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Marlin - Import Specification

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15 Version 1.2
16 Final
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Source	Marlin Developer Community
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Contents

1   Introduction

This document enables translation of content and rights that are delivered using a non-Marlin delivery system into Marlin, such that this content can be accessed on Marlin devices. This process is called import into Marlin and Figure 1 depicts the two alternative mechanisms supported by this specification.

- Directly to Marlin Import Device
- Via Marlin Gateway.
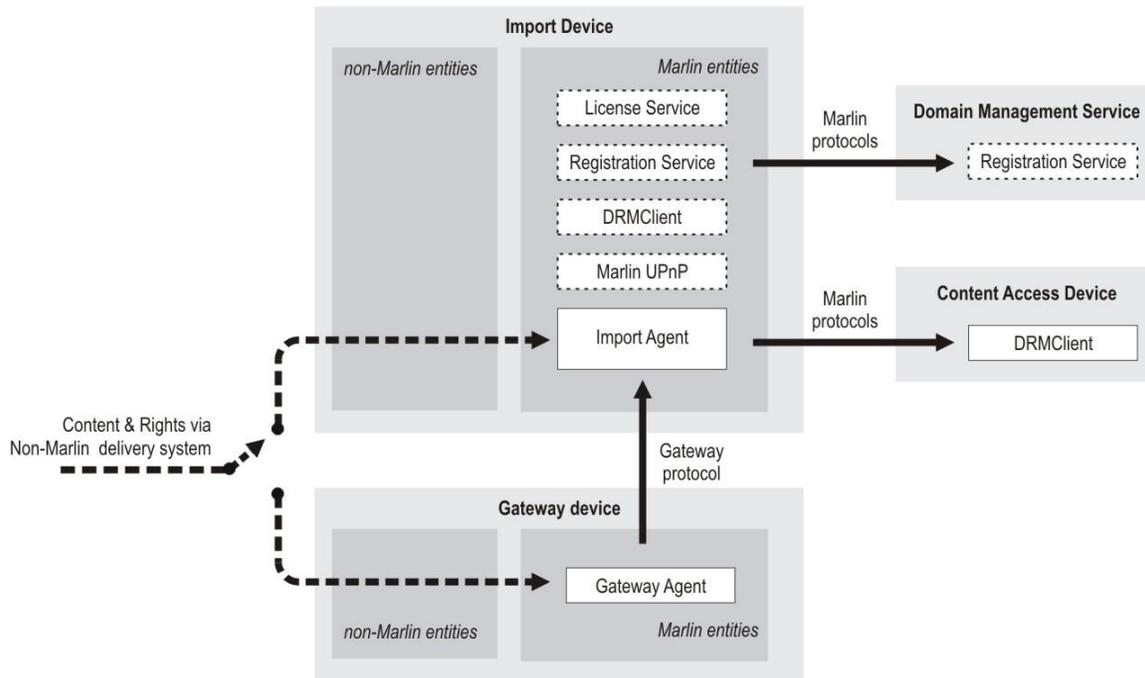
Figure 1: Marlin import overview

In either case the Marlin Import Agent which is a logical function hosted in Marlin Import Device is responsible for creating a Marlin License that expresses the rights as delivered using the non-Marlin system in a way that is understood by Marlin terminals. The rights mappings for various non-Marlin systems are specified in this document. Depending on these mappings and implementation choices, the Marlin Import Device may need to also implement other Marlin entities defined in other Marlin specifications and/or interact with a Domain Management Service.

This document also specifies the Gateway Service protocol which is a communication protocol between Marlin Gateway and Import Device.

1.1   Document Organization

This document is organized as follows:

- (this) introduction, including abbreviations, definitions and references
- Rights mapping for import contents
- Octopus extensions for rights governance of import contents
- Gateway Service protocol description and Marlin Import roles and keys.

143 • A set of appendices containing the XML schemas and WSDL for Marlin Gateway
144 Service.

1.2 Conformance Conventions

146 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
147 "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
148 specification are to be interpreted as described in IETF RFC 2119 [RFC2119].

1.3 Namespaces and Identifiers

150 This specification defines schemas conforming to XML Schemas [Schema] and
151 normative text to describe the syntax and semantics of XML-encoded objects and
152 protocol messages. In cases of disagreement between the schema documents and the
153 schema listings in this specification the schema documents take precedence. Note that
154 in some cases the normative text of this specification imposes constraints beyond those
155 indicated by the schema documents.

1.3.1 Namespaces and Notation

157 The following table summarizes the normative schemas defined by this specification and
158 their XML namespace [XMLns] URIs. These URIs MUST be used by implementations of
159 this specification:
160

Table 1-1 Namespace definitions

Prefix	XML Namespace	Schema File Name	Description
gs:	urn:marlin:core:1-3:services:schemas:gateway-service	Gateway.xsd	Marlin Gateway Service schema
gsa:	urn:marlin:core:1-3:services:schemas:gateway-service:action-token	Gateway-service-action.xsd	Gateway Import action for Action Token schema
gsc:	urn:marlin:core:1-3:services:schemas:gateway-service:configiguration	Gateway-service-config.xsd	Configuration Token schema for Gateway Service

161
162 In addition to the schemas defined by this specification, we leverage existing schemas to
163 achieve our design goals. The following table summarizes the external schemas used in
164 this specification:
165

Prefix	XML Namespace	Description
bsa:	urn:marlin:broadband:1-2:nemo:services:action-token	[MBB]
ds:	http://www.w3.org/2000/09/xmldsig#	[xmldsig]
xenc:	http://www.w3.org/2001/04/xmlenc#	[xmlenc]

166
167 As a convention throughout this document we use the namespace prefixes described
168 above to qualify XML elements and attributes which are specified elsewhere. That is, the
169 typographical convention is: <MarlinElement>, <ns:ForeignElement>, XMLAttribute,
170 Datatype, OtherKeyword.

1.4   References

[8pus]	Octopus DRM Technology Platform Specifications, Version 1.0
[AES]	NIST FIPS 197: Advanced Encryption Standard (AES). November 2001. http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf
[AES-MODES]	Recommendation of Block Cipher Modes of Operation. NIST. NIST Special Publication 800-38A. http://csrc.nist.gov/CryptoToolkit/modes/800-38_Series_Publications/SP800-38A.pdf
[ARIBTRB14]	ARIB TR-B14 Operational Guidelines for Digital Terrestrial Television Broadcasting, ARIB Technical Report
[ARIBTRB15]	ARIB TR-B15 Operational Guidelines for Digital Satellite Broadcasting, ARIB Technical Report
[DTCP]	Digital Transmission Content Protection Specification Volume 1, http://www.dtcp.com
[DTCP-IP]	Digital Transmission Content Protection Specification Volume 1 Supplement E, Mapping DTCP to IP, http://www.dtcp.com
[E_FTA]	Specification for Service Information (SI) in DVB Systems 1.9.1. http://www.dvb.org/technology/standards/a038r4.tm1217r15.dEN300468.V1.9.1.pdf
[PROX]	Marlin - Proximity Specification, Version 1.0
[MBB]	Marlin Broadband Delivery System Specification, Version 1.2
[MBNS]	Marlin Broadband Network Service Profile Specification, Version 1.0
[MCS]	Marlin – Core System Specification, Version1.3
[MEXP]	Marlin - Export Parameter Specification, Version 1.2
[MFFS]	Marlin Engineering Work Group, Marlin File Formats Specifications, Version 1.1
[BBTS]	Marlin Broadband Transport Stream Specification, Version 1.1
[OMArlin]	OMArlin Specification, Version 1.0
[MOC]	Marlin – Output Control Specification, Version 1.0
[NEMO]	NEMO Technology Platform Specifications, Version 1.1
[RFC2119]	S. Bradner, RFC 2119 - Key words for use in RFCs to Indicate Requirement Levels, IETF, March 1997, http://www.ietf.org/rfc/rfc2119.txt
[RFC2616]	R. Fielding et al., RFC2616 – Hypertext Transfer Protocol -- HTTP/1.1, IETF, June 1999, http://www.ietf.org/rfc/rfc2616.txt
[RFC2695]	D. Kristol and L. Montulli, RFC2695 – HTTP State Management Mechanism, IETF, October 2000, http://www.ietf.org/rfc/rfc2965.txt
[Schema]	XML Schema Part 1: Structures. W3C Recommendation. D. Beech, M. Maloney, N. Mendelsohn, H. Thompson. May 2001. http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/ XML Schema Part 2: Datatypes W3C Recommendation. P. Biron, A. Malhotra. May 2001. http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/
[UPnP]	http://www.upnp.org
[xmlenc]	XML Encryption Syntax and Processing.W3C Recommendation http://www.w3.org/TR/xmlenc-core/

[xmldsig]	XML-Signature Syntax and Processing W3C Recommendation http://www.w3.org/TR/xmldsig-core/
[XMLns]	Namespaces in XML. W3C Recommendation. T. Bray, D. Hollander, A. Layman. January 1999. http://www.w3.org/TR/1999/REC-xml-names-19990114

173   *1.5 Abbreviations*

AES	Advanced Encryption Standard
AST	Analog Sunset Token
BB	Broadband
BBTS	Broadband Transport Stream
CBC	Cipher Block Chaining
CCI	Copy Control Information
CDS	Content Directory Service
CRAOI	Control Remote Access Over Internet
DNAR	Do Not Apply Revocation
DNS	Do Not Scramble
DNTS	Do Not Time Shift
DTCP	Digital Transmission Content Protection
DTCP_CCI	DTCP Copy Control Information
E-FTA	European free-to-air
EPN	Encryption Plus Non-assertion
GW	Gateway
LTP	License Transfer Protocol
MCFI	Marlin Content for Import
MIPMP	Marlin Intellectual Property Management and Protection
(P)DCF	(Packetized) DRM Content Format
DTCP-RM	DTCP Retention Move mode
DTCP-RS	DTCP Retention State
UPnP	Universal Plug and Play

175 ## *1.6 Terms and Definitions*

Marlin License bound to Octopus Node	Marlin License bound to Octopus Node (e.g. Personality Node, User Node) means that Scuba Sharing Public Key or Secret Key of the Octopus Node is used to encrypt a data included in ContentKey object of the Marlin License.
Marlin License targeted to Octopus Node	Marlin License targeted to Octopus Node (e.g. Personality Node, User Node) means that all of Actions in Control object of the Marlin License include a check of an Id of such Octopus Node. The success of the check is a condition for 'Perform' routine of Actions to be granted.

176

177   **2   Import into domains**

178 Non-Marlin content delivery systems that export to Marlin may, as part of the rights
179 mapping (see next chapter), allow or require Marlin Licenses to be bound to a domain. In
180 these cases, the compliance regime of the exporting system will have requirements with
181 respect to the management of the domain to which the Marlin Licenses are bound. It is
182 <u>not</u> in scope of this specification to specify these domain management requirements for
183 the various exporting systems. It is in scope for this specification to enable the
184 appropriate trust bodies to define such requirements in terms that can be enforced by
185 Marlin entities and also to specify the technology that enables Marlin entities to
186 communicate that such requirements are being enforced.

187   *2.1   Example domain management criteria (informative)*

188 The table below provides some criteria that appropriate trust bodies may require a
189 Registration Service to check as part of the process of making a Marlin DRM Client a
190 member of a domain.
191

Domain management criterion	Description
Maximum number (Nmaxmem) of members	At any point in time, the number of Marlin DRM Clients that are member a domain must be lower than Nmaxmem. This criterion limits the size of the domain.
Maximum number of new members (Nmaxnew) per time-period (Tmaxnew)	A new Marlin DRM Client must not be made a member of the domain if in the previous period Tmaxnew already Nmaxnew new Marlin DRM Clients were made a member of the domain. This criterion prevents users to circumvent a domain size criterion by constantly removing and adding devices to the domain.
Membership expiration period (Tmemexp)	The time period after which the membership of a Marlin DRM Client must expire. This criterion forces Marlin DRM Clients to regularly re-register with the Registration Service, allow the Registration Service to re-check the Marlin DRM Clients proximity. It also enables the Registration Service to "remove" Marlin DRM Client from the domain without explicit deregistration.
Client Registration Proximity	Indicator whether a Marlin DRM Client must be in proximity to the Registration Service when registering a Marlin DRM Client as new member to a domain.
Client Renewal Proximity	Indicator whether a Marlin DRM Client and a Registration Service must be in proximity when renewing the membership of a Marlin DRM Client with a domain.

192
193

2.2 Domain policy compliance attribute

194

195 The domain policy compliance attribute is an attribute to an Octopus Node that contains
196 an array of domain policy requirement identifiers. These identifiers signal which (sets of)
197 requirements are met by the domain policy that is enforced by the Marlin Registration
198 Service that manages the domain represented by this Octopus Node.
199

Table 2-1: Domain Policy Container attribute for Octopus Nodes

Attribute Identifier	Attribute Type	Attribute Value(s)
urn:marlin:core:node:attribute:domain-policy-compliance	array	URI of the compliant domain policies

200

201 If, for example, a Marlin domain represented by an Octopus User Node has a domain
202 policy that meets the requirements for a DVB Local Domain and also the requirements
203 for a DTCP Domain, then this can be signalled as illustrated by the XML fragment below.
204

```
<Node Id="node" uid="urn:sushi:node:00001">
   <AttributeList>
      <Attribute name="urn:marlin:core:node:attribute:type" type="string">user</Attribute>
      <Attribute name="urn:marlin:core:node:attribute:domain-policy-compliance" type="array">
         <AttributeArray>
            <Attribute>DVB_Managed_Domain</Attribute>
            <Attribute>DTCP_Domain</Attribute>
         </AttributeArray>
      </Attribute>
   </AttributeList>
</Node>
```

205
206

207 Note that these are example identifiers. The definition of these identifiers is under the
208 purview of the compliance regime such as the Marlin Trust Management Organization.
209

210 A Marlin entity issuing Octopus Nodes MAY include a domain-policy-compliance
211 attribute in an Octopus Node that it issues and it MAY include attributes in the domain-
212 policy-compliance attribute that contain requirement identifiers defined under the purview
213 of the compliance regime such as the Marlin Trust Management Organization.
214

215 If a Marlin entity includes a domain-policy-compliance attribute in an Octopus Node that
216 it issues and if that domain-policy-compliance attribute contains an attribute with its value
217 set to an identifier specified under the purview of the compliance regime such as the
218 Marlin Trust Management Organization, then the Octopus Node MUST represent a
219 domain of Marlin DRM Clients and the Marlin entity MUST manage that domain in
220 compliance with the requirements for that identifier as defined under the purview of the
221 compliance regime.
222
223
224

3 Rights Mapping

3.1 DVB Broadcast Content

3.1.1 FTA Content Management Descriptor

Broadcast content may carry an FTA content management descriptor as defined in [E_FTA]. This descriptor describes certain content protection-related measures that have to be taken after reception of the content. This chapter specifies the requirements for Marlin DRM Clients when importing such content into Marlin.

As described in [E_FTA], content protection is managed in terms of *local environment* and *managed domain*. Access within the local environment should always be allowed. Remote access may be allowed if restricted to a managed domain and may additionally be restricted in time. If remote access is not restricted at all, then content protection and import into Marlin is not needed. In all other cases import into Marlin can be used to enforce the restrictions indicated by the descriptor on Marlin DRM Clients.

3.1.2 Definitions

A DVB Import Device is defined as a Marlin Import Device that receives – via a protocol not specified by Marlin or via the Gateway Service protocol - content that carries the FTA content management descriptor as defined in [E_FTA], applies Marlin protection and enables Marlin devices to access the content.

A DVB Gateway device is defined as a Marlin Gateway that receives - via a protocol not specified by Marlin - content that carries the FTA content management descriptor as defined in [E_FTA], and transfers it to a Marlin Import Device via the Gateway Service protocol.

A DVB Local Client is defined as a Marlin DRM Client that relates to the Marlin Import Device in one or more of the following ways:
1. It is connected to the DVB Import Device using a technology in compliance with the requirements as defined under the purview of the compliance regime for DVB-Local-Connectivity
2. It is a member of a domain that is managed in compliance with the requirements as defined under the purview of the compliance regime for a DVB-Local-Domain and the Marlin Import Device is the manager and/or also a member of the domain.

A DVB Remote Client is defined as a Marlin DRM Client that is member of a domain that is managed in compliance with the requirements as defined under the purview of the compliance regime for a DVB-Managed-Domain. Note that DVB Local Clients may also be DVB Remote Clients.

3.1.3 Requirements for Marlin Import Device

A DVB Import Device SHALL ensure that the content is packaged in a Marlin defined file format.

If a DVB Import Device enables access to a DVB Local Client, then this SHALL be implemented in one of the following ways:

268   1. The DVB Import Device creates a Marlin License for the content that is bound to
269   the Personality Node of the DVB Local Client.
270   The Marlin License SHOULD support the "Transfer" action as defined in [8pus]
271   §3 with Transfer Mode IDs "Move" and "Render". If supported then Marlin
272   License MUST require a ProximityCheck as part of the Transfer process. This
273   enables the Marlin DRM Client to move or render the content to other Marlin
274   DRM Clients in proximity using the LTP.
275   2. The DVB Import Device creates a Marlin License for the content that is bound to
276   an Octopus Node representing a domain with the following characteristics:
277   a. The domain is managed in compliance with the requirements as defined
278   under the purview of the compliance regime for a DVB-Local-Domain
279   b. The Import Device hosts either the Registration Server that manages the
280   domain or a Marlin DRM Client that has registered with the Registration
281   Server that manages the domain.
282
283   Note that if the DVB Import Device hosts the Registration Service managing the domain,
284   then the DVB Import Device already has access to the domain key and is able to create
285   a domain-bound License without any further communication. If however the DVB Import
286   Device Agent does NOT host the Registration Service managing the domain, then it
287   needs to host a Marlin DRM Client and interact with the Registration Service managing
288   the domain to retrieve the domain key in order to create a domain-bound License. In all
289   cases the Registration Service managing the domain is required to do so in compliance
290   with the requirements as defined under the purview of the compliance regime before
291   transferring a domain key to a Marlin DRM Client. In case of the DVB-Local-Domain it is
292   likely that these requirements will include requirements regarding proximity between the
293   device hosting the Registration Service and the Marlin DRM Clients that join the domain.
294
295   If a DVB Import Device enables access to DVB Remote Clients, then this SHALL be
296   implemented by creating a Marlin License for the Content that is bound to an Octopus
297   Node representing a domain that is managed in compliance with the requirements as
298   defined under the purview of the compliance regime for a DVB-Managed-Domain..
299
300   Note that in case the Marlin Import Device creates a Marlin License that is bound to an
301   Octopus Node representing a domain, the Marlin Import Device MUST ensure that the
302   policy of the domain is in compliance with the requirements defined under the purview of
303   the compliance regime as specified above. This MAY be done based on the presence of
304   a domain-policy-compliance attribute in the Octopus Node representing the domain as
305   specified in §2.2.
306   If the control_remote_access_over_internet-bits are set to 00, then no access
307   restrictions are needed and Marlin protection SHOULD NOT be applied.
308
309   If the control_remote_access_over_internet-bits are set to 01, then:
310   • the DVB Import Device SHOULD enable access to DVB Local Clients.
311   • the DVB Import Device SHOULD enable access to DVB Remote Clients.
312   • the DVB Import Device SHALL NOT enable access to Marlin DRM Clients that
313   are neither DVB Local Clients nor DVB Remote Clients.
314
315   If the control_remote_access_over_internet-bits are set to 10, then:
316   • the DVB Import Device SHOULD enable access to DVB Local Clients.

317   •   the DVB Import Device SHOULD enable access to DVB Remote Clients 24 hours
318   after receiving the content by the DVB Import Device. If enabled, the Marlin
319   License governing the content MUST carry a Control Object that ensures that
320   DVB Remote Clients will only grant access to the content 24hours after reception.
321   •   the DVB Import Device SHALL NOT enable access to Marlin DRM Clients that
322   are neither DVB Local Clients nor DVB Remote Clients.
323

324 If the control_remote_access_over_internet-bits are set to 11, then:
325   •   the DVB Import Device SHOULD enable access to DVB Local Clients.
326   •   the DVB Import Device SHOULD enable access to DVB Remote Clients after a
327   certain time period[1]. If enabled, the Marlin License governing the content MUST
328   carry a Control Object that ensures that DVB Remote Clients will only grant
329   access to the content after a certain time period.
330   •   the DVB Import Device SHALL NOT enable access to Marlin DRM Clients that
331   are neither DVB Local Clients nor DVB Remote Clients.
332

333 Figure 2 below depicts example Node Link topologies for Marlin License created from
334 DVB usage rules.
335
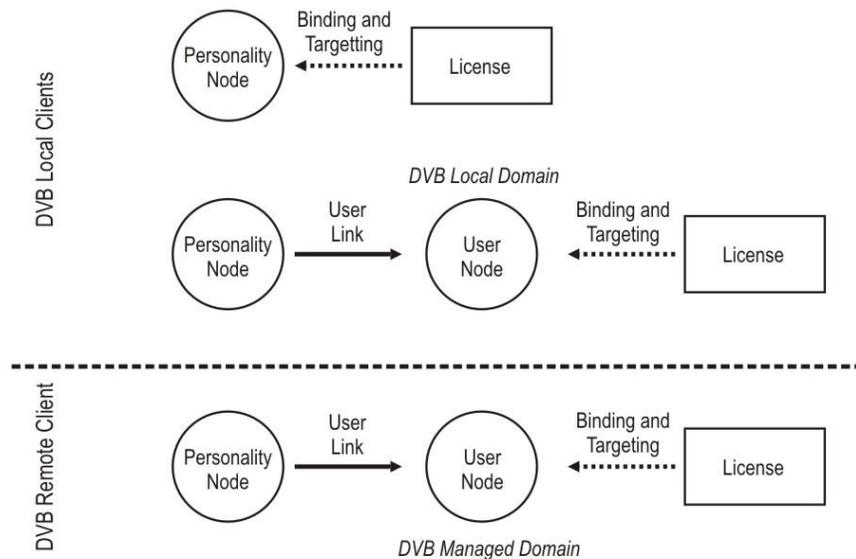
336
337 *Figure 2: Example topologies for DVB import.*
338

3.1.4 Requirements for Gateway Device

340 The DVB Gateway device SHALL transfer content that carries the FTA content
341 management descriptor as defined in [E_FTA] to a Marlin Import Device using the
342 Gateway Service protocol, provided the control_remote_access_over_internet-bits are
343 not set to 00. If the control_remote_access_over_internet-bits are set to 00, then no
344 access restrictions are needed and Marlin protection SHOULD NOT be applied.
345

---

[1] The definition of this time period is under the purview of the compliance regime such as Marlin
Trust Management Organization.

346 The DVB Gateway device SHALL extract the FTA content management descriptor as
347 defined in [E_FTA] from the stream and copy it into the usage information file of the
348 Gateway Service protocol as described in §5 and below.
349
350 The value of the tag identifier to be used for gs:UsageInfoItem@tag in Gateway Service
351 protocol for E-FTA broadcast content SHALL be "efta". The E-FTA usage rules SHALL
352 be represented with gs:UsageInfoItem as an Integer value (32 bits) containing the
353 following information (0 is least significant bit/byte):
354

Bit Byte	7	6	5	4	3	2	1	0
0				DNAR	DNS	CRAOI		

355

356 ### 3.2 *Import of DTCP Content*

357 This section specifies how DTCP contents are imported onto Marlin Licenses and
358 contents.

359 **3.2.1 DTCP Usage Rules**

360 The DTCP usage rule is carried either by DTCP descriptor along with EMI([DTCP])/E-
361 EMI([DTCP-IP]) or PCP-UR along with E-EMI([DTCP-IP]). §3.2.2 shows the supported
362 DTCP usage rules for importing.
363

364 **3.2.2 DTCP Import to Marlin**

365 This specification supports importing DTCP contents to Marlin for the following DTCP
366 usage rules.
367

	DTCP Usage Rule
Case1 (see §3.2.2.1)	Copy-free with EPN-asserted
Case2 (see §3.2.2.2)	Copy-one-generation or No-more-copies where the DTCP usage rule permits recording/moving[2]

368
369 If a DTCP content stream contains multiple parts with different usage rules, Marlin Import
370 Device MAY create one Marlin License for that content. In such a case the most strict
371 usage rules in the stream SHALL apply. (e.g. If an content stream contains 2 parts, part
372 A is "Copy-free with EPN asserted" and part B is "Copy-one-generation", Marlin Import
373 Device MAY generate one Marlin License for both parts by using the usage rule
374 mapping for "Copy-one-generation".)
375
376 This specification does not support importing DTCP contents to Marlin for other
377 combinations of usage rules. Figure 3 below depicts Node Link topologies for Marlin
378 License created for DTCP import for Case1 and Case2.
379

---

[2] The normative description of the DTCP usage rule is given in [DTCP] and [DTCP-IP]. To aid
understanding, the informative guidance is given below:
- When the DTCP usage rule is carried by DTCP descriptor along with EMI/E-EMI,
  recording/moving of COG/NMC contents is permitted for the following combinations:
  - EMI/E-EMI=Mode B/Mode B0, DTCP-CCI=COG, Retention_Move_mode=unasserted
  - EMI/E-EMI=Mode B/Mode B1, DTCP-CCI=COG, Retention_Move_mode=asserted
  - E-EMI=Mode C1
- When the DTCP usage rule is carried by PCP-UR along with E-EMI, recording/moving of
  COG/NMC contents is permitted for the following combinations:
  - E-EMI=Mode B0, Content Type=0
  - E-EMI=Mode C1, Content Type=0
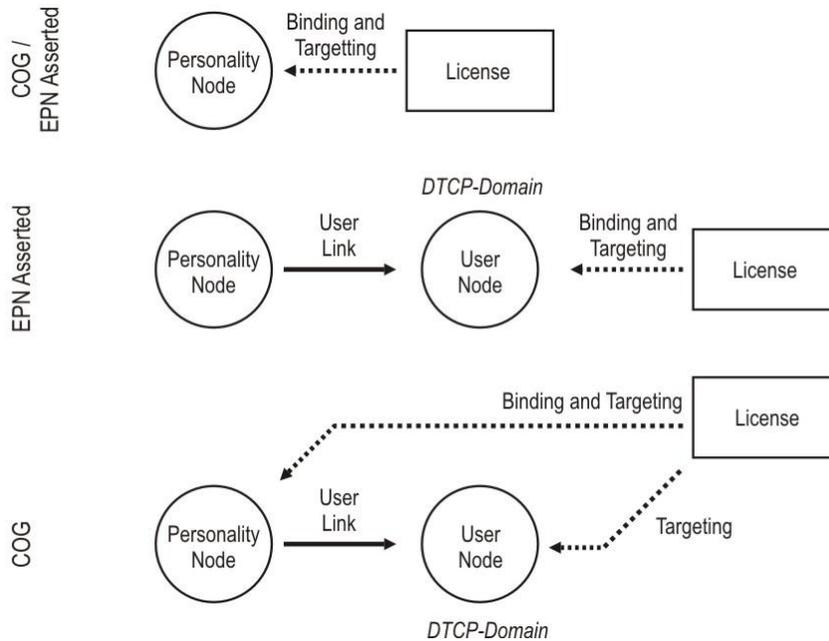
Figure 3: Example Node Link topologies for Marlin License created from DTCP usage rules.

381

382 Marlin Import Device SHALL support:

- 383 • Service side function of License Service protocol [MBB] when the Marlin Import
- 384 Agent creates Marlin License bound to a Personality Node (device) other than
- 385 the Personality Node residing with the Marlin Import Agent.
- 386 • Provisioning of Action Token and Configuration Token for License Service
- 387 protocol [MBB] when the Marlin Import Agent creates Marlin License bound to a
- 388 Personality Node (device) other than the Personality Node residing with the
- 389 Marlin Import Agent.
- 390 • Anchor function of Proximity Check Protocol over UDP [PROX] to measure the
- 391 proximity when the Marlin Import Agent creates Marlin License bound to a
- 392 Personality Node (device) other than the Personality Node residing with the
- 393 Marlin Import Agent.
- 394 • Client side function of Registration Service protocol [MBB] to join the domain
- 395 when the Marlin Import Agent creates Marlin License targeted and bound to a
- 396 User Node (user domain), or creates Marlin License targeted to a User Node
- 397 (user domain).
- 398 • Generation at least one of the Marlin-compliant content formats: BBTS ([BBTS]),
- 399 MIPMP ([MFFS] §2.3), and (P)DCF ([OMArlin] §4) from the contents from DTCP.
- 400 When the content format is BBTS, AES encryption algorithm SHALL be used.

401 **3.2.2.1 Mapping for EPN-asserted and Copy-free**

402 This section defines the importing of DTCP content where the DTCP usage rule is EPN-
403 asserted and Copy-free.
404 The Marlin Import Agent SHALL generate either of a Marlin License described in
405 §3.2.2.1.1 or §3.2.2.1.2.
406

407 When the generated Marlin License is targeted and bound to a Personality Node
408 (device) as described in §3.2.2.1.1, the Marlin License is provided from the Marlin Import
409 Agent to Marlin DRM Client by License Service protocol [MBB] only if the requesting
410 Marlin DRM Client is located in the proximity[3] of the Marlin Import Agent.

411 *3.2.2.1.1*   ***Marlin License bound to Personality Node (device)***
412 The generated Marlin License SHALL be targeted and bound to a Personality Node
413 (device).
414
415 Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin
416 License. When such Action is included, Marlin Import Agent SHALL follow the
417 corresponding rule for the Action described in this section.
418
419 The following applies to DTCP contents with AST unasserted:
420 • Action Play defined in [8pus] §3 with critical OutputControl Obligations, and
421   OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
422   mapping are as following:
423   o Basic CCI. See Table 3-1 for mapping parameters.
424   o DTCP. See Table 3-2 for mapping parameters.
425   The OutputControl Permissions parameters mapping are as following::
426   o OutputEnabler as described in §4.1.1. See Table 3-3 for mapping
427   parameters.
428 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy", and with
429   ProximityRequired constraint. The Transfer Action is allowed infinitely times. The
430   expected freshness of the proximity measurement SHALL NOT exceed 40 hours
431   (144,000 seconds).
432 • Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of
433   following Target Systems:
434   o DTCP. See Table 3-6 and Table 3-7 for mapping of the Target System's
435   parameters.
436   o CPRM for DVD. See Table 3-9 for mapping of the Target System's
437   parameters.
438   o CPRM for SD Video. See Table 3-10 and Table 3-11 for mapping of the
439   Target System's parameters.
440   o VCPS. See Table 3-12 for mapping of the Target System's parameters.
441   o MG-R(SVR) for Memory Stick Pro. See Table 3-13 for mapping of the
442   Target System's parameters.
443   o MG-R(SVR) for EMPR. See Table 3-13 for mapping of the Target
444   System's parameters.
445   o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-14 and Table 3-15
446   for mapping of the Target System's parameters.
447   o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-14 and
448   Table 3-15 for mapping of the Target System's parameters.
449   Definitions of each Target Systems' parameters for Export are defined in [MEXP].
450   The Action Export is allowed infinitely times.
451
452 The following applies to DTCP contents with AST asserted:

---

[3] The threshold of allowed proximity is under the purview of the compliance regime.

453	• Action Play defined in [8pus] §3 with critical OutputControl Obligations, and
454	OutputControl Permissions ([MOC]).
455	The OutputControl Obligations parameters mapping are as following:
456	○ Basic CCI. See Table 3-1 for mapping parameters.
457	○ DTCP. See Table 3-2 for mapping parameters.
458	The OutputControl Permissions parameters mapping are as following::
459	○ OutputEnabler as described in §4.1.1. If the source DTCP permits analog
460	video outputs in SD Interlace Modes for AST asserted contents, see
461	Table 3-4 for mapping parameters. If the source DTCP does NOT permit
462	analog video outputs in SD Interlace Modes for AST asserted contents,
463	see Table 3-5 for mapping parameters.
464	• Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy", and with
465	ProximityRequired constraint. The Transfer Action is allowed infinitely times. The
466	expected freshness of the proximity measurement SHALL NOT exceed 40 hours
467	(144,000 seconds).
468	• Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of
469	following Target Systems:
470	○ DTCP. See Table 3-8 for mapping of the Target System's parameters.
471	○ AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-14 and Table 3-15
472	for mapping of the Target System's parameters.
473	○ AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-14 and
474	Table 3-15 for mapping of the Target System's parameters.
475	Definitions of each Target Systems' parameters for Export are defined in [MEXP].
476	The Action Export is allowed infinitely times.
477	

Table 3-1 Output Control parameters for Basic CCI

Param	EPN	CCI	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-asserted	Copy Control Not Asserted	Same ICT value at the import source DTCP	Output of decrypted content is allowed only for Digital Outputs[4]	Same APS value at import source DTCP

478

Table 3-2 Output Control parameters for DTCP

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted [5]	90 minutes[6]	EPN-asserted	Copy-free	Same ICT value at the import	Same APS value at import

---

[4] Use this parameter together with the OutputEnabler Permission to disable Digital Outputs without protection and to map DTCP AST.
[5] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).
[6] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

					source DTCP	source DTCP

479

Table 3-3 Output Control parameters for OutputEnabler as Permission to Analog and DTCP AST unasserted

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs	Output of decrypted content is allowed for DTCP Outputs

480

Table 3-4 Output Control parameters for OutputEnabler as Permission to Analog SD Interlace Mode and DTCP AST asserted

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs in Standard Definition, interlaced mode as defined in the compliance regime	Output of decrypted content is allowed for DTCP Outputs setting Analog Sunset Token field on DTCP to AST-asserted

481

Table 3-5 Output Control parameters for OutputEnabler as Permission to DTCP AST asserted

Param	DTCPVideoEnabler
Value	Output of decrypted content is allowed for DTCP Outputs setting Analog Sunset Token field on DTCP to AST-asserted

482

Table 3-6 Export parameters for DTCP (Revision 1.4)

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted [7]	90 minutes [8]	EPN-asserted	Copy-free	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

483

Table 3-7 Export parameters for DTCP (Revision 1.7) AST unasserted

---

[7] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).
[8] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	DOT	AST	Image Constraint Token	APS
Value	unasserted[9]	90 minutes [10]	EPN-asserted	Copy-free	DOT-unasserted	AST-unasserted	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

484

Table 3-8 Export parameters for DTCP (Revision 1.7) AST asserted

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	DOT	AST	Image Constraint Token	APS
Value	unasserted[11]	90 minutes [12]	EPN-asserted	Copy-free	DOT-unasserted	AST-asserted	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

485

Table 3-9 Export parameters for CPRM for DVD

Param	CGMS	APSTB	EPN
Value	Unlimited times	Same APS value at import source DTCP	EPN-asserted

486

Table 3-10 Export parameters for CPRM for SD Video (Revision 0.93)

Param	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Unlimited times	Unlimited times	Copy freely, EPN-asserted	Same APS value at import source DTCP

---

[9] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).

[10] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

[11] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).

[12] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

487

Table 3-11 Export parameters for CPRM for SD Video (Revision 0.96)[13]

Param	Trigger Bit	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Ignore date and time-based usage rules	Unlimited times	Unlimited times	Copy freely, EPN-asserted	Same APS value at import source DTCP

488

Table 3-12 Export parameters for VCPS

Param	APS	CGMS1	CGMS2	EPN1	EPN2
Value	Same APS value at import source DTCP	copy without restriction	copy without restriction	encrypted	encrypted

489

Table 3-13 Export parameters for MG-R(SVR) for Memory Stick Pro or MG-R(SVR) for EMPR

Param	CCI	EPN	APSTB	ICT
Value	Copy-free	EPN-asserted	Same APS value at import source DTCP	Same ICT value at the import source DTCP

490

Table 3-14 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.92)

Param	EPN	CCI	Trusted_Input	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-asserted	Copy_free	Trusted	Same ICT value at the import source DTCP	Output of decrypted content is allowed for Analog/Digital Outputs	Same APS value at import source DTCP

491

Table 3-15 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.95)

Param	EPN	CCI	Move_Not_Allowed	Trusted_Source_Mark_Screening_Required	Image_Constraint_Token	Digital_Only_Token	APS

---

[13] Other parameters defined in [MEXP] and unspecified in the table are not applicable.

Value	EPN-asserted	Copy_free	Move is allowed	Trusted Source Mark Screening is not required	Same ICT value at the import source DTCP	Output of decrypted content is allowed for Analog/Digital Outputs	Same APS value at import source DTCP

492

3.2.2.1.2 Marlin License bound to User Node (user domain)

494 The generated Marlin License SHALL be targeted and bound to a User Node
495 representing a user domain[14] which is managed by a Registration Service located in the
496 Internet or by a local entity in the home.
497
498 Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin
499 License. When such Action is included, Marlin Import Agent SHALL follow the
500 corresponding rule for the Action described in this section.
501
502 The following applies to DTCP contents with AST unasserted:
503 • Action Play defined in [8pus] §3 with critical Output Control Obligations, and
504 OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
505 mapping are as following:
506 o Basic CCI. See Table 3-1 for mapping parameters.
507 o DTCP. See Table 3-2 for mapping parameters.
508 The OutputControl Permissions parameters mapping are as following::
509 o OutputEnabler as described in §4.1.1. See Table 3-3 for mapping
510 parameters.
511 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy", and with
512 ProximityRequired constraint. The Transfer Action is allowed infinitely times. The
513 expected freshness of the proximity measurement SHALL NOT exceed 40 hours
514 (144,000 seconds).
515 • Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of the
516 following Target Systems:
517 o DTCP. See Table 3-6 and Table 3-7 for mapping of the Target System's
518 parameters.
519 o CPRM for DVD. See Table 3-9 for mapping of the Target System's
520 parameters.
521 o CPRM for SD Video. See Table 3-10 and Table 3-11 for mapping of the
522 Target System's parameters.
523 o VCPS. See Table 3-12 for mapping of the Target System's parameters.
524 o MG-R(SVR) for Memory Stick Pro. See Table 3-13 for mapping of the
525 Target System's parameters.
526 o MG-R(SVR) for EMPR. See Table 3-13 for mapping of the Target
527 System's parameters.
528 o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-14 and Table 3-15
529 for mapping of the Target System's parameters.

---

14 The domain policy for the domain such as the maximum number of devices in the domain is
under the purview of the compliance regime.

530   o   AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-14 and
531   Table 3-15 for mapping of the Target System's parameters.
532   Definitions of each Target Systems' parameters for Export are defined in [MEXP].
533   The Export Action is allowed infinitely times.
534
535 The following applies to DTCP contents with AST asserted:
536   •   Action Play defined in [8pus] §3 with critical Output Control Obligations, and
537   OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
538   mapping are as following:
539   o   Basic CCI. See Table 3-1 for mapping parameters.
540   o   DTCP. See Table 3-2 for mapping parameters.
541   The OutputControl Permissions parameters mapping are as following::
542   o   OutputEnabler as described in §4.1.1. If the source DTCP permits analog
543   video outputs in SD Interlace Modes for AST asserted contents, see
544   Table 3-4 for mapping parameters. If the source DTCP does NOT permit
545   analog video outputs in SD Interlace Modes for AST asserted contents,
546   see Table 3-5 for mapping parameters.
547   •   Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy", and with
548   ProximityRequired constraint. The Transfer Action is allowed infinitely times. The
549   expected freshness of the proximity measurement SHALL NOT exceed 40 hours
550   (144,000 seconds).
551   •   Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of the
552   following Target Systems:
553   o   DTCP. See Table 3-8 for mapping of the Target System's parameters.
554   o   AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-14 and Table 3-15
555   for mapping of the Target System's parameters.
556   o   AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-14 and
557   Table 3-15 for mapping of the Target System's parameters.
558   Definitions of each Target Systems' parameters for Export are defined in [MEXP].
559   The Export Action is allowed infinitely times.
560

561   3.2.2.2 Mapping for Copy-one-generation or No-more-copies

562 The section defines the importing of DTCP content where the DTCP usage rule is Copy-
563 one-generation or No-more-copies.
564 The Marlin Import Agent SHALL generate either of a Marlin License described in
565 §3.2.2.2.1 or §3.2.2.2.2.
566
567 When the generated Marlin License is only targeted to a Personality Node (device) as
568 described in §3.2.2.2.1, the generated Marlin License is provided from the Marlin Import
569 Agent to the requesting Marlin DRM Client by License Service protocol [MBB] only if the
570 requesting Marlin DRM Client is located in the proximity[15] of the Marlin Import Agent.
571 However if Marlin Import Agent and Marlin DRM Client belong to the same domain[16]
572 represented by User Node which is managed by a Registration Service located in the
573 Internet or by a local entity in the home as described in §3.2.2.2.2, the Marlin Import
574 Agent MAY provide the Marlin License without checking proximity.

---

[15] The threshold of allowed proximity is under the purview of the compliance regime.
[16] The domain policy for the domain such as the maximum number of devices in the domain is under the purview of the compliance regime.

575 Once the Marlin License importing from Copy-one-generation has been issued to a
576 requesting Marlin DRM Client, the corresponding content SHALL be invalidated in the
577 Marlin Import Device and SHALL NOT be issued any more.

578 ### *3.2.2.2.1 Marlin License bound to Personality Node (device)*
579 The generated Marlin License SHALL be targeted and bound to a Personality Node
580 (device).
581
582 In addition, Marlin Import Agent MAY include following usage rules (Actions) when
583 generating Marlin License. When such Action is included, Marlin Import Agent SHALL
584 follow the rule for the Action described in this section.
585
586 The following applies to DTCP contents with AST unasserted:
587 - Action Play defined in [8pus] §3 with critical Output Control Obligations, and
588   OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
589   mapping are as following:
590   - Basic CCI. See Table 3-16 for mapping parameters.
591   - DTCP. See Table 3-17 for mapping parameters.
592   The OutputControl Permissions parameters mapping are as following::
593   - OutputEnabler as described in §4.1.1. See Table 3-18 for mapping
594   parameters.
595 - Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move", and with
596   ProximityRequired constraint. The Transfer Action is allowed only once. The
597   expected freshness of the proximity measurement SHALL NOT exceed 40 hours
598   (144,000 seconds).
599 - Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
600   following Target Systems:
601   - DTCP. See Table 3-21 and Table 3-22 for mapping of the Target
602   System's parameters.
603   - CPRM for DVD. See Table 3-24 for mapping of the Target System's
604   parameters.
605   - CPRM for SD Video. See Table 3-25 and Table 3-26 for mapping of the
606   Target System's parameters.
607   - VCPS. See Table 3-27 for mapping of the Target System's parameters.
608   - MG-R(SVR) for Memory Stick Pro. See Table 3-28 for mapping of the
609   Target System's parameters.
610   - MG-R(SVR) for EMPR. See Table 3-28 for mapping of the Target
611   System's parameters.
612   - AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-29 and Table 3-30
613   for mapping of the Target System's parameters.
614   - AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-29 and
615   Table 3-30 for mapping of the Target System's parameters.
616   Definitions of each Target Systems' parameters for Export are defined in [MEXP].
617   The Action Export is allowed only once as a usage rule in Marlin License, and
618   this for one of the supported Target Systems enumerated above.
619
620 The following applies to DTCP contents with AST asserted:
621 - Action Play defined in [8pus] §3 with critical Output Control Obligations, and
622   OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
623   mapping are as following:

624	o Basic CCI. See Table 3-16 for mapping parameters.
625	o DTCP. See Table 3-17 for mapping parameters.
626	The OutputControl Permissions parameters mapping are as following::
627	o OutputEnabler as described in §4.1.1. If the source DTCP permits analog
628	video outputs in SD Interlace Modes for AST asserted contents, see
629	Table 3-19 for mapping parameters. If the source DTCP does NOT permit
630	analog video outputs in SD Interlace Modes for AST asserted contents,
631	see Table 3-20 for mapping parameters.

- 632 Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move", and with
- 633 ProximityRequired constraint. The Transfer Action is allowed only once. The
- 634 expected freshness of the proximity measurement SHALL NOT exceed 40 hours
- 635 (144,000 seconds).
- 636 Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
- 637 following Target Systems:
- 638   o DTCP. See Table 3-23 for mapping of the Target System's parameters.
- 639   o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-29 and Table 3-30
- 640   for mapping of the Target System's parameters.
- 641   o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-29 and
- 642   Table 3-30 for mapping of the Target System's parameters.

643 Definitions of each Target Systems' parameters for Export are defined in [MEXP].
644 The Action Export is allowed only once as a usage rule in Marlin License, and
645 this for one of the supported Target Systems enumerated above.

646

Table 3-16 Output Control parameters for Basic CCI

Param	EPN	CCI	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unasserted	No More Copy	Same ICT value at the import source DTCP	Output of decrypted content is allowed only for Digital Outputs[17]	Same APS value at import source DTCP

647

Table 3-17 Output Control parameters for DTCP

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted [18]	90 minutes[19]	EPN-unasserted	No-more-copies	Same ICT value at the import source DTCP	Same APS value at import source DTCP

---

[17] Use this parameter together with the OutputEnabler Permission to disable Digital Outputs without protection and to map DTCP AST.

[18] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).

[19] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

648

Table 3-18 Output Control parameters for OutputEnabler as Permission to Analog and DTCP AST unasserted

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs	Output of decrypted content is allowed for DTCP Outputs

649

Table 3-19 Output Control parameters for OutputEnabler as Permission to Analog SD Interlace Mode and DTCP AST asserted

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs in Standard Definition, interlaced mode as defined in the compliance regime	Output of decrypted content is allowed for DTCP Outputs setting Analog Sunset Token field on DTCP to AST-asserted

650

Table 3-20 Output Control parameters for OutputEnabler as Permission to DTCP AST asserted

Param	DTCPVideoEnabler
Value	Output of decrypted content is allowed for DTCP Outputs setting Analog Sunset Token field on DTCP to AST-asserted

651

Table 3-21 Export parameters for DTCP (Revision 1.4)

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	asserted	90 minutes[20]	EPN-unasserted	Copy-one-generation	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

652

Table 3-22 Export parameters for DTCP (Revision 1.7) AST unasserted

Param	Retention_Move_mo ve_mo	Retention_State	EPN	DTCP_CCI	DOT	AST	Image Constraint Token	APS

---

[20] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	DOT	AST	Image Constraint Token	APS
	de							
Value	asserted	90 minutes [21]	EPN-unasserted	Copy-one-generation	DOT-unasserted	AST-unasserted	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

653

Table 3-23 Export parameters for DTCP (Revision 1.7) AST asserted

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	DOT	AST	Image Constraint Token	APS
Value	asserted[22]	90 minutes [23]	EPN-unasserted	Copy-one-generation	DOT-unasserted	AST-asserted	Same ImageConstraintToken value at the import source DTCP	Same APS value at import source DTCP

654

Table 3-24 Export parameters for CPRM for DVD

Param	CGMS	APSTB	EPN
Value	Never permitted	Same APS value at import source DTCP	EPN-unasserted

655

Table 3-25 Export parameters for CPRM for SD Video (Revision 0.93)

Param	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Unlimited times	Unlimited times	No more copies, EPN-unasserted	Same APS value at import source DTCP

656

Table 3-26 Export parameters for CPRM for SD Video (Revision 0.96)[24]

---

[21] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

[22] With file formats other than MPEG2-TS, there is no Retention_Move_mode specified at import source DTCP. So the value must be explicitly specified (not inherit from the input).

[23] With file formats other than MPEG2-TS, there is no Retention_State specified at Import source DTCP. So the value must be explicitly specified (not inherit from the input).

Param	Trigger Bit	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Ignore date and time-based usage rules	Unlimited times	Unlimited times	No more copies, EPN-unasserted	Same APS value at import source DTCP

657

Table 3-27 Export parameters for VCPS

Param	APS	CGMS1	CGMS2	EPN1	EPN2
Value	Same APS value at import source DTCP	The recording may not be copied	The recording may not be copied	Not encrypted	Not encrypted

658

Table 3-28 Export parameters for MG-R(SVR) for Memory Stick Pro or MG-R(SVR) for EMPR

Param	CCI	EPN	APSTB	ICT
Value	No-more-copy	EPN-unasserted	Same APS value at import source DTCP	Same ICT value at the import source DTCP

659

Table 3-29 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.92)

Param	EPN	CCI	Trusted_Input	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unasserted	No-more-copy	Trusted	Same ICT value at the import source DTCP	Output of decrypted content is allowed for Analog/Digital Outputs	Same APS value at import source DTCP

660

Table 3-30 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.95)

Param	EPN	CCI	Move_Not_Allowed	Trusted_Source_Mark_Screening_Required	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unassert	No-more-copy	Move is allowed	Trusted Source	Same ICT	Output of decrypted	Same APS

---

[24] Other parameters defined in [MEXP] and unspecified in the table are not applicable.

	ed			Mark Screening is not required	value at the import source DTCP	content is allowed for Analog/Digital Outputs	value at import source DTCP

661

3.2.2.2.2 *Marlin License bound to Personality Node belonging to User Domain*

The generated Marlin License SHALL be targeted to a Personality Node (device) and a User Node representing user domain[25] , and bound to the Personality Node. The user domain is managed by a Registration Service located in the Internet or by a local entity in the home.

Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin License. When such Action is included, Marlin Import Agent SHALL follow the corresponding rule for the Action described in this section.

The following applies to DTCP contents with AST unasserted:
- Action Play defined in [8pus] §3 with critical Output Control Obligations, and OutputControl Permissions ([MOC]). The OutputControl Obligation parameters mapping are as following:
  - Basic CCI. See Table 3-16 for mapping parameters.
  - DTCP. See Table 3-17 for mapping parameters.
  The OutputControl Permissions parameters mapping are as following::
  - OutputEnabler as described in §4.1.1. See Table 3-18 for mapping parameters.
- Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move", and with ProximityRequired constraint. The Transfer Action is allowed only once. The expected freshness of the proximity measurement SHALL NOT exceed 40 hours (144,000 seconds).
- Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of following Target Systems:
  - DTCP. See Table 3-21 and Table 3-22 for mapping of the Target System's parameters.
  - CPRM for DVD. See Table 3-24 for mapping of the Target System's parameters.
  - CPRM for SD Video. See Table 3-25 and Table 3-26 for mapping of the Target System's parameters.
  - VCPS. See Table 3-27 for mapping of the Target System's parameters.
  - MG-R(SVR) for Memory Stick Pro. See Table 3-28 for mapping of the Target System's parameters.
  - MG-R(SVR) for EMPR. See Table 3-28 for mapping of the Target System's parameters.
  - AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-29 and Table 3-30 for mapping of the Target System's parameters.

---

[25] The domain policy for the domain such as the maximum number of devices in the domain is under the purview of the compliance regime.

700   o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-29 and
701   Table 3-30 for mapping of the Target System's parameters.
702   Definitions of each Target Systems' parameters for Export Actions are defined in
703   [MEXP]. The Action Export is allowed only once as a usage rule in Marlin License,
704   and this for one of the supported Target Systems enumerated above.
705
706 The following applies to DTCP contents with AST asserted:
707 • Action Play defined in [8pus] §3 with critical Output Control Obligations, and
708   OutputControl Permissions ([MOC]). The OutputControl Obligation parameters
709   mapping are as following:
710   o Basic CCI. See Table 3-16 for mapping parameters.
711   o DTCP. See Table 3-17 for mapping parameters.
712   The OutputControl Permissions parameters mapping are as following::
713   o OutputEnabler as described in §4.1.1. If the source DTCP permits analog
714   video outputs in SD Interlace Modes for AST asserted contents, see
715   Table 3-19 for mapping parameters. If the source DTCP does NOT permit
716   analog video outputs in SD Interlace Modes for AST asserted contents,
717   see Table 3-20 for mapping parameters.
718 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move", and with
719   ProximityRequired constraint. The Transfer Action is allowed only once. The
720   expected freshness of the proximity measurement SHALL NOT exceed 40 hours
721   (144,000 seconds).
722 • Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
723   following Target Systems:
724   o DTCP. See Table 3-23 for mapping of the Target System's parameters.
725   o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-29 and Table 3-30
726   for mapping of the Target System's parameters.
727   o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-29 and
728   Table 3-30 for mapping of the Target System's parameters.
729   Definitions of each Target Systems' parameters for Export are defined in [MEXP].
730   The Action Export is allowed only once as a usage rule in Marlin License, and
731   this for one of the supported Target Systems enumerated above.
732

3.2.3 Requirements for Gateway Device

734 The Marlin Gateway device supporting DTCP SHALL transfer DTCP protected content
735 as defined in [DTCP] to a Marlin Import Device using the Gateway Service protocol.
736 The Marlin Gateway device supporting DTCP SHALL extract the DTCP usage rules and
737 put them into the usage information structure of the Gateway Service protocol as
738 described in §5 and below.
739
740 The value of the tag identifier to be used for gs:UsageInfoItem@tag in Gateway Service
741 protocol for DTCP protected content SHALL be "dtcp". The DTCP usage rules SHALL be
742 represented with gs:UsageInfoItem as an Integer value (32 bits) containing the following
743 information (0 is least significant bit/byte):
744

Byte \ Bit	7	6	5	4	3	2	1	0
0	DTCP_CCI	EPN	DTCP-RS				DTCP-RM	Reserved

1	APS	ICT	DOT	AST	Reserved

745

746 Reserved: These bits are reserved for future definition and are currently defined to have
747 a value of one.

3.3 Import of ARIB Content

This section specifies how ARIB contents are imported onto Marlin Licenses and contents.

3.3.1 Marlin Usage Rules Correspond to ARIB Output/Copy Control Rules

The Marlin usage rules correspond to the ARIB output/copy control rules are defined in Vol.8 of [ARIBTRB14] and [ARIBTRB15].

3.3.2 ARIB Import to Marlin

The following table shows the usage rule mapping for contents imported from ARIB.

Table 3-31 Usage Rule Mapping

	Marlin Usage Rule Approved in [ARIBTRB14] or [ARIBTRB15]	Rule Mapping to Marlin License
Case1	[ARIBTRB14] Vol.8 Part 1: Copy-free with EPN asserted; [ARIBTRB15] Part 1&2 Vol8: Copy-free with EPN asserted	See §3.3.2.1
Case2	[ARIBTRB14] Vol.8 Part 1: Copy-one-generation[26]; [ARIBTRB15] Part 1&2 Vol8: Copy-one-generation[26]	See §3.3.2.2
Case3	[ARIBTRB14] Vol.8 Part 2: Copy-free with EPN asserted	See §3.3.2.3
Case4	[ARIBTRB14] Vol.8 Part 2: Copy-one-generation[26]	See §3.3.2.4

If an ARIB content stream contains multiple parts with different output/copy control rules, Marlin Import Device MAY create one Marlin License for that content. In such a case the most strict output/copy control rules in the stream SHALL apply. (e.g. If an content stream contains 2 parts, part A is "Copy-free with EPN asserted" and part B is "Copy-one-generation", Marlin Import Device MAY generate one Marlin License for both parts by using the output/copy control rule mapping for "Copy-one-generation".)

This specification does not support importing ARIB contents to Marlin for other combinations. Figure 4 below depicts Node Link topologies for Marlin License created for ARIB import for Case1 to Case4.

---

[26] This corresponds to two cases. The one is the case where content is passed to Marlin without being recorded. The other is the case where content is moved to Marlin after being recorded as No more copies.

Case 1,2,3,4 — COG / EPN Asserted

Case 1,3 — EPN Asserted

Case 2,4 — COG
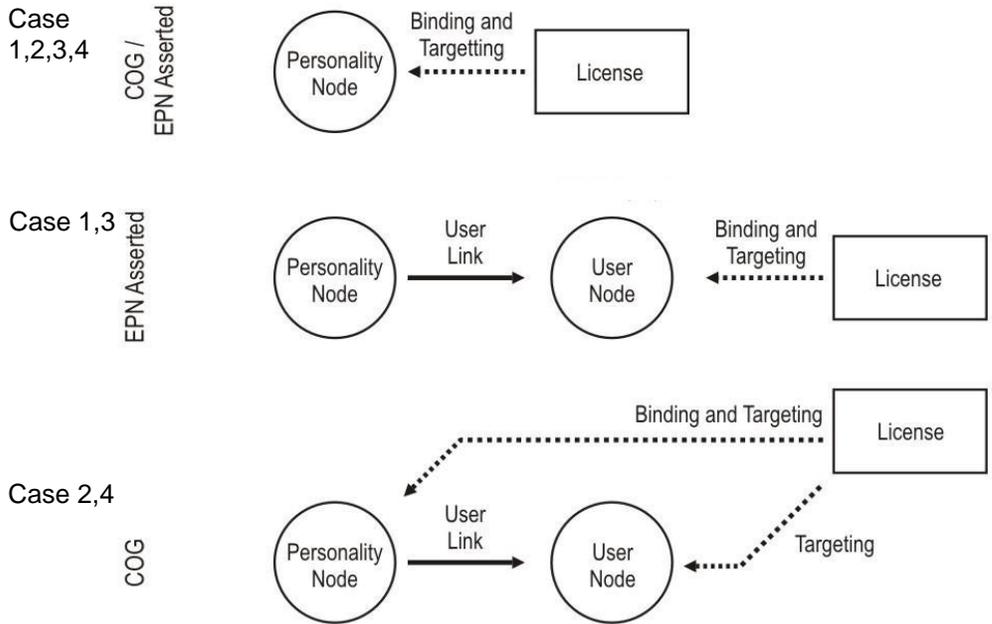
770

Figure 4: Example Node Link topologies for Marlin License created from ARIB output/copy control rules

771

772 Marlin Import Device SHALL support:

773 • Service side function of License Service protocol [MBB] when the Marlin Import
774   Agent creates Marlin License bound to a Personality Node (device) other than
775   the Personality Node residing with the Marlin Import Agent.

776 • Provisioning of Action Token and Configuration Token for License Service
777   protocol [MBB] when the Marlin Import Agent creates Marlin License bound to a
778   Personality Node (device) other than the Personality Node residing with the
779   Marlin Import Agent.

780 • Client side function of Registration Service protocol [MBB] to join the domain
781   when the Marlin Import Agent creates Marlin License targeted and bound to a
782   User Node (user domain) §3.3.2.1.2 or §3.3.2.3.2, or creates Marlin License
783   targeted to a User Node (user domain) §3.3.2.2.2 or §3.3.2.4.2.

784 • Generation at least one of the Marlin-compliant content formats: BBTS ([BBTS]),
785   MIPMP ([MFFS] §2.3), and (P)DCF ([OMArlin] §4) from the contents from ARIB.
786   When the content format is BBTS, AES encryption algorithm SHALL be used.

787 **3.3.2.1 Mapping for Case1 of Table 3-31**

788 The Marlin Import Agent SHALL generate either of a Marlin License described in
789 §3.3.2.1.1 or §3.3.2.1.2. After that, update the Marlin License with the following Output
790 Control parameters to disable Digital Outputs without protection:

791 • Change the Digital_Only_Token value for BasicCCI in Output Control Obligations
792   to "Output of decrypted content is allowed only for Digital Outputs".

793 • Include Output Control Permissions with technology ID "OutputEnabler" as
794   described in §4.1.1, with the following paramaters:

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted	Output of decrypted

	content is allowed for Analog Outputs	content is allowed for DTCP Outputs

795

3.3.2.1.1 Marlin License bound to Personality Node (device)

The generated Marlin License SHALL be targeted and bound to a Personality Node (device).

Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin License. When such Action is included, Marlin Import Agent SHALL follow the corresponding rule for the Action described in this section:

- Action Play defined in [8pus] §3 with critical OutputControl Obligations ([MOC]). The output control parameters mapping are as following:
    - o Basic CCI. See Table 3-32 for mapping parameters.
    - o DTCP. See Table 3-33 for mapping parameters.
- Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy". The Transfer Action is allowed infinitely times.
- Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of following Target Systems:
    - o DTCP. See Table 3-34 for mapping of the Target System's parameters.
    - o CPRM for DVD. See Table 3-35 for mapping of the Target System's parameters.
    - o CPRM for SD Video. See Table 3-36 and Table 3-37 for mapping of the Target System's parameters.
    - o VCPS. See Table 3-38 for mapping of the Target System's parameters.
    - o MG-R(SVR) for Memory Stick Pro. See Table 3-39 for mapping of the Target System's parameters.
    - o MG-R(SVR) for EMPR. See Table 3-39 for mapping of the Target System's parameters.
    - o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-40 and Table 3-41 for mapping of the Target System's parameters.
    - o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-40 and Table 3-41 for mapping of the Target System's parameters.

  Definitions of each Target Systems' parameters for Export are defined in [MEXP]. The Action Export is allowed infinitely times.

An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export for the following Target Systems:
- o CPRM for DVD
- o CPRM for SD Video
- o MG-R(SVR) for Memory Stick Pro
- o MG-R(SVR) for EMPR

Table 3-32 Output Control parameters for Basic CCI

Param	EPN	CCI	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-asserted	Copy Control Not Asserted	High Definition	Output of decrypted	APS off

			Analog Output in High Definition Analog Form	content is allowed for Analog/Digital Outputs[27]	

836

Table 3-33 Output Control parameters for DTCP

Param	Retention_ Move_mode	Retention_ State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted	90 minutes	EPN-asserted	Copy-free	High Definition Analog Output in High Definition Analog Form	APS off

837

Table 3-34 Export parameters for DTCP (Revision 1.4)

Param	Retention_ Move_mode	Retention_ State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted	90 minutes	EPN-asserted	Copy-free	High Definition Analog Output in High Definition Analog Form	APS off

838

Table 3-35 Export parameters for CPRM for DVD

Param	CGMS	APSTB	EPN
Value	Unlimited times	APS off	EPN-asserted

839

Table 3-36 Export parameters for CPRM for SD Video (Revision 0.93)

Param	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Unlimited times	Unlimited times	Copy freely, EPN-asserted	APS off

840

---

[27] This parameter value will be updated during license generation as described in §3.3.2.1 to disable Digital Outputs without protection.

Table 3-37 Export parameters for CPRM for SD Video (Revision 0.96)[28]

Param	Trigger Bit	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Ignore date and time-based usage rules	Unlimited times	Unlimited times	Copy freely, EPN-asserted	APS off

841

Table 3-38 Export parameters for VCPS

Param	APS	CGMS1	CGMS2	EPN1	EPN2
Value	APS off	copy without restriction	copy without restriction	encrypted	Encrypted

842

Table 3-39 Export parameters for MG-R(SVR) for Memory Stick Pro or MG-R(SVR) for EMPR

Param	CCI	EPN	APSTB	ICT
Value	Copy-free	EPN-asserted	APS off	High Definition Analog Output in High Definition Analog Form

843

Table 3-40 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.92)

Param	EPN	CCI	Trusted_Input	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-asserted	Copy_free	Trusted	High Definition Analog Output in High Definition Analog Form	Output of decrypted content is allowed for Analog/Digital Outputs	APS off

844

Table 3-41 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.95)

Param	EPN	CCI	Move_Not_Allowed	Trusted_Source_Mark_Screening_Required	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-	Copy_free	Move is	Trusted	High	Output of	APS off

---

[28] Other parameters defined in [MEXP] and unspecified in the table are not applicable.

| | asserted | | allowed | Source Mark Screening is not required | Definition Analog Output in High Definition Analog Form | decrypted content is allowed for Analog/Di gital Outputs | |

845

3.3.2.1.2 Marlin License bound to User Node (user domain)

The generated Marlin License SHALL be targeted and bound to a User Node representing a user domain[29] which is managed by a Registration Service located in the Internet or by a local entity in the home.

Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin License. When such Action is included, Marlin Import Agent SHALL follow the corresponding rule for the Action described in this section:

- Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]). The output control parameters mapping are as following:
  - o Basic CCI. See Table 3-32 for mapping parameters.
  - o DTCP. See Table 3-33 for mapping parameters.
- Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy". The Transfer Action is allowed infinitely times.
- Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of the following Target Systems:
  - o DTCP. See Table 3-34 for mapping of the Target System's parameters.
  - o CPRM for DVD. See Table 3-35 for mapping of the Target System's parameters.
  - o CPRM for SD Video. See Table 3-36 and Table 3-37 for mapping of the Target System's parameters.
  - o VCPS. See Table 3-38 for mapping of the Target System's parameters.
  - o MG-R(SVR) for Memory Stick Pro. See Table 3-39 for mapping of the Target System's parameters.
  - o MG-R(SVR) for EMPR. See Table 3-39 for mapping of the Target System's parameters.
  - o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-40 and Table 3-41 for mapping of the Target System's parameters.
  - o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-40 and Table 3-41 for mapping of the Target System's parameters.

  Definitions of each Target Systems' parameters for Export are defined in [MEXP]. The Export Action is allowed infinitely times.

An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export for the following Target Systems:
- o CPRM for DVD
- o CPRM for SD Video

---

[29] The domain policy for the domain such as the maximum number of devices in the domain is under the purview of the compliance regime.

884   o   MG-R(SVR) for Memory Stick Pro
885   o   MG-R(SVR) for EMPR
886

887 3.3.2.2 Mapping for Case2 of Table 3-31

888 The Marlin Import Agent SHALL generate either of a Marlin License described in
889 §3.3.2.2.1 or §3.3.2.2.2. After that, update the Marlin License with the following Output
890 Control parameters to disable Digital Outputs without protection:

891 • Change the Digital_Only_Token value for BasicCCI in Output Control Obligations
892 to "Output of decrypted content is allowed only for Digital Outputs".
893 • Include Output Control Permissions with technology ID "OutputEnabler" as
894 described in §4.1.1, with the following paramaters:

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs	Output of decrypted content is allowed for DTCP Outputs

895
896 Once the Marlin License importing from Copy-one-generation has been issued to a
897 requesting Marlin DRM Client, the corresponding content SHALL be invalidated in the
898 Marlin Import Device and SHALL NOT be issued any more.
899 The copy_restriction_mode in the Content Availability Descriptor, as defined in
900 [ARIBTRB14] and [ARIBTRB15], indicates whether or not the receiver unit can allow
901 multiple copies for the content. The count of copies is managed by the receiver unit and
902 is out of the scope of this specification.

903 *3.3.2.2.1   Marlin License bound to Personality Node (device)*

904 The generated Marlin License SHALL be targeted and bound to a Personality Node
905 (device).
906
907 In addition, Marlin Import Agent MAY include following usage rules (Actions) when
908 generating Marlin License. When such Action is included, Marlin Import Agent SHALL
909 follow the rule for the Action described in this section:

910 • Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]).
911 The output control parameters mapping are as following:
912   o   Basic CCI. See Table 3-42 for mapping parameters.
913   o   DTCP. See Table 3-43 for mapping parameters.
914 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move". The Transfer
915 Action is allowed only once.
916 • Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
917 following Target Systems:
918   o   DTCP. See Table 3-44 for mapping of the Target System's parameters.
919   o   CPRM for DVD. See Table 3-45 for mapping of the Target System's
920   parameters.
921   o   CPRM for SD Video. See Table 3-46 and Table 3-47 for mapping of the
922   Target System's parameters.
923   o   VCPS. See Table 3-48 for mapping of the Target System's parameters.
924   o   MG-R(SVR) for Memory Stick Pro. See Table 3-49 for mapping of the
925   Target System's parameters.
926   o   MG-R(SVR) for EMPR. See Table 3-49 for mapping of the Target
927   System's parameters.

928	o	AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-50 and Table 3-51
929		for mapping of the Target System's parameters.
930	o	AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-50 and
931		Table 3-51 for mapping of the Target System's parameters.
932		Definitions of each Target Systems' parameters for Export are defined in [MEXP].
933		The Action Export is allowed only once as a usage rule in Marlin License, and
934		this for one of the supported Target Systems enumerated above.
935		

936 An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be
937 included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export
938 for the following Target Systems:

939   o   CPRM for DVD
940   o   CPRM for SD Video
941   o   MG-R(SVR) for Memory Stick Pro
942   o   MG-R(SVR) for EMPR

943

Table 3-42 Output Control parameters for Basic CCI

Param	EPN	CCI	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unasserted	No More Copy	High Definition Analog Output in High Definition Analog Form	Output of decrypted content is allowed for Analog/Digital Outputs[30]	Same APS value at import source APS_control_data

944

Table 3-43 Output Control parameters for DTCP

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS
Value	unasserted	90 minutes	EPN-unasserted	No-more-copies	High Definition Analog Output in High Definition Analog Form	Same APS value at import source APS_control_data

945

Table 3-44 Export parameters for DTCP (Revision 1.4)

Param	Retention_Move_mode	Retention_State	EPN	DTCP_CCI	Image Constraint Token	APS

---

[30] This parameter value will be updated during license generation as described in §3.3.2.2 to disable Digital Outputs without protection.

Value	asserted	90 minutes	EPN-unasserted	Copy-one-generation	High Definition Analog Output in High Definition Analog Form	Same APS value at import source APS_control_data

946

Table 3-45 Export parameters for CPRM for DVD

Param	CGMS	APSTB	EPN
Value	Never permitted	Same APS value at import source APS_control_data	EPN-unasserted

947

Table 3-46 Export parameters for CPRM for SD Video (Revision 0.93)

Param	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Unlimited times	Unlimited times	No more copies, EPN-unasserted	Same APS value at import source APS_control_data

948

Table 3-47 Export parameters for CPRM for SD Video (Revision 0.96)[31]

Param	Trigger Bit	Initial Move Control Information	Current Move Control Information	Copy Count Control Information	APSTB
Value	Ignore date and time-based usage rules	Unlimited times	Unlimited times	No more copies, EPN-unasserted	Same APS value at import source APS_control_data

949

Table 3-48 Export parameters for VCPS

Param	APS	CGMS1	CGMS2	EPN1	EPN2
Value	Same APS value at import source APS_control_data	The recording may not be copied	The recording may not be copied	Not encrypted	Not encrypted

---

[31] Other parameters defined in [MEXP] and unspecified in the table are not applicable.

950

Table 3-49 Export parameters for MG-R(SVR) for Memory Stick Pro or MG-R(SVR) for EMPR

Param	CCI	EPN	APSTB	ICT
Value	No-more-copy	EPN-unasserted	Same APS value at import source APS_control_data	High Definition Analog Output in High Definition Analog Form

951

Table 3-50 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.92)

Param	EPN	CCI	Trusted_Input	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unasserted	No-more-copy	Trusted	High Definition Analog Output in High Definition Analog Form	Output of decrypted content is allowed for Analog/Digital Outputs	Same APS value at import source APS_control_data

952

Table 3-51 Export parameters for AACS Blu-ray Disc Recordable BD-R/RE or AACS Blu-ray Disc Recordable for Red Laser Media (Revision 0.95)

Param	EPN	CCI	Move_Not_Allowed	Trusted_Source_Mark_Screening_Required	Image_Constraint_Token	Digital_Only_Token	APS
Value	EPN-unasserted	No-more-copy	Move is allowed	Trusted Source Mark Screening is not required	High Definition Analog Output in High Definition Analog Form	Output of decrypted content is allowed for Analog/Digital Outputs	Same APS value at import source APS_control_data

953

3.3.2.2.2 Marlin License bound to Personality Node belonging to User Domain

The generated Marlin License SHALL be targeted to a Personality Node (device) and a User Node representing user domain[32] , and bound to the Personality Node. The user

---

[32] The domain policy for the domain such as the maximum number of devices in the domain is under the purview of the compliance regime.

957 domain is managed by a Registration Service located in the Internet or by a local entity
958 in the home.
959
960 Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin
961 License. When such Action is included, Marlin Import Agent SHALL follow the
962 corresponding rule for the Action described in this section:
963 • Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]).
964 The output control parameters mapping are as following:
965 o Basic CCI. See Table 3-42 for mapping parameters.
966 o DTCP. See Table 3-43 for mapping parameters.
967 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move". The Transfer
968 Action is allowed only once.
969 • Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
970 following Target Systems:
971 o DTCP. See Table 3-44 for mapping of the Target System's parameters.
972 o CPRM for DVD. See Table 3-45 for mapping of the Target System's
973 parameters.
974 o CPRM for SD Video. See Table 3-46 and Table 3-47 for mapping of the
975 Target System's parameters.
976 o VCPS. See Table 3-48 for mapping of the Target System's parameters.
977 o MG-R(SVR) for Memory Stick Pro. See Table 3-49 for mapping of the
978 Target System's parameters.
979 o MG-R(SVR) for EMPR. See Table 3-49 for mapping of the Target
980 System's parameters.
981 o AACS Blu-ray Disc Recordable BD-R/RE. See Table 3-50 and Table 3-51
982 for mapping of the Target System's parameters.
983 o AACS Blu-ray Disc Recordable for Red Laser Media. See Table 3-50 and
984 Table 3-51 for mapping of the Target System's parameters.
985 Definitions of each Target Systems' parameters for Export Actions are defined in
986 [MEXP]. The Action Export is allowed only once as a usage rule in Marlin License,
987 and this for one of the supported Target Systems enumerated above.
988
989 An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be
990 included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export
991 for the following Target Systems:
992 o CPRM for DVD
993 o CPRM for SD Video
994 o MG-R(SVR) for Memory Stick Pro
995 o MG-R(SVR) for EMPR
996

997 **3.3.2.3 Mapping for Case3 of Table 3-31**

998 The Marlin Import Agent SHALL generate either of a Marlin License described in
999 §3.3.2.3.1 or §3.3.2.3.2,. After that, update the Marlin License with the following Output
1000 Control parameters to disable Digital Outputs without protection:
1001 • Change the Digital_Only_Token value for BasicCCI in Output Control Obligations
1002 to "Output of decrypted content is allowed only for Digital Outputs".
1003 • Include Output Control Permissions with technology ID "OutputEnabler" as
1004 described in §4.1.1, with the following paramaters:

Param	AnalogVideoEnabler	DTCPVideoEnabler

Value	Output of decrypted content is allowed for Analog Outputs	Output of decrypted content is allowed for DTCP Outputs

1005

3.3.2.3.1 Marlin License bound to Personality Node (device)

The generated Marlin License SHALL be targeted and bound to a Personality Node (device).

Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin License. When such Action is included, Marlin Import Agent SHALL follow the corresponding rule for the Action described in this section:

- Action Play defined in [8pus] §3 with critical OutputControl Obligations ([MOC]). The output control parameters mapping are as following:
  - o Basic CCI. See Table 3-32 for mapping parameters.
  - o DTCP. See Table 3-33 for mapping parameters.
- Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy". The Transfer Action is allowed infinitely times.
- Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of following Target Systems:
  - o DTCP. See Table 3-34 for mapping of the Target System's parameters.
  - o CPRM for SD Video. See Table 3-36 and Table 3-37 for mapping of the Target System's parameters.
  - o MG-R(SVR) for Memory Stick Pro. See Table 3-39 for mapping of the Target System's parameters.
  - o MG-R(SVR) for EMPR. See Table 3-39 for mapping of the Target System's parameters.

  Definitions of each Target Systems' parameters for Export are defined in [MEXP]. The Action Export is allowed infinitely times.

An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export for the following Target Systems:
  - o CPRM for SD Video
  - o MG-R(SVR) for Memory Stick Pro
  - o MG-R(SVR) for EMPR

3.3.2.3.2 Marlin License bound to User Node (user domain)

The generated Marlin License SHALL be targeted and bound to a User Node representing a user domain[33] which is managed by a Registration Service located in the Internet or by a local entity in the home.

Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin License. When such Action is included, Marlin Import Agent SHALL follow the corresponding rule for the Action described in this section:

---

[33] The domain policy for the domain such as the maximum number of devices in the domain is under the purview of the compliance regime.

1046 • Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]).
1047 The output control parameters mapping are as following:
1048   o Basic CCI. See Table 3-32 for mapping parameters.
1049   o DTCP. See Table 3-33 for mapping parameters.
1050 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Copy". The Transfer
1051 Action is allowed infinitely times.
1052 • Action Export defined in [8pus] §3 with Export Mode ID "Copy" for any of the
1053 following Target Systems:
1054   o DTCP. See Table 3-34 for mapping of the Target System's parameters.
1055   o CPRM for SD Video. See Table 3-36 and Table 3-37 for mapping of the
1056   Target System's parameters.
1057   o MG-R(SVR) for Memory Stick Pro. See Table 3-39 for mapping of the
1058   Target System's parameters.
1059   o MG-R(SVR) for EMPR. See Table 3-39 for mapping of the Target
1060   System's parameters.
1061   Definitions of each Target Systems' parameters for Export are defined in
1062   [MEXP]. The Export Action is allowed infinitely times.
1063
1064 An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be
1065 included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export
1066 for the following Target Systems:
1067   o CPRM for SD Video
1068   o MG-R(SVR) for Memory Stick Pro
1069   o MG-R(SVR) for EMPR
1070

3.3.2.4 Mapping for Case4 of Table 3-31

1072 The Marlin Import Agent SHALL generate either of a Marlin License described in
1073 §3.3.2.4.1 or §3.3.2.4.2. After that, update the Marlin License with the following Output
1074 Control parameters to disable Digital Outputs without protection:
1075 • Change the Digital_Only_Token value for BasicCCI in Output Control Obligations
1076 to "Output of decrypted content is allowed only for Digital Outputs".
1077 • Include Output Control Permissions with technology ID "OutputEnabler" as
1078 described in §4.1.1, with the following paramaters:

Param	AnalogVideoEnabler	DTCPVideoEnabler
Value	Output of decrypted content is allowed for Analog Outputs	Output of decrypted content is allowed for DTCP Outputs

1079
1080 Once the Marlin License importing from Copy-one-generation has been issued to a
1081 requesting Marlin DRM Client, the corresponding content SHALL be invalidated in the
1082 Marlin Import Device and SHALL NOT be issued any more.
1083 The copy_restriction_mode in the Content Availability Descriptor, as defined in
1084 [ARIBTRB14] and [ARIBTRB15], indicates whether or not the receiver unit can allow
1085 multiple copies for the content. The count of copies is managed by the receiver unit and
1086 is out of the scope of this specification.
1087

3.3.2.4.1 Marlin License bound to Personality Node (device)

1089 The generated Marlin License SHALL be targeted and bound to a Personality Node
1090 (device).
1091
1092 In addition, Marlin Import Agent MAY include following usage rules (Actions) when
1093 generating Marlin License. When such Action is included, Marlin Import Agent SHALL
1094 follow the rule for the Action described in this section:
1095 • Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]).
1096 The output control parameters mapping are as following:
1097 ○ Basic CCI. See Table 3-42 for mapping parameters.
1098 ○ DTCP. See Table 3-43 for mapping parameters.
1099 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move". The Transfer
1100 Action is allowed only once.
1101 • Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
1102 following Target Systems:
1103 ○ DTCP. See Table 3-44 for mapping of the Target System's parameters.
1104 ○ CPRM for SD Video. See Table 3-46 and Table 3-47 for mapping of the
1105 Target System's parameters.
1106 ○ MG-R(SVR) for Memory Stick Pro. See Table 3-49 for mapping of the
1107 Target System's parameters.
1108 ○ MG-R(SVR) for EMPR. See Table 3-49 for mapping of the Target
1109 System's parameters.
1110 Definitions of each Target Systems' parameters for Export are defined in [MEXP].
1111 The Action Export is allowed only once as a usage rule in Marlin License, and
1112 this for one of the supported Target Systems enumerated above.
1113
1114 An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be
1115 included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export
1116 for the following Target Systems:
1117 ○ CPRM for SD Video
1118 ○ MG-R(SVR) for Memory Stick Pro
1119 ○ MG-R(SVR) for EMPR
1120

1121 ***3.3.2.4.2   Marlin License bound to Personality Node belonging to User Domain***
1122 The generated Marlin License SHALL be targeted to a Personality Node (device) and a
1123 User Node representing user domain[34] , and bound to the Personality Node. The user
1124 domain is managed by a Registration Service located in the Internet or by a local entity
1125 in the home.
1126
1127 Marlin Import Agent MAY include following usage rules (Actions) when generating Marlin
1128 License. When such Action is included, Marlin Import Agent SHALL follow the
1129 corresponding rule for the Action described in this section:
1130 • Action Play defined in [8pus] §3 with critical Output Control Obligations ([MOC]).
1131 The output control parameters mapping are as following:
1132 ○ Basic CCI. See Table 3-42 for mapping parameters.
1133 ○ DTCP. See Table 3-43 for mapping parameters.
1134 • Action Transfer defined in [8pus] §3 with Transfer Mode ID "Move". The Transfer
1135 Action is allowed only once.

---

[34] The domain policy for the domain such as the maximum number of devices in the domain is
under the purview of the compliance regime.

1136   • Action Export defined in [8pus] §3 with Export Mode ID "Move" for any of
1137   following Target Systems:
1138   o DTCP. See Table 3-34 for mapping of the Target System's parameters.
1139   o CPRM for SD Video. See Table 3-46 and Table 3-47 for mapping of the
1140   Target System's parameters.
1141   o MG-R(SVR) for Memory Stick Pro. See Table 3-49 for mapping of the
1142   Target System's parameters.
1143   o MG-R(SVR) for EMPR. See Table 3-49 for mapping of the Target
1144   System's parameters.
1145   Definitions of each Target Systems' parameters for Export Actions are defined in
1146   [MEXP]. The Action Export is allowed only once as a usage rule in Marlin License,
1147   and this for one of the supported Target Systems enumerated above.
1148
1149 An Export Control Obligation with ImageConstraintToken as defined in §4.2 SHALL be
1150 included in the ESB returned by the 'Check' and/or 'Perform' methods of Action Export
1151 for the following Target Systems:
1152   o CPRM for SD Video
1153   o MG-R(SVR) for Memory Stick Pro
1154   o MG-R(SVR) for EMPR
1155

1156   3.3.3   Requirements for Gateway Device

1157 The Marlin Gateway device supporting ARIB SHALL transfer ARIB protected content as
1158 defined in [ARIBTRB14] and [ARIBTRB15] to a Marlin Import Device using the Gateway
1159 Service protocol.
1160
1161 The Marlin Gateway device supporting ARIB SHALL extract the ARIB output control
1162 rules and put them into the usage information structure of the Gateway Service protocol
1163 as described in §5 and below.
1164
1165 The value of the tag identifier to be used for gs:UsageInfoItem@tag in Gateway Service
1166 protocol for ARIB protected content SHALL be "arib". The ARIB output control rules
1167 SHALL be represented with gs:UsageInfoItem as an Integer value (32 bits) containing
1168 the following information (0 is least significant bit/byte):
1169

Bit Byte	7	6	5	4	3	2	1	0
0	digital_recording_control_data		copy_control_type		APS_control_data		Reserved	
1	copy_restriction_mode	image_constraint_token	retention_mode	retention_state			encryption_mode	Reserved

1170
1171 Reserved: These bits are reserved for future definition and are currently defined to have
1172 a value of one.
1173

1174 # 4   Octopus Extensions for Rights Governance of
1175 Import Contents

1176 ## 4.1   Extensions to Output Control

1177 ### 4.1.1   OutputEnabler

1178 This section describes the Output Control parameters to indicate outputs to be enabled.
1179 These parameters SHALL only be used as Output Control Permissions, and SHALL only
1180 be included in a license which is generated by Marlin Import Device.
1181 The output control technology ID for these parameters is "OutputEnabler".
1182 When the output control technology ID is OutputEnabler, the value list for
1183 OutputControlOverride ([MOC]) MUST include one or more of the following parameters.
1184

Table 4-1 OutputEnabler parameters

Name	Type	Description
AnalogVideoEnabler	Integer	32-bit integer. The 3 least significant bits represents the AnalogVideoEnabler value as specified below. Other bits are reserved and SHALL be 0.
DTCPVideoEnabler	Integer	32-bit integer. The 3 least significant bit represents the DTCPVideoEnabler value as specified below. Other bits are reserved and SHALL be 0.
DigitalVideoEnabler	Integer	32-bit integer. The least significant bit represents the DigitalVideoEnabler value as specified below. Other bits are reserved and SHALL be 0.

1185

Table 4-2 AnalogVideoEnabler field values

Value			Description
b2	b1	b0 (LSB)	
0	0	0	Reserved
0	1	0	Output of decrypted content is allowed for Analog Outputs in Standard Definition, interlaced mode as defined in the compliance regime
1	0	0	Output of decrypted content is allowed for Analog Outputs in Standard Definition, non-interlaced mode as defined in the compliance regime
1	1	0	Output of decrypted content is allowed for Analog Outputs in Standard Definition as defined in the compliance regime
0	0	1	Output of decrypted content is allowed for Analog Outputs
0	1	1	Reserved
1	0	1	Reserved
1	1	1	Reserved

1186

Table 4-3 DTCPVideoEnabler field values

Value		Description
b1	b0 (LSB)	
0	0	Reserved
1	0	Output of decrypted content is allowed for DTCP Outputs setting Analog Sunset Token field on DTCP to AST-asserted
0	1	Output of decrypted content is allowed for DTCP Outputs
1	1	Reserved

1187

Table 4-4 DigitalVideoEnabler field values

Value	Description
0	Reserved
1	Output of decrypted content is allowed for Digital Outputs even without protection

1188
1189

4.2   Export Control Obligation

1190

1191 The following obligation MAY be included in the list of obligations in an
1192 ExtendedStatusBlock defined in section 3.4.1.1 of [8pus]. This obligation SHALL only be
1193 included in a license which is generated by Marlin Import Device for ARIB contents.
1194

Table 4-5 Export Control Obligation

Name	Type	Description
ExportControl	ValueList	List of values of type Parameter. The value list MUST include one or more parameters. The syntax and meaning of the parameters are specified below.

1195

4.2.1   Parameters for ExportControl

1197 The following parameters are defined:
1198

Table 4-6 ImageConstraintToken

Name	Type	Description
ImageConstraintToken	Integer	32-bit integer. The least significant bit represents the Image_Constraint_Token value as specified below.

1199

Table 4-7 ImageConstraintToken values

Value	Description
0	Export in the form of Constrained Image as defined in the compliance regime
1	Reserved

1200
1201

5 Gateway Service Protocol and Content Transfer

The Gateway Service protocol is used for the communication between Marlin Gateway and Marlin Import Agent to convey usage conditions associated with given content and encryption key for to encrypt content transferred from the Marlin Gateway. The Gateway Service protocol is OPTIONAL for a Marlin Import Agent.

5.1 Sequence

As depicted in Figure 5, the Gateway Service protocol is composed of a GW Service Request and a GW Service Response, and it is used in conjunction with proximity check protocol [PROX]. The content is transferred using HTTP protocol [RFC2616].

Copies of the XML schema and the WSDL for Gateway Service are found in Appendix A and Appendix B, respectively.
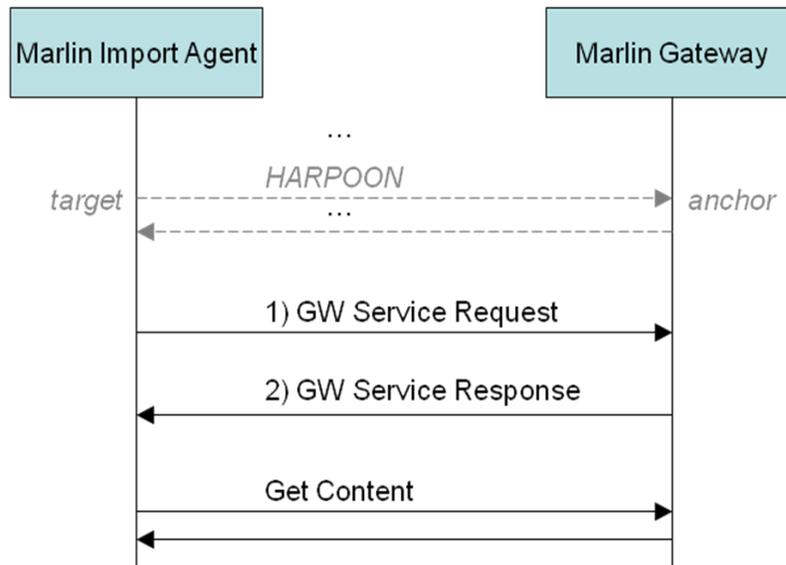

Figure 5: Marlin Gateway Service protocol with proximity check and content transfer.

The following is the sequence of messages in the Marlin Gateway Service protocol:
1. Marlin Import Agent sends GW Service Request to Marlin Gateway.
2. If the proximity[35] checked with Proximity Check Protocol over UDP in a previous step has succeeded, the Marlin Gateway sends GW Service Response to the Marlin Import Agent.

After Gateway Service protocol has been successfully executed, the Marlin Import Agent can request the content. To retrieve the content, a Marlin Import Agent SHALL issue an HTTP GET request [RFC2616] to the Marlin Gateway. The Marlin Gateway SHOULD

---

[35] The threshold of allowed proximity is under the purview of the compliance regime such as Marlin Trust Management Organization.

1227 maintain a state or session to correlate a GW Service Response with subsequent HTTP
1228 request for the content, as defined in §5.2.
1229
1230 The Marlin Gateway extracts the usage conditions it conveys to the Marlin Import Agent
1231 for the requested content. The Marlin Gateway SHALL encrypt the requested content
1232 with an encryption key it generates. The Marlin Gateway SHOULD use a different
1233 encryption key for every different content.
1234 The algorithm used to encrypt the content with the encryption key SHALL be AES [AES]
1235 in CBC mode [AES-MODES] and the padding SHALL follow the guidance given in §5.2
1236 of [xmlenc].
1237
1238 The Marlin Import Agent SHALL use the encryption key to decrypt the content
1239 transferred by the Marlin Gateway. Then the Marlin Import Agent SHALL create a Marlin-
1240 compliant content: BBTS ([MFFS] §3), MIPMP ([MFFS] §2), or (P)DCF ([MFFS] §4) by
1241 using the encryption key provided from the Marlin Gateway.

1242 ## *5.2 Messages*

1243 ### **5.2.1 GW Service Request Parameters**

1244 - *<gs:Nonce>*: The REQUIRED element containing a random value encoded as
1245 base64 octet string generated by the Marlin Import Agent. The size of the octet
1246 string is no more than 128 octets.
1247 - *<bsa:BusinessToken>:* The REQUIRED element containing an opaque data
1248 retrieved from the Action Token for Gateway Service protocol.
1249
1250 Below is an example of <gs:GatewayServiceRequestPayload> element.
1251

```
[01] <?xml version="1.0" encoding="UTF-8"?>
[02] <gs:GatewayServiceRequestPayload xmlns:gs="urn:marlin:core:1-
3:services:schemas:gateway-service">
[03]
[04]    <gs:Nonce>y2DGLL7JfSCaZSbStlDi0A==</gs:Nonce>
[05]    <bsa:BusinessToken xmlns:bsa="urn:marlin:broadband:1-2:nemo:services:action-
token">vI6egkpAQe7NQfJHVhPBSA==</bsa:BusinessToken>
[06]
[07] </gs:GatewayServiceRequestPayload>
```

1252 ### **5.2.2 GW Service Response Data**

1253 - *<gs:SignedContainer>*: The REQUIRED element containing following elements.
1254   - *<gs:Nonce>*: The REQUIRED element containing the same value as the
1255   requestor's <gs:Nonce> element in the corresponding GW Service
1256   Request message. The Marlin Import Agent SHALL check this value to
1257   see whether it is the same value as was sent in the corresponding
1258   request message. If the two values differ, the Marlin Import Agent MUST
1259   stop processing the GW Service Response.
1260   - *<gs:CorrelationToken>*: The OPTIONAL element containing following
1261   service-specific data allowing the Gateway Service to relate this GW
1262   Service Response with subsequent HTTP request for content file:
1263   - *<gs:CorrelationTokenName>*: The REQUIRED element in
1264   <gs:CorrelationToken> element containing the name of the state

1265		information ("cookie") that the service uses to relate this GW
1266		Service Response with a subsequent HTTP request for content.
1267		▪ *<gs:CorrelationTokenValue>*: The REQUIRED element in
1268		<gs:CorrelationToken> element containing the value
1269		corresponding to the <gs:CorrelationTokenName> element.
1270		▪ *<gs:CorrelationTokenMaxAge>*: The OPTIONAL element. If
1271		present, it SHALL contain the delta-seconds of the lifetime of the
1272		correlation token, a non-negative Integer. This is the time period
1273		within which the Marlin Import Agent SHOULD request the content
1274		from the Gateway Service. The lifetime of a correlation token
1275		SHOULD be calculated according to the age calculation rules in
1276		the HTTP [RFC2616]. A value of zero means there is no age
1277		associated to the correlation token and the request for content
1278		SHOULD be made as soon as this response is received by the
1279		Marlin Import Agent.
1280		o *<gs:UsageInfoSet>*: The REQUIRED element containing one or more
1281		<gs:UsageInfoItem> elements associated with the content to be
1282		transferred:
1283		▪ <gs:UsageInfoItem>: The REQUIRED element containing the
1284		usage conditions for the content as an Integer value (32 bits). The
1285		tag attribute SHALL contain a name that identifies a usage
1286		condition tag. A normative list of usage condition tags and values
1287		is maintained for each supported usage conditions in §3.1.4,
1288		§3.2.3 and §3.3.3. There SHALL NOT be more than one
1289		<gs:UsageInfoItem> element with the same tag value in
1290		<gs:UsageInfoSet> element.
1291		• *<gs:EncKey>*: The REQUIRED element containing the following key data the
1292		content is encrypted with when transferred from Marlin Gateway to Marlin Import
1293		Agent:
1294		o <ds:KeyName>: The REQUIRED element containing the name of the key
1295		included in <gs:EncKey> element.
1296		o <ds:KeyValue>: The REQUIRED element containing <gs:AESKeyValue>
1297		element.
1298		▪ *<gs:AESKeyValue>*: The REQUIRED element containing following
1299		two child elements.
1300		• *<xenc:KeySize>*: The REQUIRED element containing the
1301		key size.
1302		• *<gs:KeyData>*: The REQUIRED element containing
1303		encryption key (base64 encoded).
1304		• *<ds:Signature>*: The REQUIRED element for HMAC by the key included in the
1305		<gs:EncKey>. The <ds:SignedInfo> element MUST have only one
1306		<ds:Reference> element which refers to the <gs:SignedContainer> element in
1307		this message.
1308		

1309 Below is an example of <gs:GatewayServiceResponsePayload> element. In this
1310 example the usage information is specified for COG with Retention_State 'Forever'.
1311

```
[01] <?xml version="1.0" encoding="UTF-8"?>
[02] <gs:GatewayServiceResponsePayload xmlns:gs="urn:marlin:core:1-3:services:schemas:gateway-service"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
        xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
        xsi:schemaLocation="urn:marlin:core:1-3:services:schemas:gateway-service Gateway.xsd">
[03]        <gs:SignedContainer Id="container">
[04]            <gs:Nonce>y2DGLL7JfSCaZSbStlDi0A==</gs:Nonce>
[05]            <gs:CorrelationToken>
[06]                <gs:CorrelationTokenName>goo</gs:CorrelationTokenName>
[07]                <gs:CorrelationTokenValue>bar</gs:CorrelationTokenValue>
[08]                <gs:CorrelationTokenMaxAge>0</gs:CorrelationTokenMaxAge>
[09]            </gs:CorrelationToken>
[10]            <gs:UsageInfoItemSet>
[11]                <gs:UsageInfoItem tag="dtcp">128</gs:UsageInfoItem>
[12]            </gs:UsageInfoItemSet>
[13]        </gs:SignedContainer>
[14]        <gs:EncKey>
[15]            <ds:KeyName>hoge</ds:KeyName>
[16]            <ds:KeyValue>
[17]                <gs:AESKeyValue>
[18]                    <gs:KeySize>128</gs:KeySize>
[19]                    <gs:KeyData>Hdv8FbDXMRw=</gs:KeyData>
[20]                </gs:AESKeyValue>
[21]            </ds:KeyValue>
[22]        </gs:EncKey>
[23]        <ds:Signature>
[24]            <ds:SignedInfo>
[25]                <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
[26]                <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#hmac-sha1"/>
[27]                <ds:Reference URI="#container">
[28]                    <ds:Transforms>
[29]                        <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
[30]                    </ds:Transforms>
[31]                    <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
[32]                    <ds:DigestValue>iW6fwetrkjr6RkKNzBIiRMa47mI=</ds:DigestValue>
[33]                </ds:Reference>
[34]            </ds:SignedInfo>
[35]            <ds:SignatureValue>8wMQ7Kex4Sa8nqDpECtt7fLTVnk=</ds:SignatureValue>
[36]            <ds:KeyInfo>
[37]                <ds:KeyName>hoge</ds:KeyName>
[38]            </ds:KeyInfo>
[39]        </ds:Signature>
[40] </gs:GatewayServiceResponsePayload>
```

1312 **5.2.3 HTTP Request for Content**

1313 To retrieve the content, a Marlin Import Agent SHALL issue HTTP GET request
1314 [RFC2616] to Marlin Gateway.
1315

1316 If the previous corresponding GW Service Response contained a <gs:CorrelationToken>
1317 element, the HTTP GET request for content from Marlin Import Agent SHALL contain a
1318 cookie header [RFC2695] to relate this request with a GW Service Response.
1319

1320 The following rules apply to cookie-version and cookie-value attributes of a cookie
1321 header in the HTTP GET request for content issued by Marlin Import Agent.
1322   • The value of the cookie-version attribute MUST be 0.
1323   • The value of NAME in the cookie-value attribute MUST be the value from the
1324   <gs:CorrelationTokenName> element in the payload of the corresponding GW
1325   Service Response.
1326   • The value of VALUE in the cookie-value attribute MUST be the value from the
1327   <gs:CorrelationTokenValue> element in the payload of the corresponding GW
1328   Service Response.

1329 **5.2.4   Content Transfer**
1330 The content SHALL be transferred from the Marlin Gateway to the Marlin Import Agent in
1331 HTTP response.
1332
1333 When a range of the content is specified in the HTTP request, the corresponding HTTP
1334 response SHALL contain the indicated range.

1335 **5.2.5   Protocol Security Policy**
1336 The NEMO basic security protocol defined in [NEMO] §3 SHALL be used for Marlin
1337 Gateway Service protocol messages.
1338
1339 The GW Service Request MUST obey the 'Integrity Only' policy defined in [MCS] §5.2. In
1340 addition, the Role Assertion of the Marlin Import Agent is attached to the Request.
1341
1342 The GW Service Response MUST obey 'Confidentiality Only' policy defined in [MCS]
1343 §5.2.
1344
1345 The identifier for this protocol's security policy is:

urn:marlin:mi:1.0:nemo:services:gateway-service:policy:0

1346 **5.2.6   Proximity Check**
1347 The Proximity Check Protocol over UDP [PROX] is initiated by the Marlin Import Agent
1348 such that the Marlin Import Agent is the target.
1349 As Proximity Check Protocol over UDP is used together with Gateway Service protocol
1350 which requires proximity before an entity is served, the anchor MUST verify that the
1351 Request to service was issued by the same entity measured by the Proximity Check
1352 Protocol over UDP run. The anchor MUST verify that the Subject of the certificate
1353 (NEMO Encryption Key) used in the Setup Request (aka PubB) matches the Subject of
1354 the certificate used to authenticate the entity (NEMO Signing Key) in the Request to
1355 Gateway Service.
1356

1357 *5.3   Marlin Import Roles and Keys*

1358 Marlin Import specification extends the capabilities of specific roles defined in [MCS].
1359 Marlin Import specification defines Roles and Services for Marlin Core System.

1360 **5.3.1   Overview**
1361 This section defines the roles and services used in Marlin Import Device. Import Agent
1362 role is REQUIRED for Marlin Import Device only if the Marlin Import Device supports the
1363 Gateway Service protocol. The License Service role which is defined in §4.1 of [MBB] is
1364 REQUIRED for Marlin Import Device only if the Marlin Import Device supports License
1365 Service protocol [MBB]. A Marlin Import Device MAY have a DRM Client role as defined
1366 in §4.1 of [MCS].
1367

Roles	Services	Clients
Import Agent (opt)	Proximity Check (opt)	Gateway Service (opt) Proximity Check (opt)

Table 5-1: Role to Client/Service Mapping.

1368

1369 (opt) indicates that the implementation of this service/client is OPTIONAL.

1370

1371 The following table defines the URI for Import Agent.

1372

Role	URI
Import Agent	urn:marlin:core:role:import-agent

Table 5-2: Role identifiers.

1373

1374 Refer to §12.5.4.2 in [MCS] for a description of the mechanism used to convey the role
1375 information.

5.3.1.1 Definitions for Import Agent Role

1376

1377 Each NEMO Node implementing Marlin Import Agent SHALL be able to:
1378 • Import at least from one of E-FTA, DTCP and ARIB.

1379

1380 Each NEMO Node implementing this role MAY:
1381 • Support the target side of Proximity Check Protocol over UDP (so that a Marlin
1382 Gateway can check the proximity of the Marlin Import Agent.)
1383 • Support Gateway Service protocol

1384

1385 The trust authority of the role assertion for the Import Agent role SHALL be the DRM
1386 Services Authority. Note: According to [NEMO] §4, roles shall be encoded as SAML 1.1
1387 attribute assertions.

5.3.2 Key Definitions for Import Agent Role

1388

1389 Each NEMO Node implementing Import Agent role SHALL have following keys:
1390 • NEMO Encryption Certificate and Private Key
1391 • NEMO Signing Certificate and Private Key

1392

1393 These keys SHALL have either of following Certificate Policy OIDs defined in §9.1.3.6.2
1394 of [MCS]:

1395

```
1396    id-cp-nemo-marlin-client-drm-key              ::= {id-nemo-marlin-cp 1}
1397    id-cp-nemo-marlin-service-key                 ::= {id-nemo-marlin-cp 3}
```

1398

1399 These NEMO Keys SHALL be bound to Role Assertion of Marlin Import Agent.

1400

Appendix A   XML Schemas

A.1   Gateway.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--

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 Contact Information

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 Contact information for the Marlin Trust Management Organization can
 be found at:
  http://www.marlin-trust.com/

-->
<!-- =======================================================
  Gateway Service schema
 =======================================================-->
```

```xsd
<xsd:schema
    targetNamespace="urn:marlin:core:1-3:services:schemas:gateway-
service"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
    xmlns:xenc="http://www.w3.org/2001/04/xmlenc#"
    xmlns:bsa="urn:marlin:broadband:1-2:nemo:services:action-token"
    xmlns:gs="urn:marlin:core:1-3:services:schemas:gateway-service"
    elementFormDefault="qualified" attributeFormDefault="unqualified">

    <!-- imports -->
    <xsd:import namespace="http://www.w3.org/2000/09/xmldsig#"
schemaLocation="http://www.w3.org/TR/2002/REC-xmldsig-core-
20020212/xmldsig-core-schema.xsd"/>
    <xsd:import namespace="http://www.w3.org/2001/04/xmlenc#"
schemaLocation="http://www.w3.org/TR/xmlenc-core/xenc-schema.xsd"/>
    <xsd:import namespace="urn:marlin:broadband:1-
2:nemo:services:action-token" schemaLocation="Broadband-services-
action.xsd"/>

    <xsd:element name="EncKey" type="ds:KeyInfoType"/>

    <!-- Supporting Simple Types -->
    <xsd:element name="Nonce" type="xsd:base64Binary"/>

    <!-- Supporting Complex Types -->
    <xsd:complexType name="CorrelationTokenType">
        <xsd:sequence>
            <xsd:element name="CorrelationTokenName" type="xsd:string"/>
            <xsd:element name="CorrelationTokenValue"
type="xsd:string"/>
            <xsd:element name="CorrelationTokenMaxAge"
type="xsd:nonNegativeInteger"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="CorrelationToken"
type="gs:CorrelationTokenType"/>

    <xsd:complexType name="UsageInfoItemType">
        <xsd:simpleContent>
            <xsd:extension base="xsd:int">
                <xsd:attribute name="tag" type="xsd:string"
use="required"/>
            </xsd:extension>
        </xsd:simpleContent>
    </xsd:complexType>
    <xsd:element name="UsageInfoItem" type="gs:UsageInfoItemType"/>

    <xsd:complexType name="UsageInfoItemSetType">
        <xsd:sequence>
            <xsd:element ref="gs:UsageInfoItem" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="UsageInfoItemSet"
type="gs:UsageInfoItemSetType"/>

    <xsd:complexType name="AESKeyValueType">
```

```
            <xsd:sequence>
                <xsd:element name="KeySize" type="xsd:integer"/>
                <xsd:element name="KeyData" type="xsd:base64Binary"/>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="AESKeyValue" type="gs:AESKeyValueType"/>

        <xsd:complexType name="SignedContainer">
            <xsd:sequence>
                <xsd:element ref="gs:Nonce"/>
                <xsd:element ref="gs:CorrelationToken" minOccurs="0"
maxOccurs="1"/>
                <xsd:element ref="gs:UsageInfoItemSet"/>
            </xsd:sequence>
            <xsd:attribute name="Id" type="xsd:ID" use="required"/>
        </xsd:complexType>
        <xsd:element name="SignedContainer" type="gs:SignedContainer"/>

<!-- =================================================
    Protocol Interaction Messages:
        GatewayServiceRequest ->
        GatewayServiceResponse <-
 ================================================= -->

    <!-- GatewayServiceRequest-->
    <xsd:complexType name="GatewayServiceRequestPayloadType">
        <xsd:sequence>
            <xsd:element ref="gs:Nonce"/>
            <xsd:element ref="bsa:BusinessToken"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="GatewayServiceRequestPayload"
type="gs:GatewayServiceRequestPayloadType"/>

    <!-- GatewayServiceResponse-->
    <xsd:complexType name="GatewayServiceResponsePayloadType">
        <xsd:sequence>
            <xsd:element ref="gs:SignedContainer"/>
            <xsd:element ref="gs:EncKey"/>
            <xsd:any namespace="##other" minOccurs="0"
maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="GatewayServiceResponsePayload"
type="gs:GatewayServiceResponsePayloadType"/>

</xsd:schema>
```

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1405 Appendix B   WSDL

1406 B.1   Gateway.wsdl

1407

```xml
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions xmlns="urn:marlin:core:1-3:services:schemas:gateway-
service"
      xmlns:gs="urn:marlin:core:1-3:services:schemas:gateway-service"
      xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
      xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
      xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:nemosec="http://nemo.intertrust.com/2005/10/security"
      xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
      targetNamespace="urn:marlin:core:1-3:services:schemas:gateway-
service">
      <wsdl:types>
            <xsd:schema>
                  <xsd:import namespace="urn:marlin:core:1-
3:services:schemas:gateway-service"
                        schemaLocation="Gateway.xsd"/>
            </xsd:schema>
      </wsdl:types>
      <wsdl:message name="gatewayRequest">
            <wsdl:part name="gatewayRequest"
element="gs:GatewayServiceRequestPayload"/>
      </wsdl:message>
      <wsdl:message name="gatewayResponse">
            <wsdl:part name="gatewayResponse"
element="gs:GatewayServiceResponsePayload"/>
      </wsdl:message>
      <wsdl:message name="gatewayFault">
            <wsdl:part name="fault" element="SOAP-ENV:Fault"/>
      </wsdl:message>
      <wsdl:portType name="gatewayInterface">
            <wsdl:operation name="requestGateway">
                  <wsdl:input name="gatewayRequest"
message="gatewayRequest"/>
                  <wsdl:output name="gatewayResponse"
message="gatewayResponse"/>
                  <wsdl:fault name="gatewayFault"
message="gatewayFault"/>
            </wsdl:operation>
      </wsdl:portType>
      <wsdl:binding name="gatewaySoapBinding" type="gatewayInterface">
            <wsdlsoap:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
            <wsdl:operation name="requestGateway">
                  <wsdlsoap:operation soapAction="urn:marlin:core:1-
3:services:schemas:gateway-service:requestGateway"/>
                  <wsdl:input>
                        <wsdlsoap:body use="literal"/>
                  </wsdl:input>
                  <wsdl:output>
                        <wsdlsoap:body use="literal"/>
```

```
                </wsdl:output>
                <wsdl:fault name="gatewayFault">
                        <wsdlsoap:fault name="gatewayFault"
use="literal"/>
                </wsdl:fault>
        </wsdl:operation>
    </wsdl:binding>
    <wsdl:service name="gateway-service">
        <wsdl:port name="gateway" binding="gatewaySoapBinding">
                <wsdlsoap:address
location="http://localhost:8080/services/gateway-service"/>
                <!-- REPLACE with actual url -->
        </wsdl:port>
    </wsdl:service>
</wsdl:definitions>
```

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