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Conformance Test Specification for Marlin Broadband Network Service Profile Specification

Version 1.1
Final

Source	Marlin Developer Community
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1 Introduction

1.1 Document Organization

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

- (this) introduction, overview, conformance conventions and references
- Sections for each of Conformance Test Items. These are:
 - Conformance Test Items for Device
 - Conformance Test Items for Registration Service
 - Conformance Test Items for License Service
 - Conformance Test Items for Metering Data Service
 - Conformance Test Items for Marlin License Evaluation
- Scenarios for Conformance Test Items

1.2 Overview

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

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

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

1.3 Conformance Conventions

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

1.4 References

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

2 Conformance Test Items for Marlin BB DRM Client

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

2.1 Signature Verification

The following SHALL be tested for Marlin BB DRM Client:

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

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

2.2 Role Assertion

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

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

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

2.3 Revocation Functions

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

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

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

2.4 Shunning Functions

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

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

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

2.5 Content Key Object Access

2.5.1 Content Key Object after Exclusion

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

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

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

2.6 Profile Capability Signalling

2.6.1 Profile Signalling

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

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

- The Marlin BB DRM Client with Full Implementation SHALL follow the profile signalling defined in section 6.1 of [MBNS] and the Marlin BB DRM Client 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.

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

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

3.1 General Functions

3.1.1 Signature Verification

The following SHALL be tested for Registration Service:

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

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

3.1.2 Message Bindings

The following Message Bindings SHALL be tested for Registration Service:

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

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

3.1.3 Service Role Assertion

The following SHALL be tested for Registration Service Role Assertion:

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

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

3.1.4 Revocation Functions

The following revocation functions SHALL be tested for Registration Service:

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

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

3.1.5 Shunning Functions

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

- From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], when the version of the Marlin BB specification supported by the client (as indicated by the Marlin BB DRM Client Role Assertion) is lower than the minimum specification version required by the service, the fault message is returned.
- From section 8.2 of [MCS], section 5.1.2.1 of [MBB], and section 7.1.3 of [MBB], when the client (the organization-specific version of the client, as specified in the Marlin BB DRM Client Role Assertion) is one identified as being compromised, it is at the services discretion to shun it (refuse to provide service).
- From section 8.1 and 8.2 of [MCS], Security Specification Version and Role 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

corresponding ActionToken.

- From section 5.2.2.3.1 of [MBB], Link Acquisition Request Message includes Public Part of the Octopus Node for "ToNode" which is specified in the corresponding ActionToken.
- From section 5.2.2.3.3 of [MBB], if AgentCarrier element does not exist in the Response, AgentResultBlock element SHALL be omitted in the Confirmation Message. Otherwise, if Agent Carrier element does exist in the Response, AgentResultBlock element SHALL be included in the Confirmation Message.
- From section 5.2.2.3.4 of [MBB], keep the message correlation among Request, Response, and Confirmation Messages.
- From section 5.2.2.3.4 of [MBB], attach signature to the information of message correlation.

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

The following message parameters SHALL be tested for Link Acquisition:

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

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

3.3.2.2 Link Acquisition with BNS Base Topologies

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

	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

The Conformance Test SHALL confirm the specifications above for client.

3.3.2.3 Link Acquisition with BNS Extended Topologies

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

	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

The Conformance Test SHALL confirm the specifications above for client.

3.4 Deregistration

3.4.1 Security Policy and Message Security Bindings

The following Security Policy SHALL be tested for Deregistration:

- From section 5.2.2.4.4 of [MBB], Deregistration Request Message SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS] and section 4 of [MPAC].
- From section 5.2.2.4.4 of [MBB], Deregistration Response Message SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].
- From section 5.2.2.4.4 of [MBB], Deregistration Confirmation Message SHALL conform to "Full Security" defined in sections 5.2 and 12.3 of [MCS].

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

3.4.2 Deregistration Message

3.4.2.1 Main Test Items

The following message parameters SHALL be tested for Deregistration:

- From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes the BusinessToken element which has the same values as the BusinessToken element included in the corresponding ActionToken.
- From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes Public Part of the Octopus Node for "FromNode" which is specified in the corresponding ActionToken.
- From section 5.2.2.4.1 of [MBB], Deregistration Request Message includes Public Part of the Octopus Node for "ToNode" which is specified in the corresponding ActionToken.
- From sections 5.2.2.4.3 of [MBB], the Confirmation Message includes AgentResultBlock data structure containing the result of processing the Agent in the Response Message.
- From section 5.2.2.4.4 of [MBB], keep the message correlation among Request, Response, and Confirmation Messages.
- From section 5.2.2.4.4 of [MBB], attach signature to the information of message correlation.

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

3.4.2.2 Deregistration with BNS Base Topologies

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

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

The Conformance Test SHALL confirm the specifications for client.

3.4.2.3 Deregistration with BNS Extended Topologies

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

	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

The Conformance Test SHALL confirm the specifications for client.

3.4.3 Deregistration Derivative

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

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

4 Conformance Test Items for License Service

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

4.1 General Functions for License Service

4.1.1 Signature Verification

The following SHALL be tested for License Service:

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

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

4.1.2 Message Bindings

The following Message Bindings SHALL be tested for License Service:

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

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

4.1.3 Role Assertion

The following SHALL be tested for License Service Role Assertion:

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

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

4.1.4 Revocation Functions

The following revocation functions SHALL be tested for License Service:

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

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

4.1.5 Shunning Functions

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

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

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

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

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

The Conformance Test SHALL confirm the specifications above for client.

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

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

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

The Conformance Test SHALL confirm the specifications above for client.

4.2.2.4 License Acquisition [Compact Implementation Only]

The following SHALL be tested:

- License binding to the Personality Node.
- License targeting to the Personality Node.

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

5 Conformance Test Items for Metering Data Service

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

5.1 General Functions for Metering Data Service

5.1.1 Signature Verification

The following SHALL be tested for Metering Data Service:

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

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

5.1.2 Message Bindings

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

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

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

5.1.3 Role Assertion

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

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

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

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

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

5.1.4 Revocation Functions

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

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

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

5.1.5 Shunning Functions

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

- From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], when the version of the Marlin BB specification supported by the client (as indicated by the Marlin DRM Client Role Assertion) is lower than the minimum specification version required by the service, the fault message is returned.
- From section 8.2 of [MCS] and section 5.1.2.1 of [MBB], and section 7.1.3 of [MBB], when the client (the organization-specific version of the client, as 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.

6 Conformance Test Items for Marlin License Evaluation

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

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

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

6.1 Variation 1

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

- Control object (quantity=1)
 - ✧ Targeted to Octopus User Node
- Controller object (quantity=1)
 - ✧ ContentKeyReference (quantity=1)
 - ✧ Includes an HMAC signature and a public key signature
- ContentKey object (quantity=1)
 - ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- Protector object (quantity=1)
 - ✧ ContentReference (quantity=1)

6.2 Variation 2

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

- Control object (quantity=1)
 - ✧ Targeted to Octopus User Node
 - ✧ Absolute validity period (NotBefore and NotAfter)
- Controller object (quantity=1)
 - ✧ ContentKeyReference (quantity=1)
 - ✧ Includes an HMAC signature and a public key signature
- ContentKey object (quantity=1)
 - ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- Protector object (quantity=1)
 - ✧ ContentReference (quantity=1)

6.3 Variation 3

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

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

- Control object (quantity=1)
 - ✧ Targeted to Octopus User Node
 - ✧ Absolute validity period (NotBefore and NotAfter)
- Controller object (quantity=1)
 - ✧ ContentKeyReference (quantity=2)
 - ✧ Includes two HMAC signatures and a public key signature
- ContentKey object (quantity=2)
 - ✧ Bound to Scuba Sharing Secret Key used for Octopus User Node
- Protector object (quantity=2)
 - ✧ ContentReference (quantity=1 respectively)

6.4 Variation 4

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

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

6.5 Variation 5

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

- Control object (quantity=1)
 - ✧ Targeted to Octopus Personality Node
- Controller object (quantity=1)
 - ✧ ContentKeyReference (quantity=1)
 - ✧ Includes an HMAC signature and a public key signature
- ContentKey object (quantity=1)
 - ✧ Bound to Scuba Sharing Public Key used for Octopus Personality Node
- Protector object (quantity=1)
 - ✧ ContentReference (quantity=1)

6.6 Variation 6

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

- Control object (quantity=1)
 - ✧ Targeted to Octopus User Node
 - ✧ Targeted to Octopus Subscription Node
- 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)

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

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

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

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

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

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.

7.8 Scenario 8

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

1. Acquisition of Action Token
2. Acquisition of License. The following Conformance Test Items described in 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 confirmed by the sequence. The Conformance Test Items described in section 2.6.2 and 4.2.2.3 may be confirmed.

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

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

7.9 Scenario 9

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

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

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

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

7.10 Scenario 10

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

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

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

7.11 Scenario 11

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

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

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

7.12 Scenario 12

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

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

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

7.13 Scenario 13

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

1. Acquisition of ActionToken
2. Process of Deregistration: The Conformance Test Items described in section 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 sequence. The Conformance Test Items described in section 2.6.1 may be confirmed.

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

7.14 Scenario 14

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

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

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

7.15 Scenario 15

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

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

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

7.16 Scenario 16

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

1. Acquisition Process of CRL
2. Communication with the revoked service: The Conformance Test Items 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.

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

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

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

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

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

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

8.1 Scenario 1

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

1. Acquisition of Action Token
2. Acquisition of Configuration Token
3. Acquisition of a License. The following Conformance Test Items described in 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 confirmed by the sequence. The Conformance Test Items described in 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