF SP Web Service Consumer Profile.

144 2.4.1. WSC Common

145 Conforming ID-FF SP WSCs MUST support the Common WSC Profile

146 2.4.2. ID-FF SP WSC SOAP Binding

147 Conforming SP WSCs MUST support the following additional SOAP Binding features:

148 **idffsp-wsc-soapbind-001**   The ID-FF SP WSC MUST send the SOAP Binding Provider Header, as described in
149   section 5.2 of [LibertySOAPBinding].

2.4.3. Interaction Redirect

151 Conforming ID-FF SP WSCs MUST support the following Interaction features:

152 **idffsp-wsc-interact-001**   ID-FF SP WSCs MUST support redirect based user interaction, as described in section 4
153   of [LibertyInteract].

2.4.4. ID-FF DS Bootstrap

155 Conforming ID-FF SP WSCs MUST support Discovery Service Bootstrap:

156 **idffsp-wsc-bootstrap-001**   The ID-FF SP WSC MUST support extraction of the Principal's's Discovery Service
157   Resource Offering and any Credentials from the ID-FF assertion authenticating the Principal,
158   as described in section 6 of [LibertyDisco].

2.4.5. Service Discovery and Service Invocation

160 Conforming ID-FF SP WSCs MUST support discovery and invocation of at least one ID-WSF service registered in a
161 Principal's Discovery Service (see idffsp-wsc-bootstrap-001):

162 **idffsp-wsc-discinvk-001**   The ID-FF SP WSC MUST support querying the Principal's Discovery Service to obtain
163   the Resource Offering and any Credentials for at least one ID-WSF service, as described in
164   section 6 of [LibertyDisco].

165 **idffsp-wsc-discinvk-002**   The ID-FF SP WSC MUST support invocation of at least one discovered ID-WSF
166   service.

2.4.6. PAOS

168 Conforming ID-FF SP WSCs MAY support discovery and invocation of PAOS services:

169 **idffsp-wsc-paos-001**   The ID-FF SP WSC MAY support discovery and invocation of PAOS services, as described
170   in [LibertyPAOS].

2.5. Liberty User Agent or Device (LUAD) Web Service Consumer (WSC) Conformance Profile

173 This section defines the requirements for the LUAD Web Service Consumer Profile.

2.5.1. WSC Common

175 Conforming LUAD WSCs MUST support the Common WSC Profile

2.5.2. Authentication Service

177 Conforming LUAD WSCs MUST support authentication via an IdP:

178 **luad-wsc-authsvc-001**   The LUAD WSC MUST support invocation of an authentication service, as described in
179   section 5 of [LibertyAuthn].

180 luad-wsc-authsvc-002   The LUAD WSC MUST support the PLAIN and CRAM-MD5 authentication mecha-
181   nisms, as referenced in appendix A of [LibertyAuthn].

182 luad-wsc-authsvc-003   The LUAD WSC MUST support the password transforms Truncation, Lowercase, Upper-
183   case, and Select, as described in appendix B of [LibertyAuthn].

2.5.3. SSO Service

185 Conforming LUAD WSCs MAY support SSO via an IdP:

186 luad-wsc-ssosvc-001   The LUAD WSC MAY support invocation of an sso service, as described in section 6 of
187   [LibertyAuthn].

2.5.4. Service Discovery and Service Invocation

189 Conforming LUAD WSCs MUST support discovery and invocation of at least one ID-WSF service registered in a
190 Principal's Discovery Service:

191 luad-wsc-discinvk-001   The LUAD WSC MUST support querying the Principal's Discovery Service to obtain the
192   Resource Offering and any Credentials for at least one ID-WSF service, as described in section
193   6 of [LibertyDisco].

194 luad-wsc-discinvk-002   The LUAD WSC MUST support invocation of at least one discovered ID-WSF service.

2.5.5. LUAD

196 Conforming WSCs MUST support the LUAD-WSC profile:

197 luad-wsc-luad-001   The WSC MUST support LUAD-WSC profile, as described in section 3 of [LibertyClientPro-
198   files].

2.6. ID-FF Service Provider (SP) Web Service Provider (WSP) Confor-
mance Profile

201 This section defines the requirements for the ID-FF SP Web Service Provider Profile.

2.6.1. WSP Common

203 Conforming ID-FF SP WSPs MUST support the Common WSP Profile

2.6.2. Interaction Redirect and Interaction Service

205 Conforming ID-FF SP WSPs MAY optionally support the following Interaction features:

206 idffsp-wsp-interact-001   The ID-FF SP WSP MAY support redirect based user interaction, as described in section
207   4 of [LibertyInteract].

208 **idffsp-wsp-interact-002**   The ID-FF SP WSP MAY support invocation of a user interaction service, as described
209   in section 5 of [LibertyInteract].

2.6.3. Service Registration

211 Conforming ID-FF SP WSPs MAY support registration with a Principal's Discovery Service using DS Modify
212 InsertEntry:

213 **idffsp-wsp-registration-001**   The ID-FF SP WSP MAY invoke DS Modify InsertEntry at a Principal's Discovery
214   Service to register itself, as described in section 5.2 of [LibertyDisco].

2.6.4. Service Invocation

216 Conforming ID-FF SP WSPs MUST support invocation by an ID-FF SP WSC based on a resource offering and
217 credentials discovered by the ID-FF SP WSC in a Principal's Discovery Service:

218 **idffsp-wsp-discinvk-001**   The ID-FF SP WSP MUST support invocation by an ID-FF SP WSC as a discovered
219   ID-WSF service.

2.7. Liberty User Agent or Device (LUAD) Web Service Provider (WSP) Conformance Profile

222 This section defines the requirements for the LUAD Web Service Provider Profile.

2.7.1. WSP Common

224 Conforming LUAD WSPs MUST support the Common WSP Profile

2.7.2. Interaction Redirect and Interaction Service

226 Conforming ID-FF SP WSPs MAY optionally support the following Interaction features:

227 **luad-wsp-interact-001**   The LUAD WSP MAY support invocation of a user interaction service, as described in
228   section 5 of [LibertyInteract].

2.7.3. Service Registration

230 Conforming LUAD WSPs MAY support registration with a Principal's Discovery Service using DS Modify
231 InsertEntry:

232 **luad-wsp-registration-001**   The LUAD WSP MAY invoke DS Modify InsertEntry at a Principal's Discovery
233   Service to register itself, as described in section 5.2 of [LibertyDisco].

2.7.4. Service Invocation

235 Conforming LUAD WSPs MUST support invocation by a LUAD WSC based on a resource offering and credentials
236 discovered by the LUAD WSC in a Principal's Discovery Service:

237 **luad-wsp-discinvk-001**   The LUAD WSP MUST support invocation by a LUAD WSC as a discovered ID-WSF
238   service.

2.7.5. LUAD

Conforming LUAD WSPs MUST support the LUAD-WSP profile:

luad-wsp-luad-001 The LUAD WSP MUST support the LUAD-WSP profile, as described in section 4 of [LibertyClientProfiles].

2.8. PAOS Web Service Provider (WSP) Conformance Profile

This section defines the requirements for the PAOS Web Service Provider Profile.

2.8.1. WSP Common

Conforming PAOS WSPs MUST support the Common WSP Profile

2.8.2. Service Invocation

Conforming PAOS WSPs MUST support invocation by a ID-FF SP WSC:

paos-wsp-discinvk-001 The PAOS WSP MUST support invocation by a ID-FF SP WSC.

2.8.3. PAOS

Conforming PAOS WSPs MUST support advertisement and invocation via PAOS:

paos-wsp-paos-001 The PAOS WSP MUST support advertisement and invocation via PAOS, as described in [LibertyPAOS].

2.9. ID-FF Identity Provider (IdP) Conformance Profile

This section defines the conformance requirements for the ID-FF Identity Provider Profile. By supporting this profile, ID-FF IdPs enable ID-FF SP WSCs.

2.9.1. ID-FF DS Bootstrap

Conforming ID-FF IdPs MUST support Discovery Service Bootstrap:

idffidp-bootstrap-001 The ID-FF IdP MUST include the Principal's Discovery Service Resource Offering in ID-FF assertions, as described in section 6 of [LibertyDisco].

2.10. Liberty User Agent or Device (LUAD) Identity Provider (IdP) Conformance Profile

This section defines the conformance requirements for the LUAD Identity Provider Profile. By supporting this profile, IdPs enable LUAD WSCs.

2.10.1. Authentication Service

Conforming IdPs MUST support authentication requests:

luadidp-authsvc-001 The IdP MUST respond to authentication requests, as described in section 5 of [LibertyAuthn].

269 **luadidp-authsvc-002**   The IdP MUST support the PLAIN and CRAM-MD5 authentication mechanisms, as
270   referenced in appendix A of [LibertyAuthn].

2.10.2. SSO Service

272 Conforming IdPs MAY support sso requests:

273 **luadidp-ssosvc-001**   The IdP MAY respond to sso requests, as described in section 6 of [LibertyAuthn].

2.11. Discovery Service (DS) Conformance Profile

275 This section defines the conformance requirements for the Discovery Service Profile.

2.11.1. WSP Common

277 Conforming DSs MUST support the Common WSP Profile

2.11.2. Interaction Redirect and Interaction Service

279 Conforming DSs MAY optionally support the following Interaction features:

280   **ds-interact-001**   The DS MAY support redirect based user interaction, as described in section 4 of [LibertyInter-
281   act].

282   **ds-interact-002**   The DS MAY support invocation of a user interaction service, as described in section 5 of
283   [LibertyInteract].

2.11.3. Service Registration

285 Conforming DSs MUST support Discovery Service Modify:

286 **ds-registration-001**   The DS MUST process DS Modify InsertEntry requests, as described in section 5.2 of
287   [LibertyDisco].

288 **ds-registration-002**   The DS MUST process DS Modify RemoveEntry requests, as described in section 5.2 of
289   [LibertyDisco].

290 Conforming DSs MUST support the following Discovery Service Modify Directives:

291 **ds-registration-003**   The DS MUST support the EncryptResourceID directive, as described in section 5.2.1.1 of
292   [LibertyDisco].

293 Conforming DSs MAY support the following Discovery Service Modify Directives:

294 **ds-registration-004**   The DS MAY support the AuthenticateRequester, AuthorizeRequester and AuthenticateSes-
295   sionContext directives, as described in section 5.2.1.1 of [LibertyDisco].

296 **2.11.4. Service Discovery**

297 Conforming DSs MUST support Discovery Service Queries:

298 **ds-discovery-001**   The DS MUST process DS Query requests, as described in section 5.1 of [LibertyDisco].

299 **2.11.5. PAOS**

300 Conforming DSs MAY support advertisement and invocation via PAOS:

301   **ds-paos-001**   The DS MAY support advertisement and invocation via PAOS, as described in [LibertyPAOS].

302 **2.11.6. LUAD**

303 Conforming DSs MAY support the LUAD-DS profile:

304   **ds-luad-001**   The DS MAY support LUAD-DS profile, as described in section 5 of [LibertyClientProfiles].

305 **2.12. Interaction Service (IS) Conformance Profile**

306 This section defines the conformance requirements for the Interaction Service Profile.

307 **2.12.1. WSP Common**

308 Conforming ISs MUST support the Common WSP Profile

309 **2.12.2. Interaction Service**

310 Conforming ISs MUST support interaction requests:

311 **is-interaction-001**   The IS MUST respond to interaction requests, as described in section 5 of [LibertyInteract].

312 **2.12.3. Service Registration**

313 Conforming ISs MAY support registration with a Principal's Discovery Service using DS Modify InsertEntry:

314 **is-registration-001**   The IS MAY invoke DS Modify InsertEntry at a Principal's Discovery Service to register
315   itself, as described in section 5.2 of [LibertyDisco].

316 **2.12.4. PAOS**

317 Conforming ISs MAY support advertisement and invocation via PAOS:

318   **is-paos-001**   The IS MAY support advertisement and invocation via PAOS, as described in [LibertyPAOS].

References

Normative

[LibertySOAPBinding] Hodges, Jeff, Kemp, John, Aarts, Robert, eds. " Liberty ID-WSF SOAP Binding Specification ," Version 1.1, Liberty Alliance Project (3 May 2004). *http://www.projectliberty.org/specs*

[LibertySecMech] Ellison, Gary, eds. "Liberty ID-WSF Security Mechanisms," Version 1.1, Liberty Alliance Project (18 April 2004). *http://www.projectliberty.org/specs*

[LibertyDisco] Sergent, Jonathan, eds. "Liberty ID-WSF Discovery Service Specification," Version 1.1, Liberty Alliance Project (21 April 2004). *http://www.projectliberty.org/specs*

[LibertyInteract] Aarts, Robert, eds. "Liberty ID-WSF Interaction Service Specification," Version 1.0-errata-v2.0, Liberty Alliance Project (12 September 2004). *http://www.projectliberty.org/specs*

[LibertyPAOS] Aarts, Robert, eds. "Liberty Reverse HTTP Binding for SOAP Specification," Version 1.0-errata-v1.0, Liberty Alliance Project (18 April 2004). *http://www.projectliberty.org/specs*

[LibertyAuthn] Hodges, Jeff, Aarts, Robert, eds. " Liberty ID-WSF Authentication Service Specification ," Version 1.0, Liberty Alliance Project (26 Feb 2004). *http://www.projectliberty.org/specs/ [http://www.projectliberty.org/specs/]*

[LibertyClientProfiles] Aarts, Robert, eds. (26 April 2004). "Liberty ID-WSF Profiles for Liberty enabled User Agents and Devices," version 1.0, Liberty Alliance Project *http://www.projectliberty.org/specs/*

[LibertyMetadata] Davis, Peter, eds. "Liberty Metadata Description and Discovery Specification," Version 1.0-errata-v2.0, Liberty Alliance Project (12 September 2004). *http://www.projectliberty.org/specs*

[LibertyProtSchema] Cantor, Scott, Kemp, John, eds. "Liberty ID-FF Protocols and Schema Specification," Version 1.2-errata-v2.0, Liberty Alliance Project (12 September 2004). *http://www.projectliberty.org/specs*

[LibertyBindProf] Cantor, Scott, Kemp, John, Champagne, Darryl, eds. "Liberty ID-FF Bindings and Profiles Specification," Version 1.2-errata-v2.0, Liberty Alliance Project (12 September 2004). *http://www.projectliberty.org/specs*

[LibertyAuthnContext] Madsen, Paul, eds. "Liberty ID-FF Authentication Context Specification," Version 1.2-errata-v1.0, Liberty Alliance Project (12 September 2004). *http://www.projectliberty.org/specs*

Informative

[LibertyIDWSFGuide] Weitzel, David, eds. (26 April 2004). "Liberty ID-WSF Impelmentation Guideline," Draft version 1.0-08, Liberty Alliance Project *http://www.projectliberty.org/specs/*

[LibertyGlossary] "Liberty Technical Glossary," Version 1.3-errata-v1.0, Liberty Alliance Project (12 Aug 2004). *http://www.projectliberty.org/specs* Hodges, Jeff, eds.