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Conformance Test Specification for Marlin Broadband Network Service Profile Specification

Version 1.1
Final

Source
Date

Marlin Developer Community
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69 Contents

70		
71	1	Introduction 5
72	1.1	Document Organization 5
73	1.2	Overview 5
74	1.3	Conformance Conventions 5
75	1.4	References 5
76	2	Conformance Test Items for Marlin BB DRM Client 6
77	2.1	Signature Verification 6
78	2.2	Role Assertion 6
79	2.3	Revocation Functions 6
80	2.4	Shunning Functions 6
81	2.5	Content Key Object Access 6
82	2.5.1	Content Key Object after Exclusion 6
83	2.6	Profile Capability Signalling 6
84	2.6.1	Profile Signalling 6
85	2.6.2	BNS Extended Topology [Full Implementation Only] 7
86	3	Conformance Test Items for Registration Service [Full Implementation Only] 8
87	3.1	General Functions 8
88	3.1.1	Signature Verification 8
89	3.1.2	Message Bindings 8
90	3.1.3	Service Role Assertion 8
91	3.1.4	Revocation Functions 8
92	3.1.5	Shunning Functions 8
93	3.2	Node Acquisition 9
94	3.2.1	Security Policy and Message Security Bindings 9
95	3.2.2	Node Acquisition Message 9
96	3.3	Link Acquisition 9
97	3.3.1	Security Policy and Message Security Bindings 9
98	3.3.2	Link Acquisition Message 9
99	3.4	Deregistration 11
100	3.4.1	Security Policy and Message Security Bindings 11
101	3.4.2	Deregistration Message 11
102	3.4.3	Deregistration Derivative 12
103	4	Conformance Test Items for License Service 13
104	4.1	General Functions for License Service 13
105	4.1.1	Signature Verification 13
106	4.1.2	Message Bindings 13
107	4.1.3	Role Assertion 13
108	4.1.4	Revocation Functions 13
109	4.1.5	Shunning Functions 13
110	4.1.6	Content Key Object Access 14
111	4.2	License Acquisition 14
112	4.2.1	Security Policy and Message Security Bindings 14
113	4.2.2	License Acquisition Message 14
114	5	Conformance Test Items for Metering Data Service 16
115	5.1	General Functions for Metering Data Service 16
116	5.1.1	Signature Verification 16
117	5.1.2	Message Bindings 16
118	5.1.3	Role Assertion 16
119	5.1.4	Revocation Functions 16
120	5.1.5	Shunning Functions 16
121	5.2	Metering Data Reporting 17
122	5.2.1	Security Policy and Message Security Bindings 17
123	5.2.2	Metering Data Reporting Message 17
124	6	Conformance Test Items for Marlin License Evaluation 18
125	6.1	Variation 1 18
126	6.2	Variation 2 18
127	6.3	Variation 3 18

128	6.4	Variation 4.....	19
129	6.5	Variation 5.....	19
130	6.6	Variation 6.....	19
131	6.7	Variation 7.....	20
132	6.8	Variation 8.....	20
133	6.9	Variation 9.....	20
134	6.10	Variation 10.....	21
135	6.11	Variation 11.....	21
136	6.12	Variation 12.....	21
137	7	Scenario for CTS [Full Implementation Only] (Informative).....	22
138	7.1	Scenario 1.....	23
139	7.2	Scenario 2.....	23
140	7.3	Scenario 3.....	23
141	7.4	Scenario 4.....	23
142	7.5	Scenario 5.....	24
143	7.6	Scenario 6.....	24
144	7.7	Scenario 7.....	24
145	7.8	Scenario 8.....	25
146	7.9	Scenario 9.....	25
147	7.10	Scenario 10.....	25
148	7.11	Scenario 11.....	25
149	7.12	Scenario 12.....	26
150	7.13	Scenario 13.....	26
151	7.14	Scenario 14.....	26
152	7.15	Scenario 15.....	26
153	7.16	Scenario 16.....	26
154	7.17	Scenario 17.....	27
155	7.18	Scenario 18.....	27
156	7.19	Scenario 19.....	27
157	8	Scenario for CTS [Compact Implementation Only] (Informative).....	28
158	8.1	Scenario 1.....	28
159	8.2	Scenario 2.....	29
160	8.3	Scenario 3.....	29
161	8.4	Scenario 4.....	29
162	8.5	Scenario 5.....	29
163	8.6	Scenario 6.....	29
164	8.7	Scenario 7.....	30
165	8.8	Scenario 8.....	30
166			
167			

168 1 Introduction

169 1.1 Document Organization

170 This document describes a Conformance Test Specification for client and service
171 implementations for Marlin Broadband Network Service Profile (BNS). It is organized
172 as follows:

- 173 • (this) introduction, overview, conformance conventions and references
- 174 • Sections for each of Conformance Test Items. These are:
 - 175 ○ Conformance Test Items for Device
 - 176 ○ Conformance Test Items for Registration Service
 - 177 ○ Conformance Test Items for License Service
 - 178 ○ Conformance Test Items for Metering Data Service
 - 179 ○ Conformance Test Items for Marlin License Evaluation
- 180 • Scenarios for Conformance Test Items

181 1.2 Overview

182 This document describes Conformance Test Specifications for client and service
183 implementations of the Marlin Broadband Network Service Profile Specification
184 [MBNS].

185 The goal for this Specification is to help ensure interoperability between independent
186 implementations of Marlin BB DRM Client and Marlin BB Services by testing
187 functions specified in [MBNS]. In other words, this Conformance Test Specification
188 does not ensure 100% coverage of the specification. It is expected that the tests are
189 expanded upon as implementers verify interoperability with each other.

190 Unless stated, the descriptions in this specification apply to both the Full
191 Implementation [MBNS] and the Compact Implementation [MBNS].

192 1.3 Conformance Conventions

193 The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”,
194 “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this
195 specification are to be interpreted as described in IETF RFC 2119 [RFC 2119].

196 1.4 References

197 Normative References

[MBB]	Marlin Engineering Work Group, Marlin Broadband Delivery System Specification, Version 1.2
[MBNS]	Marlin Engineering Work Group, Marlin Broadband Network Service Profile Specification, Version 1.2
[MCS]	Marlin Engineering Work Group, Marlin Core System Specification, version1.3
[MPAC]	Marlin Engineering Work Group, Marlin Profile and Capability Signaling, Version 1.0
[RFC 2119]	S. Bradner, <i>RFC 2119 - Key words for use in RFCs to Indicate Requirement Levels</i> , IETF, March 1997, http://www.ietf.org/rfc/rfc2119.txt
[Starfish]	Starfish - Marlin Broadcast Encryption Scheme v1.2

198

199 **2 Conformance Test Items for Marlin BB DRM Client**

200 This section describes common functions REQUIRED for Marlin BB DRM Client
201 across the Marlin BB System Protocols.

202 **2.1 Signature Verification**

203 The following SHALL be tested for Marlin BB DRM Client:

- 204 • When Marlin BB DRM Client uses signed data, the Marlin BB DRM Client
205 SHALL verify the signature.

206 The Conformance Test SHALL confirm the specifications above for the client.

207 **2.2 Role Assertion**

208 The following SHALL be tested for Marlin BB DRM Client Role Assertion:

- 209 • From section 4.1 of [MBB], Marlin BB DRM Client SHALL have DRM Client
210 Role, and the DRM Client Role SHALL be put in all request messages of
211 Marlin BB System Protocols.

212 The Conformance Test SHALL confirm the specifications above for the client.

213 **2.3 Revocation Functions**

214 The following revocation functions SHALL be tested for Marlin BB DRM Client:

- 215 • From section 8.1 of [MCS], when a service is revoked, the Marlin BB DRM
216 Client does not communicate with the revoked service.

217 The Conformance Test SHALL confirm the specifications above for the client.

218 **2.4 Shunning Functions**

219 The following shunning function SHALL be tested for Marlin BB DRM Client:

- 220 • From section 8.1, 8.2, and 12.5.4.3 of [MCS], Licenses MAY encode a
221 minimum security specification version requirement in control programs. If
222 the Marlin BB DRM Client only supports a shunned version of the
223 specification, the evaluation of the corresponding License fails.

224 The Conformance Test SHALL confirm the specifications above for the client.

225 **2.5 Content Key Object Access**

226 **2.5.1 Content Key Object after Exclusion**

227 The following exclusion functions SHALL be tested for Marlin BB DRM Client:

- 228 • From section 7.4 of [MCS], a DRM Client SHALL implement the [Starfish]
229 revocation mechanism.

230 The Conformance Test SHALL confirm the specifications above for the client.

231 **2.6 Profile Capability Signalling**

232 **2.6.1 Profile Signalling**

233 From section 6 of [MBNS], the support for profile signalling is RECOMMENDED for
234 Marlin BB DRM Client that implements [MBNS].

235 The following SHALL be tested for the Marlin BB DRM Client that indicates it
236 implements the mandatory functionality in [MBNS]:

- 237 • The Marlin BB DRM Client with Full Implementation SHALL follow the profile
238 signalling defined in section 6.1 of [MBNS] and the Marlin BB DRM Client
239 SHALL support the mandatory functionality for Full Implementation in [MBNS].

240 • The Marlin BB DRM Client with Compact Implementation SHALL follow the
241 profile signalling defined in section 6.3 of [MBNS] and the Marlin BB DRM
242 Client SHALL support the mandatory functionality for Compact
243 Implementation in [MBNS].
244 The Conformance Test SHALL confirm the specifications above for the client.

245 **2.6.2 BNS Extended Topology [Full Implementation Only]**

246 The support of BNS Extended Topology is OPTIONAL for Marlin BB DRM Client that
247 implements [MBNS].

248 The following SHALL be tested for Marlin BB DRM Client that indicates it implements
249 BNS Extended Topology:

250 • The Marlin BB DRM Client SHALL follow the profile and topology signaling
251 defined in sections 6.2 of [MBNS] and the Marlin BB DRM Client SHALL
252 support the BNS Extended Topologies.

253 The Conformance Test SHALL confirm the specifications above for the client.

254 **3 Conformance Test Items for Registration Service** 255 **[Full Implementation Only]**

256 This section describes the functions REQUIRED for Marlin BB DRM Client and
257 Registration Service in each of corresponding Marlin BB System Protocols for
258 Registration Service.

259 **3.1 General Functions**

260 **3.1.1 Signature Verification**

261 The following SHALL be tested for Registration Service:

- 262 • When Registration Service uses signed data, the Registration Service
263 SHALL verify the signature.

264 The Conformance Test SHALL confirm the specifications above for the service.

265 **3.1.2 Message Bindings**

266 The following Message Bindings SHALL be tested for Registration Service:

- 267 • From section 5 of [MBB], Marlin BB System Protocols SHALL use the NEMO
268 SOAP/HTTP Message Bindings.

269 The Conformance Test SHALL confirm the specifications above in both client and
270 service.

271 **3.1.3 Service Role Assertion**

272 The following SHALL be tested for Registration Service Role Assertion:

- 273 • From section 4.2.2 of [MBB], the trust authority of the Role Assertion for the
274 Registration Service SHALL be the DRM Services Trust Authority.

275 The Conformance Test SHALL confirm the specifications above for the service.

276 **3.1.4 Revocation Functions**

277 The following revocation functions SHALL be tested for Registration Service:

- 278 • From section 8.1 of [MCS], when the requesting client has the revoked issuer,
279 Registration Service does not provide its service to the client.
- 280 • From section 8.1 of [MCS], when the requesting client is revoked,
281 Registration Service does not provide its service to the client.

282 The Conformance Test SHALL confirm the specifications above for the service.

283 **3.1.5 Shunning Functions**

284 If shunning is supported, the following functions SHALL be tested for Registration
285 Service:

- 286 • From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], when the version of
287 the Marlin BB specification supported by the client (as indicated by the Marlin
288 BB DRM Client Role Assertion) is lower than the minimum specification
289 version required by the service, the fault message is returned.
- 290 • From section 8.2 of [MCS], section 5.1.2.1 of [MBB], and section 7.1.3 of
291 [MBB], when the client (the organization-specific version of the client, as
292 specified in the Marlin BB DRM Client Role Assertion) is one identified as
293 being compromised, it is at the services discretion to shun it (refuse to
294 provide service).
- 295 • From section 8.1 and 8.2 of [MCS], Security Specification Version and Role
296 attributes are conveyed within a SAML assertion with NEMO Request

297 message. If the Marlin BB DRM Client does not support the minimum
298 required version of the specifications, its assertion(s) is(are) rejected by the
299 Marlin BB DRM Server with the exception defined in section 5.1.2 of [MBB].
300 The Conformance Test SHALL confirm the specifications above for the service.

301 **3.2 Node Acquisition**

302 **3.2.1 Security Policy and Message Security Bindings**

303 The following Security Policy SHALL be tested for Node Acquisition:

- 304 • From section 5.2.2.2.3 of [MBB], Node Acquisition Request Message SHALL
305 conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS] and
306 section 4 of [MPAC].
- 307 • From section 5.2.2.2.3 of [MBB], Node Acquisition Response Message
308 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].

309 The Conformance Test SHALL confirm the specifications above in both client and
310 service.

311 **3.2.2 Node Acquisition Message**

312 The following message parameters SHALL be tested for Node Acquisition:

- 313 • From section 5.2.2.2.1 of [MBB], Node Acquisition Request Message
314 includes a BusinessToken element which has the same values as a
315 BusinessToken element included in the corresponding ActionToken.
- 316 • From section 5.2.2.2.3 of [MBB], keep the message correlation between
317 Request and Response Messages.
- 318 • From section 5.2.2.2.3 of [MBB], attach signature to the information of
319 message correlation.

320 The Conformance Test SHALL confirm the specifications above in both client and
321 service.

322 **3.3 Link Acquisition**

323 **3.3.1 Security Policy and Message Security Bindings**

324 The following Security Policy SHALL be tested for Link Acquisition:

- 325 • From section 5.2.2.3.4 of [MBB], Link Acquisition Request Message SHALL
326 conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS] and
327 section 4 of [MPAC].
- 328 • From section 5.2.2.3.4 of [MBB], Link Acquisition Response Message
329 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].
- 330 • From section 5.2.2.3.4 of [MBB], Link Acquisition Confirmation Message
331 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].

332 The Conformance Test SHALL confirm the specifications above in both client and
333 service.

334 **3.3.2 Link Acquisition Message**

335 **3.3.2.1 Main Test Items**

336 The following message parameters SHALL be tested for Link Acquisition:

- 337 • From section 5.2.2.3.1 of [MBB], Link Acquisition Request Message includes
338 a BusinessToken element which has the same values as a BusinessToken
339 element included in the corresponding ActionToken.
- 340 • From section 5.2.2.3.1 of [MBB], Link Acquisition Request Message includes
341 Public Part of the Octopus Node for "FromNode" which is specified in the

- 342 corresponding ActionToken.
- 343 • From section 5.2.2.3.1 of [MBB], Link Acquisition Request Message includes
 - 344 Public Part of the Octopus Node for “ToNode” which is specified in the
 - 345 corresponding ActionToken.
 - 346 • From section 5.2.2.3.3 of [MBB], if AgentCarrier element does not exist in the
 - 347 Response, AgentResultBlock element SHALL be omitted in the Confirmation
 - 348 Message. Otherwise, if Agent Carrier element does exist in the Response,
 - 349 AgentResultBlock element SHALL be included in the Confirmation Message.
 - 350 • From section 5.2.2.3.4 of [MBB], keep the message correlation among
 - 351 Request, Response, and Confirmation Messages.
 - 352 • From section 5.2.2.3.4 of [MBB], attach signature to the information of
 - 353 message correlation.

354 The Conformance Test SHALL confirm the specifications above in both client and

355 service.

356

357 The following message parameters SHALL be tested for Link Acquisition:

- 358 • From section 3.1.1 of [MBB], set Octopus User Node ID to Domain ID
- 359 attribute of User Link.
- 360 • From section 3.1.1 of [MBB], set the assigned organization value to Domain
- 361 Policy attribute of User Link.

362 The Conformance Test SHALL confirm the specifications above for the service.

363 3.3.2.2 Link Acquisition with BNS Base Topologies

364 The support of BNS Basic Topologies is REQUIRED for Marlin BB DRM Client which

365 implements [MBNS]. This SHALL be tested for message combination patterns for

366 Link Acquisition emulated in the following table:

367

	From Node in Request	To Node in Request	AgentCarrier in Response	AgentResultBlock in Confirmation
BNS Base Link Acq-1	Personality Node	User Node	Exist	Exist
BNS Base Link Acq-2	Personality Node	User Node	Not exist	Not exist
BNS Base Link Acq-3	Personality Node	Subscription Node	Not exist	Not exist
BNS Base Link Acq-4	User Node	Subscription Node	Not exist	Not exist

368

369 The Conformance Test SHALL confirm the specifications above for client.

370 3.3.2.3 Link Acquisition with BNS Extended Topologies

371 The support of BNS Extended Topologies is OPTIONAL for Marlin BB DRM Client

372 which implements [MBNS]. When this BNS Extended Topologies functionality is

373 supported by Marlin BB DRM Client, this SHALL be tested for message combination

374 patterns for Link Acquisition emulated in the following table in addition to ones for

375 BNS Base Topologies:

376

	From Node in Request	To Node in Request	AgentCarrier in Response	AgentResultBlock in Confirmation
BNS Exten. Link Acq-1	Personality Node	Subscription Node	Exist	Exist
BNS Exten. Link Acq-2	User Node	Subscription Node	Exist	Exist

377

378 The Conformance Test SHALL confirm the specifications above for client.
379

380 **3.4 Deregistration**

381 **3.4.1 Security Policy and Message Security Bindings**

382 The following Security Policy SHALL be tested for Deregistration:

- 383 • From section 5.2.2.4.4 of [MBB], Deregistration Request Message SHALL
384 conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS] and
385 section 4 of [MPAC].
- 386 • From section 5.2.2.4.4 of [MBB], Deregistration Response Message SHALL
387 conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].
- 388 • From section 5.2.2.4.4 of [MBB], Deregistration Confirmation Message
389 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].

390 The Conformance Test SHALL confirm the specifications above in both client and
391 service.

392 **3.4.2 Deregistration Message**

393 **3.4.2.1 Main Test Items**

394 The following message parameters SHALL be tested for Deregistration:

- 395 • From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes
396 the BusinessToken element which has the same values as the
397 BusinessToken element included in the corresponding ActionToken.
- 398 • From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes
399 Public Part of the Octopus Node for "FromNode" which is specified in the
400 corresponding ActionToken.
- 401 • From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes
402 Public Part of the Octopus Node for "ToNode" which is specified in the
403 corresponding ActionToken.
- 404 • From sections 5.2.2.4.3 of [MBB], the Confirmation Message includes
405 AgentResultBlock data structure containing the result of processing the
406 Agent in the Response Message.
- 407 • From section 5.2.2.4.4 of [MBB], keep the message correlation among
408 Request, Response, and Confirmation Messages.
- 409 • From section 5.2.2.4.4 of [MBB], attach signature to the information of
410 message correlation.

411 The Conformance Test SHALL confirm the specifications above for the client.

412 **3.4.2.2 Deregistration with BNS Base Topologies**

413 The support of BNS Basic Topologies is REQUIRED for Marlin BB DRM Client which
414 implements [MBNS]. This SHALL be tested for message combination patterns for
415 Deregistration emulated in the following table:
416

	From Node in Request	To Node in Request	AgentCarrier in Response	AgentResultBlock in Confirmation
BNS Base Dereg.-1	Personality Node	User Node	Exist	Exist

417

418 The Conformance Test SHALL confirm the specifications for client.

419 **3.4.2.3 Deregistration with BNS Extended Topologies**

420 The support of BNS Extended Topologies is OPTIONAL for Marlin BB DRM Client
421 which implements [MBNS]. When this BNS Extended Topologies functionality is
422 supported by Marlin BB DRM Client, this SHALL be tested for message combination
423 patterns for Deregistration emulated in the following table in addition to ones for BNS
424 Base Topologies:
425

	From Node in Request	To Node in Request	AgentCarrier in Response	AgentResultBlock in Confirmation
BNS Exten. Dereg.-1	Personality Node	Subscription Node	Exist	Exist
BNS Exten. Dereg.-2	User Node	Subscription Node	Exist	Exist

426

427 The Conformance Test SHALL confirm the specifications for client.

428 **3.4.3 Deregistration Derivative**

429 From section 3.1.1 of [MBB], if a Marlin BB DRM Client is deregistered, content
430 whose Marlin License is targeted and bound to the Domain from which the Marlin BB
431 DRM Client deregistered MUST NOT be played on the deregistered Marlin BB DRM
432 Client.

433 The Conformance Test SHALL confirm the specifications above for the client.

434 **4 Conformance Test Items for License Service**

435 This section describes the functions REQUIRED for Marlin BB DRM Client and
436 License Service in Marlin BB System Protocols.

437 **4.1 General Functions for License Service**

438 **4.1.1 Signature Verification**

439 The following SHALL be tested for License Service:

- 440 • When License Service uses signed data, the License Service SHALL verify
441 the signature.

442 The Conformance Test SHALL confirm the specifications above for the service.

443 **4.1.2 Message Bindings**

444 The following Message Bindings SHALL be tested for License Service:

- 445 • From section 5 of [MBB], Marlin BB System Protocols SHALL use the NEMO
446 SOAP/HTTP Message Bindings.

447 The Conformance Test SHALL confirm the specifications above in both client and
448 service.

449 **4.1.3 Role Assertion**

450 The following SHALL be tested for License Service Role Assertion:

- 451 • From section 4.2.1 of [MBB], the trust authority of the Role Assertion for the
452 License Service SHALL be the DRM Services Trust Authority.

453 The Conformance Test SHALL confirm the specifications above for the service.

454 **4.1.4 Revocation Functions**

455 The following revocation functions SHALL be tested for License Service:

- 456 • From section 8.1 of [MCS], when the requesting client has the revoked issuer,
457 License Service does not provide its service to the client.
- 458 • From section 8.1 of [MCS], when the requesting client is revoked, License
459 Service does not provide its service to the client.

460 The Conformance Test SHALL confirm the specifications above for the service.

461 **4.1.5 Shunning Functions**

462 If shunning is supported, the following functions SHALL be tested for License
463 Service:

- 464 • From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], when the version of
465 the Marlin BB specification supported by the client (as indicated by the Marlin
466 BB DRM Client Role Assertion) is lower than the minimum specification
467 version required by the service, the fault message is returned.
- 468 • From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], and section 7.1.3 of
469 [MBB], when the client (the organization-specific version of the client, as
470 specified in the Marlin BB DRM Client Role Assertion) is one identified as
471 being compromised, it is at the services discretion to shun it (refuse to
472 provide service).
- 473 • From section 8.1 and 8.2 of [MCS], Security Specification Version and Role
474 attributes are conveyed within a SAML assertion with NEMO Request
475 message. If the Marlin BB DRM Client does not support the minimum
476 required version of the specifications, its assertion(s) is rejected by the Marlin
477 BB DRM Server and are software update and assertion renewal required.

478 The Conformance Test SHALL confirm the specifications above for the service.

479 **4.1.6 Content Key Object Access**

480 **4.1.6.1 Content Key Object before Exclusion**

481 The following exclusion functions SHALL be tested for License Service:

- 482 • From section 7.3 of [MCS], before the first exclusion, the content key SHALL
483 be encrypted using by the Scuba key (public or secret) of the entity the
484 license is targeted to.

485 The Conformance Test SHALL confirm the specifications above for the service.

486 **4.1.6.2 Content Key Object after Exclusion**

487 The following exclusion functions SHALL be tested for License Service:

- 488 • From section 7.4 of [MCS], after the first exclusion, the content key SHALL
489 be encrypted using the [Starfish] revocation mechanism.
- 490 • From section 7.4 of [MCS], when exclusion is used, K_{root} is recovered from
491 the BKB. The BKB SHALL be carried in the same Bundle as the Content Key
492 object per section 3.3.2 of [MCS].

493 The Conformance Test SHALL confirm the specifications above for the service.

494 **4.2 License Acquisition**

495 **4.2.1 Security Policy and Message Security Bindings**

496 The following Security Policy SHALL be tested for License Acquisition:

- 497 • From section 5.2.1.4 of [MBB], License Acquisition Request Message
498 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS]
499 and section 4 of [MPAC].
- 500 • From section 5.2.1.4 of [MBB], License Acquisition Response Message
501 SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].

502 The Conformance Test SHALL confirm the specifications above in both client and
503 service.

504 **4.2.2 License Acquisition Message**

505 **4.2.2.1 Main Test Items**

506 The following message parameters SHALL be tested for License Acquisition:

- 507 • From section 5.2.1.2 of [MBB], License Acquisition Request Message
508 includes the BusinessToken element which has the same values as the
509 BusinessToken element included in the corresponding ActionToken.
- 510 • From section 5.2.1.2 of [MBB], License Acquisition Request Message
511 includes Public Part of the Octopus Node to be bound which is specified in
512 the corresponding ActionToken.
- 513 • From section 5.2.1.4 of [MBB], keep the message correlation between
514 Request and Response Messages.
- 515 • From section 5.2.1.4 of [MBB], attach signature to the information of
516 message correlation.

517 The Conformance Test SHALL confirm the specifications above in both client and
518 service.

519 **4.2.2.2 License Acquisition with BNS Base Topologies [Full Implementation**
520 **Only]**

521 The support of BNS Basic Topologies is REQUIRED for Marlin BB DRM Client which
522 implements [MBNS]. This SHALL be tested for message combination patterns for
523 License Acquisition emulated in the following table:
524

	Octopus Node in Request
BNS Base Lic Acq-1	Personality Node
BNS Base Lic Acq-2	User Node

525

526 The Conformance Test SHALL confirm the specifications above for client.

527 **4.2.2.3 License Acquisition with BNS Extended Topologies [Full**
528 **Implementation Only]**

529 The support of BNS Extended Topologies is OPTIONAL for Marlin BB DRM Client
530 which implements [MBNS]. When this BNS Extended Topologies functionality is
531 supported by Marlin BB DRM Client, this SHALL be tested for message combination
532 patterns for License Acquisition emulated in the following table in addition to ones for
533 BNS Base Topologies:
534

	Octopus Node in Request
BNS Exten. Lic Acq-3	Subscription Node

535

536 The Conformance Test SHALL confirm the specifications above for client.

537 **4.2.2.4 License Acquisition [Compact Implementation Only]**

538 The following SHALL be tested:

- 539 • License binding to the Personality Node.
- 540 • License targeting to the Personality Node.

541 The Conformance Test SHALL confirm the specifications above for the client.

542

543 **5 Conformance Test Items for Metering Data Service**

544 The support of Metering Data Service is OPTIONAL for Marlin BB DRM Client which
545 implements [MBNS]. This section describes the REQUIRED functions for Marlin BB
546 DRM Client with support for Metering Data Service in Marlin BB System Protocols
547 [MBB].

548 **5.1 General Functions for Metering Data Service**

549 **5.1.1 Signature Verification**

550 The following SHALL be tested for Metering Data Service:

- 551 • When Metering Data Service uses signed data, the Metering Data Service
552 SHALL verify the signature.

553 The Conformance Test SHALL confirm the specifications above for the service.

554 **5.1.2 Message Bindings**

555 The following Message Bindings SHALL be tested for Metering Data Service:

- 556 • From section 5 of [MBB], Marlin BB System Protocols SHALL use the NEMO
557 SOAP/HTTP Message Bindings.

558 The Conformance Test SHALL confirm the specifications above in both client and
559 service.

560 **5.1.3 Role Assertion**

561 The following SHALL be tested for Metering Data Service Role Assertion:

- 562 • From section 4.2.5 of [MBB], the trust authority of the Role Assertion for the
563 Metering Data Service SHALL be the DRM Services Trust Authority.

564 The following SHALL be tested for Marlin BB DRM Client Role Assertion:

- 565 • From section 5.2.5 of [MBB], a DRM Client Role Assertion SHALL include the
566 capability defined in section 7.1.2 of [MBB] when it supports Metering Data
567 Service.

568 The Conformance Test SHALL confirm the specifications above for the service.

569 **5.1.4 Revocation Functions**

570 The following revocation functions SHALL be tested for Metering Data Service:

- 571 • From section 8.1 of [MCS], when the requesting client has the revoked issuer,
572 Metering Data Service does not provide its service to the client.
- 573 • From section 8.1 of [MCS], when the requesting client is revoked, Metering
574 Data Service does not provide its service to the client.

575 The Conformance Test SHALL confirm the specifications above for the service.

576 **5.1.5 Shunning Functions**

577 If shunning is supported, the following functions SHALL be tested for Metering Data
578 Service:

- 579 • From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], when the version of
580 the Marlin BB specification supported by the client (as indicated by the Marlin
581 DRM Client Role Assertion) is lower than the minimum specification version
582 required by the service, the fault message is returned.
- 583 • From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], and section 7.1.3 of
584 [MBB], when the client (the organization-specific version of the client, as
585 specified in the Marlin DRM Client Role Assertion) is one identified as being

586 compromised, it is at the services discretion to shun it (refuse to provide
587 service).
588 • From section 8.1 and 8.2 of [MCS], Security Specification Version and Role
589 attributes are conveyed within a SAML assertion with NEMO Request
590 message. If the Marlin BB DRM Client does not support the minimum
591 required version of the specifications, its assertion(s) is rejected by the Marlin
592 BB DRM Server and are software update and assertion renewal required.
593 The Conformance Test SHALL confirm the specifications above for the service.

594 **5.2 Metering Data Reporting**

595 **5.2.1 Security Policy and Message Security Bindings**

596 The following Security Policy SHALL be tested for Metering Data reporting:
597 • From section 5.2.5.4 of [MBB], Metering Data Request Message SHALL
598 conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS] and
599 section 4 of [MPAC].
600 • From section 5.2.5.4 of [MBB], Metering Data Response Message SHALL
601 conform to "Integrity + Freshness" defined in section 5.2 of [MCS].
602 The Conformance Test SHALL confirm the specifications above in both client and
603 service.

604 **5.2.2 Metering Data Reporting Message**

605 The following message parameters SHALL be tested for Metering Data reporting:
606 • From section 5.2.5.2 of [MBB], Metering Data Request Message includes a
607 data structure containing recorded metering information.
608 • From section 5.2.5.4 of [MBB], keep the message correlation between
609 Request and Response Messages.
610 • From section 5.2.5.4 of [MBB], attach signature to the information of
611 message correlation.
612 The Conformance Test SHALL confirm the specifications above in both client and
613 service.

614 **6 Conformance Test Items for Marlin License** 615 **Evaluation**

616 This section describes variations of Marlin Licenses RECOMMENDED to be used for
617 the license evaluation test of Marlin BB DRM Client. The license evaluation test is to
618 confirm whether Marlin BB DRM Clients can evaluate the Marlin License as expected.

619
620 The intent of this section is to define a set of license conditions corresponds to
621 current business models for the Full Implementation and Compact Implementation.
622 Variation 1 to Variation 7 corresponds to the mandatory requirements for Full
623 Implementation in [MBNS]. Variation 8 and Variation 9 correspond to the optional
624 requirements for Full Implementation in [MBNS]. Variation 10 to Variation 12
625 corresponds to the mandatory requirements for Compact Implementation in [MBNS].

626
627 It is understood that Marlin's Octopus engine can express infinitely more conditions
628 than defined here, so while implementers SHOULD attempt to test all Octopus
629 constructs, an exhaustive test case specification is difficult to define.

630 **6.1 Variation 1**

631 This variation assumes a purchase model where Marlin Licenses are shared among
632 the user's devices. The Octopus Bundle of Marlin License includes:

- 633 • Control object (quantity=1)
 - 634 ✧ Targeted to Octopus User Node
- 635 • Controller object (quantity=1)
 - 636 ✧ ContentKeyReference (quantity=1)
 - 637 ✧ Includes an HMAC signature and a public key signature
- 638 • ContentKey object (quantity=1)
 - 639 ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- 640 • Protector object (quantity=1)
 - 641 ✧ ContentReference (quantity=1)

642 **6.2 Variation 2**

643 This variation assumes a rental model where Marlin Licenses with a validity period
644 are shared among the user's devices. The validity period is compared with Marlin BB
645 DRM Client's trusted time by using System.Host.GetTrustedTime. The Octopus
646 Bundle of Marlin License includes:

- 647 • Control object (quantity=1)
 - 648 ✧ Targeted to Octopus User Node
 - 649 ✧ Absolute validity period (NotBefore and NotAfter)
- 650 • Controller object (quantity=1)
 - 651 ✧ ContentKeyReference (quantity=1)
 - 652 ✧ Includes an HMAC signature and a public key signature
- 653 • ContentKey object (quantity=1)
 - 654 ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- 655 • Protector object (quantity=1)
 - 656 ✧ ContentReference (quantity=1)

657 **6.3 Variation 3**

658 This variation assumes a rental model as in Variation 2 with the difference that the
659 Marlin License includes more than one Content Key. The validity period is compared

660 with Marlin BB DRM Client's trusted time by using System.Host.GetTrustedTime. The
661 Octopus Bundle of Marlin License includes:

- 662 • Control object (quantity=1)
 - 663 ✧ Targeted to Octopus User Node
 - 664 ✧ Absolute validity period (NotBefore and NotAfter)
- 665 • Controller object (quantity=1)
 - 666 ✧ ContentKeyReference (quantity=2)
 - 667 ✧ Includes two HMAC signatures and a public key signature
- 668 • ContentKey object (quantity=2)
 - 669 ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- 670 • Protector object (quantity=2)
 - 671 ✧ ContentReference (quantity=1 respectively)

672 **6.4 Variation 4**

673 This variation assumes a rental model where Marlin Licenses are bound to one
674 particular device and cannot be shared. The rental period is relative validity period.
675 The validity period is compared with Marlin BB DRM Client's trusted time by using
676 System.Host.GetTrustedTime. The Octopus Bundle for this variation of Marlin
677 License includes:

- 678 • Control object (quantity=1)
 - 679 ✧ Targeted to Octopus Personality Node
 - 680 ✧ Relative validity period (1440 minutes from the first play)
- 681 • Controller object (quantity=1)
 - 682 ✧ ContentKeyReference (quantity=1)
 - 683 ✧ Includes an HMAC signature and a public key signature
- 684 • ContentKey object (quantity=1)
 - 685 ✧ Bound to Scuba Sharing Public Key used for Octopus Personality Node
- 686 • Protector object (quantity=1)
 - 687 ✧ ContentReference (quantity=1 respectively)

688 **6.5 Variation 5**

689 This variation assumes a purchase model where Marlin Licenses are bound to one
690 particular device and cannot be shared. The Octopus Bundle of Marlin License
691 includes:

- 692 • Control object (quantity=1)
 - 693 ✧ Targeted to Octopus Personality Node
- 694 • Controller object (quantity=1)
 - 695 ✧ ContentKeyReference (quantity=1)
 - 696 ✧ Includes an HMAC signature and a public key signature
- 697 • ContentKey object (quantity=1)
 - 698 ✧ Bound to Scuba Sharing Public Key used for Octopus Personality Node
- 699 • Protector object (quantity=1)
 - 700 ✧ ContentReference (quantity=1)

701 **6.6 Variation 6**

702 This variation assumes a subscription model where Marlin Licenses are shared
703 among the user's devices, and the subscription period is specified in Subscription
704 Link. The Octopus Bundle of Marlin License includes:

- 705 • Control object (quantity=1)
 - 706 ✧ Targeted to Octopus User Node
 - 707 ✧ Targeted to Octopus Subscription Node
- 708 • Controller object (quantity=1)

- 709 ✧ ContentKeyReference (quantity=1)
- 710 ✧ Includes an HMAC signature and a public key signature
- 711 • ContentKey object (quantity=1)
- 712 ✧ Bound to Scuba Sharing Public Key used for Octopus User Node
- 713 • Protector object (quantity=1)
- 714 ✧ ContentReference (quantity=1)
- 715 ✧

716 **6.7 Variation 7**

717 This variation assumes a shunning case where Marlin Licenses require later security
 718 specification version then the one supported in the device, and the device cannot
 719 consume those Marlin Licenses. The Octopus Bundle of Marlin License includes:

- 720 • Control object (quantity=1)
- 721 ✧ Targeted to Octopus User Node
- 722 ✧ Security specification version requirement
- 723 • Controller object (quantity=1)
- 724 ✧ ContentKeyReference (quantity=1)
- 725 ✧ Includes an HMAC signature and a public key signature
- 726 • ContentKey object (quantity=1)
- 727 ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- 728 • Protector object (quantity=1)
- 729 ✧ ContentReference (quantity=1)

730 **6.8 Variation 8**

731 This variation assumes a subscription model where Marlin Licenses are shared
 732 among the users with the same subscription. The Octopus Bundle of such Marlin
 733 License includes:

- 734 • Control object (quantity=1)
- 735 ✧ Targeted to Octopus Subscription Node
- 736 • Controller object (quantity=1)
- 737 ✧ ContentKeyReference (quantity=1)
- 738 ✧ Includes an HMAC signature and a public key signature
- 739 • ContentKey object (quantity=1)
- 740 ✧ Bound to Scuba Sharing Public Key used for Octopus Subscription
 741 Node
- 742 • Protector object (quantity=1)
- 743 ✧ ContentReference (quantity=1)

744 **6.9 Variation 9**

745 This variation assumes a subscription model as in Variation 8 with the difference that
 746 the Marlin License includes an obligation for Metering. The Octopus Bundle of Marlin
 747 License includes:

- 748 • Control object (quantity=1)
- 749 ✧ Targeted to Octopus Subscription Node
- 750 ✧ Metering obligation
- 751 • Controller object (quantity=1)
- 752 ✧ ContentKeyReference (quantity=1)
- 753 ✧ Includes an HMAC signature and a public key signature
- 754 • ContentKey object (quantity=1)
- 755 ✧ Bound to Scuba Sharing Public Key used for Octopus Subscription
 756 Node
- 757 • Protector object (quantity=1)

758 ✧ ContentReference (quantity=1 respectively)

759 **6.10 Variation 10**

760 This variation assumes a purchase model where Marlin Licenses are bound to one
761 particular device and cannot be shared. The Marlin License includes more than one
762 Content Key. The Octopus Bundle of Marlin License includes:

- 763 • Control object (quantity=1)
 - 764 ✧ Targeted to Octopus Personality Node
- 765 • Controller object (quantity=1)
 - 766 ✧ ContentKeyReference (quantity=2)
 - 767 ✧ Includes an HMAC signature and a public key signature
- 768 • ContentKey object (quantity=2)
 - 769 ✧ Bound to Scuba Sharing Public Key used for Octopus Personality Node
- 770 • Protector object (quantity=2)
 - 771 ✧ ContentReference (quantity=1 respectively)

772 **6.11 Variation 11**

773 This variation assumes a rental model where Marlin Licenses with a validity period
774 are bound to one particular device and cannot be shared. The validity period is
775 compared with Marlin BB DRM Client's trusted time by using
776 System.Host.GetTrustedTime. The Octopus Bundle of Marlin License includes:

- 777 • Control object (quantity=1)
 - 778 ✧ Targeted to Octopus Personality Node
 - 779 ✧ Absolute validity period (NotBefore and NotAfter)
- 780 • Controller object (quantity=1)
 - 781 ✧ ContentKeyReference (quantity=1)
 - 782 ✧ Includes an HMAC signature and a public key signature
- 783 • ContentKey object (quantity=1)
 - 784 ✧ Bound to Scuba Sharing Public Key used for Octopus Personality Node
- 785 • Protector object (quantity=1)
 - 786 ✧ ContentReference (quantity=1)

787 **6.12 Variation 12**

788 This variation assumes a shunning case where Marlin Licenses require later security
789 specification version than the one supported in the device, and the device cannot
790 consume those Marlin Licenses. The Octopus Bundle of Marlin License includes:

- 791 • Control object (quantity=1)
 - 792 ✧ Targeted to Octopus Personality Node
 - 793 ✧ Security specification version requirement
- 794 • Controller object (quantity=1)
 - 795 ✧ ContentKeyReference (quantity=1)
 - 796 ✧ Includes an HMAC signature and a public key signature
- 797 • ContentKey object (quantity=1)
 - 798 ✧ Bound to Scuba Sharing Secret Key used for Octopus Personality Node
- 799 • Protector object (quantity=1)
 - 800 ✧ ContentReference (quantity=1)

801 **7 Scenario for CTS [Full Implementation Only]**
 802 **(Informative)**

803 This section introduces several test scenarios. The Conformance Test can efficiently
 804 confirm all Conformance Test Items defined in this document by sequentially
 805 executing the scenarios in this section.

806
 807 Table 1 enumerates suggested scenario sequences. For instance scenario sequence
 808 Run1 suggests running first Scenario 1 then Scenario 2 and finally Scenario 3.

809
 810 Table 2 enumerates the REQUIRED and the OPTIONAL Test Items for each
 811 scenario; the corresponding sections in this document are provided.
 812

Run 1	Run 2	Run 3	Run 4	Run 5
Scenario 1 Scenario 2 Scenario 3	Scenario 1 Scenario 4 Scenario 5 Scenario 6 Scenario 10	Scenario 1 Scenario 7 Scenario 8 Scenario 9 Scenario 11 Scenario 12	Scenario 1 Scenario 7 Scenario 11	Scenario 1 Scenario 2 Scenario 13 Scenario 14
Run 6	Run 7	Run 8	Run 9	Run 10
Scenario 1 Scenario 15	Scenario 16	Scenario 17	Scenario 18	Scenario 19

Table 1: Suggested scenario sequence runs, Full Implementation

813

Scenario	REQUIRED Test Items	OPTIONAL Test Items
Scenario 1	2.1, 3.1.1, 3.1.3, 3.2.1, 3.2.2, 3.3.1, 3.3.2.1, 3.3.2.2	2.6.1, 2.6.2, 3.3.2.3
Scenario 2	2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.1, 4.2.2.1, 4.2.2.2, 4.1.6.1	2.6.1
Scenario 3	6.1, 6.2, 6.3, 6.4, 6.5	
Scenario 4	3.1.1, 3.1.3, 3.2.1, 3.3.2.1, 3.3.2.2	2.6.1
Scenario 5	2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.2, 4.1.6.1	2.6.1
Scenario 6	6.6	
Scenario 7	2.1, 3.1.1, 3.1.3, 3.2.1, 3.2.2, 3.3.1, 3.3.2.1	2.6.2, 3.3.2.3
Scenario 8	2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.2, 4.1.6.1	2.6.2, 4.2.2.3
Scenario 9	6.8, 6.9	5.1.1, 5.1.3, 5.2.1, 5.2.2, 2.6.2
Scenario 10	6.7, 2.4	
Scenario 11	2.1, 3.1.1, 3.1.3, 3.4.1, 3.4.2.1	3.4.2.3, 2.6.1, 2.6.2
Scenario 12	3.4.3	
Scenario 13	2.1, 3.1.1, 3.1.3, 3.4.1, 3.4.2.1, 3.4.2.2	2.6.1
Scenario 14	3.4.3	
Scenario 15	2.5.1, 4.1.6.2	
Scenario 16	2.3	
Scenario 17	3.1.4, 4.1.4	5.1.4
Scenario 18	3.1.4, 4.1.4	
Scenario 19	3.1.5, 4.1.5	5.1.5

Table 2: Enumeration of Test Items REQUIRED and OPTIONAL for each scenario, Full Implementation

814

815 **7.1 Scenario 1**

816 This scenario is to confirm REQUIRED specifications related to Node Acquisition and
817 Link Acquisition by assuming following sequences:

- 818 1. Acquisition of Action Token
- 819 2. Acquisition of Configuration Token
- 820 3. Acquisition of Octopus User Node: The Conformance Test Items described
821 in section 2.1, 3.1.1, 3.1.3, 3.2.1, and 3.2.2 are to be confirmed by the
822 sequence. The Conformance Test Items described in section 2.6.1 and 2.6.2
823 may be confirmed.
- 824 4. Acquisition of User Link: The Conformance Test Items described in section
825 2.1, 3.1.1, 3.1.3, 3.3.1, 3.3.2.1 and 3.3.2.2 are to be confirmed by the
826 sequence. The Conformance Test Items described in section 2.6.1, 2.6.2,
827 3.3.2.3 may be confirmed.

828 As the result of the sequences, the Marlin BB DRM Client gets corresponding
829 Octopus User Node and User Link.

830 **7.2 Scenario 2**

831 This scenario is to confirm REQUIRED specifications related to License Acquisition
832 by assuming following sequences. Note that this scenario assumes that Scenario 1 is
833 successfully completed.

- 834 1. Acquisition of Action Token
- 835 2. Acquisition of a License. The following Conformance Test Items described in
836 section 2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.2 and 4.1.6.1 are to be
837 confirmed by the sequence. The Conformance Test Items described in
838 section 2.6.1 may be confirmed.

839 This scenario is executed for acquiring different Licenses corresponding to every of
840 the following variations in section 6: Variation 1, Variation 2, Variation 3, Variation 4,
841 and Variation 5.

842 As the result of the scenario sequences, the Marlin BB DRM Client gets
843 corresponding Marlin Licenses target and bound to the Personality Node or targeted
844 and/or bound to the Octopus User Node acquired in the Scenario 1.

845 **7.3 Scenario 3**

846 This scenario is to confirm REQUIRED specifications regarding evaluation of Marlin
847 License by assuming the following sequence. Note that this scenario assumes that
848 Scenario 1 and Scenario 2 are successfully completed.

- 849 1. Evaluation of Licenses acquired in Scenario 2: The corresponding
850 Conformance Test Items described in section 6 are to be confirmed by the
851 sequence.

852 As the result of the sequences, the Marlin BB DRM Client successfully consumes the
853 Marlin Licenses acquired in the Scenario 2.

854 **7.4 Scenario 4**

855 This scenario is to confirm REQUIRED specifications related to Node Acquisition and
856 Link Acquisition by assuming following sequences. Note that this scenario assumes
857 that Scenario 1 is successfully completed.

- 858 1. Acquisition of Action Token
- 859 2. Acquisition of Configuration Token
- 860 3. Acquisition of Octopus Subscription Node: The Conformance Test Items
861 described in section 2.1, 3.1.1, 3.1.3, 3.2.1, 3.3.2.1 and 3.3.2.2 are to be

862 confirmed by the sequence. The Conformance Test Items described in
863 section 2.6.1 may be confirmed.
864 4. Acquisition of Subscription Link with a given subscription period: The
865 Conformance Test Items described in section 2.1, 3.1.1, 3.1.3, 3.3.1, 3.3.2.1
866 and 3.3.2.2 are to be confirmed by the sequence. The Conformance Test
867 Items described in section 2.6.1 may be confirmed.
868 As the result of the sequences, the Marlin BB DRM Client gets corresponding
869 Octopus Subscription Node and Subscription Link with a given subscription period.

870 **7.5 Scenario 5**

871 This scenario is to confirm REQUIRED specifications related to License Acquisition
872 by assuming following sequences. Note that this scenario assumes that the Scenario
873 1 and Scenario 4 are successfully completed.

- 874 1. Acquisition of Action Token
- 875 2. Acquisition of License targeted to the Octopus Subscription Node and User
876 Node: The following Conformance Test Items described in section 2.1, 4.1.1,
877 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.2 and 4.1.6.1 are to be confirmed by the
878 sequence. The Conformance Test Items described in section 2.6.1 may be
879 confirmed.

880 This scenario is executed for acquiring a License corresponding Variation 6 in
881 section 6.

882 As the result of the sequences, the Marlin BB DRM Client gets corresponding Marlin
883 License which is targeted to the Octopus Subscription Node acquired in Scenario 4
884 and to the Octopus User Node acquired in Scenario 1.

885 **7.6 Scenario 6**

886 This scenario is to confirm REQUIRED specifications regarding evaluation of Marlin
887 License by assuming the following sequence. Note that this scenario assumes that
888 Scenario 1, Scenario 4 and Scenario 5 are successfully completed.

- 889 1. Evaluation of License acquired in Scenario 5: The corresponding
890 Conformance Test Items described in section 6 are to be confirmed by the
891 sequence.

892 As the result of the sequences, the Marlin BB DRM Client successfully consumes the
893 Marlin License acquired in Scenario 5.

894 **7.7 Scenario 7**

895 This scenario is to confirm specifications related to Node Acquisition and Link
896 Acquisition by assuming following sequences. Note that this scenario assumes that
897 Scenario 1 is successfully completed with BNS Extended Topology signalled.

- 898 1. Acquisition of Action Token
- 899 2. Acquisition of Configuration Token
- 900 3. Acquisition of Octopus Subscription Node: The Conformance Test Items
901 described in section 2.1, 3.1.1, 3.1.3, 3.2.1, and 3.2.2 are to be confirmed by
902 the sequence. The Conformance Test Items described in section 2.6.2 may
903 be confirmed.
- 904 4. Acquisition of Subscription Link: The Conformance Test Items described in
905 section 2.1, 3.1.1, 3.1.3, 3.3.1, and 3.3.2.1 are to be confirmed by the
906 sequence. The Conformance Test Items described in section 2.6.2 and
907 3.3.2.3 may be confirmed.

908 As the result of the sequences, the Marlin BB DRM Client gets corresponding
909 Octopus Subscription Node and Subscription Link to which no given subscription
910 period is associated.

911 **7.8 Scenario 8**

912 This scenario is to confirm specifications related to License Acquisition by assuming
913 following sequences. Note that this scenario assumes that the Scenario 1 and
914 Scenario 7 are successfully completed with BNS Extended Topology signalled.

- 915 1. Acquisition of Action Token
- 916 2. Acquisition of License. The following Conformance Test Items described in
917 section 2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.2 and 4.1.6.1 are to be
918 confirmed by the sequence. The Conformance Test Items described in
919 section 2.6.2 and 4.2.2.3 may be confirmed.

920 This scenario is executed for acquiring different Licenses corresponding to every of
921 the following variations Variation 8 and Variation 9 in section 6.

922 As the result of the sequences, the Marlin BB DRM Client gets corresponding Marlin
923 Licenses which are targeted and bound to the Octopus Subscription Node acquired
924 in Scenario 7.

925 **7.9 Scenario 9**

926 This scenario is to confirm specifications regarding evaluation of Marlin License by
927 assuming the following sequence. Note that this scenario assumes that Scenario 1,
928 Scenario 7 and Scenario 8 are successfully completed with BNS Extended Topology
929 signalled.

- 930 1. Evaluation of the Licenses acquired in Scenario 8: The corresponding
931 Conformance Test Items described in section 6 are to be confirmed by the
932 sequence.

933 As the result of the sequences, the Marlin BB DRM Client successfully consumes the
934 Marlin License acquired in the Scenario 8.

935 Moreover, as the result of the evaluation of the License corresponding to Variation
936 9 the associated Metering obligation is fulfilled and Metering Data is reported. The
937 Conformance Test Items described in 5.1.1, 5.1.3, 5.2.1 and 5.2.2 are to be confirmed.
938 The Conformance Test Items described in section 2.6.2 may be confirmed.

939 **7.10 Scenario 10**

940 This scenario is to confirm REQUIRED specifications regarding evaluation of Marlin
941 License that includes a security specification version requirement. The sequence
942 below is assumed. Note that this scenario assumes that a License corresponding to
943 Variation 7 in section 6 was successfully acquired following similar the steps as in
944 Scenario 2.

- 945 1. Evaluation of the acquired License acquired: The corresponding
946 Conformance Test Items described in section 6 and those described in
947 section 2.4 are to be confirmed by the sequence.

948 As the result of the sequences, the Marlin BB DRM Client fails to consume that
949 Marlin License.

950 **7.11 Scenario 11**

951 This scenario is to confirm specifications related to Deregistration by assuming
952 following sequences. Note that this scenario assumes Scenario 1 and Scenario 7 are
953 successfully completed with BNS Extended Topology signalled.

- 954 1. Acquisition of ActionToken
- 955 2. Process of Deregistration of Subscription Link acquired in Scenario 7: The
956 Conformance Test Items described in section 2.1, 3.1.1, 3.1.3, 3.4.1, and
957 3.4.2.1 are to be confirmed by the sequence. The Conformance Test Items
958 described in section 3.4.2.3, 2.6.1 and 2.6.2 may be confirmed.

959 As the result of the sequences, the Marlin BB DRM Client deregisters from the
960 subscription registered in the Scenario 7.

961 **7.12 Scenario 12**

962 This scenario is to confirm specifications regarding Deregistration of Subscription
963 Link acquired in Scenario 7 by evaluating Marlin License targeted and bound to the
964 Octopus Subscription Node. Note that this scenario assumes that Scenario 1,
965 Scenario 7, Scenario 8, and Scenario 11 are successfully completed with BNS
966 Extended Topology signalled.

- 967 1. Evaluation of License: The Conformance Test Items described in section
968 3.4.3 are to be confirmed by the sequence.

969 As the result of the sequences, the Marlin BB DRM Client fails to consume the Marlin
970 License acquired in the Scenario 8.

971 **7.13 Scenario 13**

972 This scenario is to confirm REQUIRED specifications related to Deregistration by
973 assuming following sequences. Note that this scenario assumes Scenario 1 is
974 successfully completed.

- 975 1. Acquisition of ActionToken
976 2. Process of Deregistration: The Conformance Test Items described in section
977 2.1, 3.1.1, 3.1.3, 3.4.1, 3.4.2.1 and 3.4.2.2 are to be confirmed by the
978 sequence. The Conformance Test Items described in section 2.6.1 may be
979 confirmed.

980 As the result of the sequences, the Marlin BB DRM Client deregisters from the user
981 domain registered in the Scenario 1.

982 **7.14 Scenario 14**

983 This scenario is to confirm REQUIRED specifications regarding Deregistration by
984 evaluating Marlin License targeted to the Octopus User Node. Note that this scenario
985 assumes that Scenario 1, Scenario 2 and Scenario 13 are successfully completed.

- 986 1. Evaluation of License: The Conformance Test Items described in section
987 3.4.3 are to be confirmed by the sequence.

988 As the result of the sequences, the Marlin BB DRM Client fails to consume the Marlin
989 License acquired in the Scenario 2.

990 **7.15 Scenario 15**

991 This scenario is to confirm REQUIRED specifications regarding exclusion by
992 acquiring and evaluating Marlin License with BKB in excluded Marlin BB DRM Client.
993 Note that this scenario assumes that Scenario 1 is successfully completed.

- 994 1. Acquisition Process of License with BKB
995 2. Evaluation of License with BKB: The Conformance Test Items described in
996 section 2.5.1 and 4.1.6.2 are to be confirmed by the sequence.

997 As the result of the sequences, the Marlin BB DRM Client fails to consume the Marlin
998 License with BKB.

999 **7.16 Scenario 16**

1000 This scenario is to confirm REQUIRED specifications regarding revocation by
1001 acquiring CRL and trying to access a revoked Marlin BB Service. Note that when the
1002 CRL is to revoke the License Service to request User targeted Marlin License, this
1003 scenario assumes that Scenario 1 is successfully completed, but when the CRL is to
1004 revoke the Registration Service, this scenario can be executed independently from
1005 other scenarios.

- 1006 1. Acquisition Process of CRL
1007 2. Communication with the revoked service: The Conformance Test Items
1008 described in section 2.3 are to be confirmed by the sequence.

1009 As the result of the sequences, the Marlin BB DRM Client fails to access the revoked
1010 Marlin BB Service.

1011 **7.17 Scenario 17**

1012 This scenario is to confirm REQUIRED specifications regarding revocation by using
1013 CRL which revoked manufacturer (issuer) of Marlin BB DRM Client. Note that this
1014 scenario can be executed independently from other scenarios.

1015 1. Communication with the revoked manufacturer's device: The Conformance
1016 Test Items described in section 3.1.4 or 4.1.4 are to be confirmed by the
1017 sequence. The Conformance Test Items described in section 5.1.4 may be
1018 confirmed.

1019 As the result of the sequences, the Marlin BB DRM Client which has the revoked
1020 issuer fails to access a Marlin BB Service.

1021 **7.18 Scenario 18**

1022 This scenario is to confirm REQUIRED specifications regarding revocation by using
1023 CRL which revoked a device. Note that this scenario can be executed independently
1024 from other scenarios.

1025 1. Communication with the revoked device: The Conformance Test Items
1026 described in section 3.1.4 or 4.1.4 are to be confirmed by the sequence. The
1027 Conformance Test Items described in section 5.1.4 may be confirmed.

1028 As the result of the sequences, the revoked Marlin BB DRM Client fails to access the
1029 service.

1030 **7.19 Scenario 19**

1031 This scenario is to confirm REQUIRED specifications regarding shunning by
1032 assuming the sequence below. In this scenario the shunning is made based on the
1033 attributes in the Role Assertion conveyed with NEMO Request message. Note that
1034 this scenario can be executed independently from other scenarios.

1035 1. Communication with the device for which shunning should be performed:
1036 The Conformance Test Items described in section 3.1.5 or 4.1.5 are to be
1037 confirmed by the sequence. The Conformance Test Items described in
1038 section 5.1.5 may be confirmed.

1039 As the result of the sequences, the shunned Marlin BB DRM Client fails to access a
1040 Marlin BB Service.

1041 **8 Scenario for CTS [Compact Implementation Only]**
 1042 **(Informative)**

1043 This section introduces several test scenarios. The Conformance Test can efficiently
 1044 confirm all Conformance Test Items defined in this document by sequentially
 1045 executing the scenarios in this section.

1046
 1047 Table 3 enumerates suggested scenario sequences. For instance scenario sequence
 1048 Run1 suggests running first Scenario 1 then Scenario 2.

1049
 1050 Table 4 enumerates the REQUIRED and the OPTIONAL Test Items for each
 1051 scenario; the corresponding sections in this document are provided.
 1052

Run 1	Run 2	Run 3	Run 4
Scenario 1 Scenario 2	Scenario 1 Scenario 3	Scenario 1 Scenario 4	Scenario 5
Run 5	Run 6	Run 7	
Scenario 6	Scenario 7	Scenario 8	

Table 3: Suggested scenario sequence runs, Compact Implementation

1053

Scenario	REQUIRED Test Items	OPTIONAL Test Items
Scenario 1	2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.1, 4.2.2.1, 4.2.2.4, 4.1.6.1	2.6.1
Scenario 2	6.10, 6.11	
Scenario 3	2.4, 6.12	
Scenario 4	2.5.1, 4.1.6.2	
Scenario 5	2.3	
Scenario 6	4.1.4	
Scenario 7	4.1.4	
Scenario 8	4.1.5	

Table 4: Enumeration of Test Items REQUIRED and OPTIONAL for each scenario, Compact Implementation

1054

1055 **8.1 Scenario 1**

1056 This scenario is to confirm REQUIRED specifications related to License Acquisition
 1057 by assuming following sequences.

- 1058 1. Acquisition of Action Token
- 1059 2. Acquisition of Configuration Token
- 1060 3. Acquisition of a License. The following Conformance Test Items described in
 1061 section 2.1, 4.1.1, 4.1.3, 4.2.1, 4.2.2.1, 4.2.2.4 and 4.1.6.1 are to be
 1062 confirmed by the sequence. The Conformance Test Items described in
 1063 section 2.6.1 may be confirmed.

1064 This scenario is executed for acquiring different Licenses corresponding to every of
1065 the following variations in section 6: Variation 10, Variation 11.
1066 As the result of the scenario sequences, the Marlin BB DRM Client gets
1067 corresponding Marlin Licenses target and bound to the Personality Node.

1068 **8.2 Scenario 2**

1069 This scenario is to confirm REQUIRED specifications regarding evaluation of Marlin
1070 License by assuming the following sequence. Note that this scenario assumes that
1071 Scenario 1 is successfully completed.

1072 1. Evaluation of Licenses acquired in Scenario 1: The corresponding
1073 Conformance Test Items described in section 6 are to be confirmed by the
1074 sequence.

1075 As the result of the sequences, the Marlin BB DRM Client successfully consumes the
1076 Marlin Licenses acquired in the Scenario 1.

1077 **8.3 Scenario 3**

1078 This scenario is to confirm REQUIRED specifications regarding evaluation of Marlin
1079 License that includes a security specification version requirement. The sequence
1080 below is assumed. Note that this scenario assumes that a License corresponding to
1081 Variation 12 in section 6 was successfully acquired following similar the steps as in
1082 Scenario 1.

1083 1. Evaluation of License: The corresponding Conformance Test Items
1084 described in section 6 and those described in section 2.4 are to be
1085 confirmed by the sequence.

1086 As the result of the sequences, the Marlin BB DRM Client fails to consume the Marlin
1087 License acquired in the Scenario 1.

1088 **8.4 Scenario 4**

1089 This scenario is to confirm REQUIRED specifications regarding exclusion by
1090 acquiring and evaluating Marlin License with BKB in excluded Marlin BB DRM Client.
1091 Note that this scenario assumes that Scenario 1 is successfully completed.

1092 1. Acquisition Process of License with BKB
1093 2. Evaluation of License with BKB: The Conformance Test Items described in
1094 section 2.5.1 and 4.1.6.2 are to be confirmed by the sequence.

1095 As the result of the sequences, the Marlin BB DRM Client fails to consume the Marlin
1096 License with BKB.

1097 **8.5 Scenario 5**

1098 This scenario is to confirm REQUIRED specifications regarding revocation by
1099 acquiring CRL and trying to access a revoked Marlin BB Service. Note that this
1100 scenario assumes that the CRL is to revoke the License Service and can be
1101 executed independently from other scenarios.

1102 1. Acquisition Process of CRL
1103 2. Communication with the revoked service: The Conformance Test Items
1104 described in section 2.3 are to be confirmed by the sequence.

1105 As the result of the sequences, the Marlin BB DRM Client fails to access the revoked
1106 Marlin BB Service.

1107 **8.6 Scenario 6**

1108 This scenario is to confirm REQUIRED specifications regarding revocation by using
1109 CRL which revoked manufacturer (issuer) of Marlin BB DRM Client. Note that this
1110 scenario can be executed independently from other scenarios.

1111 1. Communication with the revoked manufacturer's device: The Conformance
1112 Test Items described in section 4.1.4 is to be confirmed by the sequence.
1113 As the result of the sequences, the Marlin BB DRM Client which has the revoked
1114 issuer fails to access a Marlin BB Service.

1115 **8.7 Scenario 7**

1116 This scenario is to confirm REQUIRED specifications regarding revocation by using
1117 CRL which revoked a device. Note that this scenario can be executed independently
1118 from other scenarios.

1119 1. Communication with the revoked device: The Conformance Test Items
1120 described in section 4.1.4 is to be confirmed by the sequence.
1121 As the result of the sequences, the revoked Marlin BB DRM Client fails to access the
1122 service.

1123 **8.8 Scenario 8**

1124 This scenario is to confirm REQUIRED specifications regarding shunning by
1125 assuming the sequence below. In this scenario the shunning is made based on the
1126 attributes in the Role Assertion conveyed with NEMO Request message. Note that
1127 this scenario can be executed independently from other scenarios.

1128 1. Communication with the device for which shunning should be performed:
1129 The Conformance Test Items described in section 4.1.5 is to be confirmed
1130 by the sequence.
1131 As the result of the sequences, the shunned Marlin BB DRM Client fails to access a
1132 Marlin BB Service.
1133