

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: Content Management on the HD Freeview Platform

To (Ofcom contact): David Harrison

Name of respondent: Digital Transmission Licensing Administrator, LLC

Representing (self or organisation/s):

Address (if not received by email):

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Signed (if hard copy)

April 2, 2010

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Re: Consultation on "Content Management on the HD Freeview Platform"

The Digital Transmission Licensing Administrator LLC ("DTLA") submits these comments in response to the January 22, 2010 consultation document published by Ofcom, concerning the BBC submission on Content Management on the HD Freeview Platform. As is referenced in the consultation, Freeview HD proposes that receivers that include certain network-capable digital outputs shall implement a technology licensed by DTLA, known as "Digital Transmission Content Protection" or "DTCP."¹ We are pleased to have this opportunity to respond to Ofcom's questions concerning the potential use of DTCP on the HD DTT platform.

In 2009, the Digital Television Group ("DTG") informed DTLA that content owners would be willing to make available for broadcast over the free-to-air HD DTT platform certain high definition audiovisual content of the sort typically made available over pay services, if DTCP protection could be applied. DTLA responded that it would be willing to permit the use of DTCP for that purpose, conditioned upon the observance by content owners and the HD DTT system operators of "Encoding Rules" that limit the level of copy restrictions that could be applied to particular types of content.

The fundamental principle under these Encoding Rules is: ***Consumers always will be permitted to record, and transmit on a home network, every program broadcast over Freeview HD.*** Therefore, under the Encoding Rules:

- Consumers always can make at least one copy of any program transmitted on the HD DTT service. When DTCP is applied, only "EPN" encoding and "Copy One Generation" encoding are permitted, both of which permit personal copying.
- "Copy Never" encoding (such as might be applied to prerecorded media or pay-per-view-services) is not permitted for the HD DTT service.

¹ DTLA summarizes the background history and licensing of DTCP in Appendix A.

- “EPN” encoding can be applied to any content transmitted on the HD DTT service (with some exceptions that exclude any use of DTCP). “EPN” does not restrict the number of copies that can be made, but each copy must be protected (e.g., encrypted) against digital retransmission outside the home or personal network.
- “Copy One Generation” encoding (enabling the making of an encrypted copy that cannot further be copied) is permitted to be applied to the type of content that could be so encoded in other major markets. Copy One Generation encoding cannot be applied if that content is transmitted in other major markets in HD formats without content protection.²

These Encoding Rules for HD DTT have been accepted by DTLA’s Content Participants and the Digital Television Group, and have been received by DTLA’s Adopters without objection. DTLA has published a Notice to its Adopters concerning these proposed Encoding Rules and a revised IP Statement reflecting these rules on its website.³

Use of DTCP under these Encoding Rules will satisfy reasonable consumer expectations with respect to copying and home networking. DTLA expects the vast majority of consumers will be unaware that DTCP has been applied (as has been the case in other countries and contexts in which DTCP has been deployed). Moreover, neither DTLA nor Freeview HD mandates that content be protected with DTCP; encoding occurs only per instruction of the content owner, consistent with the limits imposed by the Encoding Rules.

DTLA responds below to several of the questions posed in the Ofcom consultation document, and limits its comments to the proposed implementation of DTCP in HD DTT receivers that can output content in HD format over a network-capable interface.

Q1: Do you agree that copy management would broaden the range of HD content available on DTT and help secure its long term viability as a platform?

The Digital Television Group in the UK approached DTLA with a request to incorporate DTCP in HD DTT receivers based upon representations from content owners that content

² The Encoding Rules developed by DTLA for HD content broadcast over the HD DTT platform are attached as Appendix B.

³ The Notice to Adopters is available at <http://dtcp.com/data/Notice%20of%20DTCP%20Encoding%20Rules%20for%20UK%20HD%20DTT%20%202009-12.pdf> . The revised IP Statement is available at <http://dtcp.com/data/DTLA%20IP%20Statement%20December%202009.pdf> . These advance notices advise that they will not become effective until and unless the necessary Ofcom regulatory approval is granted.

protection would facilitate licensing for the Freeview HD platform, in earlier windows, of the same types of content currently being made available elsewhere in the world over conditional access encrypted cable and satellite systems. These representations were consistent with statements made by content owners to DTLA over the past decade, expressing a greater willingness to release content in digital formats, in earlier windows, and under new digital business models, when content protection is available (such as protection against retransmission over the internet).

In the United States, it is common that newer motion pictures are shown on pay television channel platforms that can be supported by content protection methods such as DTCP and HDCP, years before such movies may be shown on free broadcasts. The availability of content in an earlier cable and satellite window also was anticipated by U.S. Federal Communications Commission ("FCC") regulations. In 2003, the FCC allowed content protection to be applied over digital outputs of cable and satellite-supplied video navigation devices, balanced by Encoding Rules (largely built upon the rules developed for DTCP) that defined limits on the level of copy restrictions for particular types of content. The Commission believed that the future success of the transition to digital video transmission methods depended upon a proper balance among content protection, consumer access to higher value video content, and innovation in video technology:

One of the stumbling blocks [to competition in the navigation devices market] has been inability of industry to agree on a comprehensive set of technical copy protection measures and corresponding encoding rules. Adoption of the encoding rules will finally remove that block and ensure the availability of high value content to consumers in a protected digital environment. We believe that access to high value digital content will spur the transition [to digital television] and increase consumer demand for unidirectional digital cable products and other navigation devices at retail.⁴

⁴ In the Matter of: Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, CS Docket No. 97-80, PP Docket No. 00-67, Second Report and Order and Second Further Notice of Proposed Rulemaking ¶ 55 (Oct. 9, 2003). Similarly, in a proceeding to evaluate the use of a "broadcast flag" against indiscriminate retransmission of digital terrestrial broadcast television content outside the home, the FCC concluded "that the potential threat of mass indiscriminate redistribution will deter content owners from making high value digital content available through broadcasting outlets absent some content protection mechanism." In the Matter of Digital Broadcast Content Protection, MB Docket 02-230, Report and Order and Further Notice of Proposed Rulemaking ¶ 4 (Nov. 4, 2003). Authority for the "broadcast flag" proceeding was found to be outside the scope of the FCC's jurisdiction and, so, the proposed regulations never were implemented. *American Library Ass'n v. FCC*, 406 F.3d 689 (D.C. Cir. 2005).

Video content protection technologies have been available virtually from the initial releases of audiovisual content in digital form, and so it is impossible to compare the existing market to a theoretical world where no content protection existed. Nevertheless, the current digital video marketplace is characterized by a variety of choices for consumers to access and acquire high value content over a large number of platforms.

We know of no evidence that content protection has constrained either the availability of content to consumers or consumer choice among the number of lawful channels from which to access video content.

Q2: Do you agree that the BBC's proposed multiplex licence amendment represents the most appropriate means for securing an effective content management system on HD DTT?

DTLA concurs that the proposed multiplex license amendment is the most appropriate among the available options for achieving an effective content management system for HD DTT.

Content owners have made clear their view that, because any content protection technology remains susceptible to skilled professional hacking, an effective content protection system should support robust content protection technologies with enforceable legal obligations to deploy those technologies, and remedies against their circumvention.⁵ If devices can be sold with no obligation to implement content protection, then manufacturers of “compliant” models may be concerned that their products cannot compete fairly against “non-compliant” devices; and content owners would have less assurance that any use limitations in their licenses will be respected. Thus, content protection without a legal obligation to require its consistent implementation serves no clear purpose. For these reasons, DTLA licenses DTCP under circumstances in which its implementation can be enforced with reasonable effectiveness.

In the proposed amendment to the multiplex license, the BBC will license the ability to decrypt its proprietary EPG database upon a condition to implement content protection technologies. This supplies a legal obligation for compliant receivers to include DTCP content protection, and a means of enforcement upon failure to comply with this obligation.

⁵ Typically, this legal obligation arises from either a regulatory mandate or, more commonly, a licensing structure that begins with delivery of content in encrypted form. Where content is delivered to a consumer in an encrypted form, an intellectual property-based license to decrypt the content imposes a requirement to protect the output or recording of decrypted content, and circumvention of the initial encryption and subsequent protection methods can be prohibited by law. However, as the BBC and the consultation document explain, in this instance encryption of the Freeview HD platform is not a feasible option

The alternative of a trademark license, by contrast, does not provide a sufficient obligation or enforcement mechanism. If it is possible to manufacture a fully functional receiver, without the trademark or logo, that obtains full access to the most up-to-date EPG data, manufacturers might avoid the expense of the license and certification process and, instead, simply manufacture receivers without any content protection.

The method proposed by the BBC relies on both legal obligations and remedies with respect to the inclusion of content protection, and commercial incentives to meet those obligations (*i.e.*, the consumer desire for best available EPG data, and the receiver manufacturers' competitive desire to make such data available to the consumer in parity with other manufacturers' products). DTLA has discussed this point with each of its Content Participants, and each has indicated to DTLA that these commercial incentives and enforcement consequences are sufficiently strong. We therefore agree with the BBC that, among the available options, the proposed license amendment would provide the most practical, least burdensome and most effective avenue to require content protection on the HD DTT platform.

Q5: Do you agree that the BBC's proposed approach for implementing content management would safeguard citizens and consumers legitimate use of HD content, and if not, what additional guarantees would be appropriate?

Should Ofcom approve the BBC's proposed approach, DTLA will change its license agreement so as to permit protection of HD DTT content with DTCP, upon the condition that broadcasters and content providers follow the Encoding Rules. The goal of the five DTLA companies that developed DTCP was to balance incentives to content owners to release digital content to consumer markets, with the right of consumers to personal use and enjoyment of content that they lawfully acquired. DTLA's Encoding Rules have been crafted to secure that goal and have proved successful.

Under the Encoding Rules developed specifically for the HD DTT platform, consumers always can make at least one generation of copies of HD DTT content protected with DTCP.⁶ The DTCP agreements also permit those "one generation" copies to be "moved" to another medium, which facilitates format shifting and place shifting, as well as time shifting.⁷ Recorded content marked "EPN" can be copied serially, without numerical

⁶ DTLA notes that the obligation to apply DTCP would obtain only at the digital output of the receiver. For receivers with integrated recorders (such as hard disk-based personal video recorders), such recording generally occurs upstream, *i.e.*, before the device's digital output. In that circumstance, DTCP encryption has no effect on such recording because DTCP is applied only when the content exits the device, not before it is recorded.

⁷ See DTLA Digital Transmission Protection License Agreement, Compliance Rules, at B-5, B-8 and B-15. <http://www.dtcp.com/data/DTLA-AA-06302007.pdf>

restriction. No limitations are imposed on the quality of the permitted digital copies. All content protected with DTCP can be transmitted throughout the home and personal network. Thus, consumers will enjoy both the private copying and personal use they historically have expected, and the new capabilities afforded by digital networking.

DTLA also seeks to ensure that the level of DTCP protection remains in parity with protections applied over comparable distribution channels and markets. Therefore, the Encoding Rules distinguish among the types of content to which protection may be applied. "Copy one generation" protection would be available over the HD DTT system to the type of higher value content made available over pay television channels in other major world markets. Similarly, "EPN" may not be applied where the same content is available in the UK in HD over other transmission media without content protection. As a result, the rights secured to UK consumers under the Encoding Rules are in parity with those of consumers elsewhere in the world and on comparable platforms.

What would be limited by DTCP Encoding Rules is the retransmission of protected content outside of the home and personal network (*e.g.*, over the internet) or the making of serial copies of higher value content marked "copy one generation." These types of limitations have not impeded reasonable and customary consumer personal enjoyment of protected video content in other markets, and DTLA would not expect any such impediment here.

Q6: Do you agree that the BBC's proposed choice of content management technologies will have only a negligible impact on the cost of HD DTT receivers and their interoperability with other HD consumer equipment?

DTLA believes that implementing DTCP will not have a significant impact on the cost of HD DTT receivers. The Founders of DTLA all are manufacturers of consumer and computing products for video entertainment, and culturally are profoundly sensitive to issues of manufacturing and implementation costs. They developed DTCP to be inexpensive for manufacturers to license and implement. Fees for DTCP are calculated essentially on a cost recovery basis, so as to fund necessary activities such as license administration and cryptographic key and certificate generation. For example, the fee for generating keys and certificates ranges from 5 to 7 cents (U.S.) per device. More than 130 companies currently license DTCP.

DTCP functionality typically is integrated in multifunctional microprocessors, such that the cost of DTCP functionality in those components is negligible. Moreover, many companies that will supply HD DTT receivers also will manufacture other products that use DTCP, and so the amortized cost of annual license fees paid to DTLA also will be negligible on a per device basis. For these reasons, DTCP should not add significantly to the cost of an HD DTT receiver.

With respect to interoperability, as explained in greater detail in Appendix A, DTLA's Founders designed DTCP specifically to promote home networking and interoperability, and its success in that regard has been well recognized. DTCP has been adopted as a content protection method for the DLNA voluntary guidelines for home network interoperability, as well as by various governmental and industry bodies in the United States and Japan. DTCP has been mapped to numerous interface protocols, including Internet Protocol, IEEE 1394, Wireless HD, and for mobile environments. Content protected with DTCP can be recorded using either a content protection technology approved by DTLA and its content participants, or any method that cryptographically binds the recording to a device, such as a PVR or hard disk drive-based recorder.

Therefore, DTCP would facilitate interoperability to connect devices in a digital home network, and to ensure that protected content will flow throughout the network as seamlessly as unprotected content, with no difference discernable to the consumer.

* * *

In conclusion, DTLA can support the preliminary conclusions expressed by Ofcom on the above-referenced questions in its consultation document, and supports approval of the BBC's request. The BBC proposal should enable consumers to view and record for personal use a wider range of content in High Definition formats. DTLA's Encoding Rules will ensure that consumers always can make at least one personal copy of any content permitted to be protected with DTCP, and DTCP will help promote interoperability among networked devices that receive protected content.

If we may answer any additional questions or be of further assistance to Ofcom's deliberations, we encourage you to contact us at your convenience.

Respectfully submitted,

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Appendix A

Background and History of DTLA and DTCP

Background on DTLA and DTCP

The five founder companies of DTLA – Intel Corporation, Hitachi, Ltd., Panasonic Corporation, Sony Corporation, and Toshiba Corporation – are prominent innovators in the fields of consumer video, computing, and home networking technologies. Under the aegis of an inter-industry working group, in 1997, representatives of the motion picture, consumer electronics and information technology industries undertook an evaluation of technologies to perpetuate within the home environment protections applied to content when delivered to the home (such as encryption of prerecorded media or conditional access cable or satellite delivery systems). Motion picture companies stated at that time that the availability of such protection would give them incentives to release and license more valuable films and television programming in digital and high definition formats.

As an outgrowth of that evaluation project, in 1998, the Founders (also known as “5C”) together created the Digital Transmission Content Protection technology “DTCP” – a simple and inexpensive method, affording a high degree of protection, for copyrighted commercial entertainment content transmitted over high-speed bi-directional digital interfaces. The primary interest of these companies in developing DTCP was to create a platform upon which to support their core business interests: the marketing of advanced consumer home video products that display, record, manage, and network entertainment content throughout the home and personal network. As explained below, DTLA has achieved through DTCP’s capabilities and license rules a workable balance between providing incentives for content owners and securing personal use rights for consumers.

In overview, DTCP protects audiovisual content against unauthorized copying, interception and tampering within the home, while ensuring that content can be viewed and copied on home networked devices. DTCP enables audiovisual content to be transmitted, in an encrypted form, only to those devices along the home network that have authenticated compliance with DTCP.

DTCP is a “link protection” technology that helps secure transmissions between digital entertainment products. DTCP “hands off” DTCP-protected content to other technological protection methods that will record that content in a protected format or retransmit that content, so long as those methods perpetuate at least the same level of protection that has been applied over that content by or on behalf of the content owner using DTCP. DTCP also has been “mapped” for use over a variety of digital interface protocols, including Internet Protocol, IEEE 1394, USB, and mobile formats such as MOST. In this way, DTCP acts as a kind of *lingua franca* that facilitates interoperability among devices of different manufacturers using different interfaces and technologies.

DTCP currently is in use in a spectrum of consumer home entertainment and information products, including set-top box receivers of television programming, digital video

recorders, Blu-ray Disc players and recorders, and home media center and networking devices. DTCP's value to the home networking environment has been affirmed by the adoption of DTCP for Internet Protocol ("DTCP-IP") in the Digital Living Network Alliance ("DLNA") inter-industry voluntary interoperability guidelines.⁸ In Japan, the Association of Radio Industries and Businesses ("ARIB") approved Digital Transmission Content Protection over IEEE 1394 and Internet Protocol as the content protection method for the video output interface on televisions, tuners and other equipment receiving terrestrial digital broadcasting and similar data streams. Under the DLNA and ARIB guidelines, High Definition television programs being broadcast or recorded can be sent over the home network to another room for viewing and recording. DTCP (including DTCP-IP) also is an approved output protection technology for entertainment content received on a wide range of devices, including cell phone-based devices, that use Open Mobile Alliance DRM 2.0.⁹

DTLA licenses DTCP on a fair, reasonable, and nondiscriminatory basis, *i.e.*, the same terms and conditions are made available without discrimination to all Adopters and Content Participants. The full text of all current license agreements are available for review and downloading on DTLA's website, <http://www.dtcp.com>. Fees for DTCP are calculated essentially on a cost recovery basis to fund necessary activities such as license administration and key and certificate generation.

All current DTCP technical specifications also are available for review and download from the DTLA website, with the exception of limited cryptographic information made available only to licensees (whose licenses impose suitable confidentiality obligations). Any entity considering manufacturing devices with DTCP can sign the Adopter Agreement license with DTLA first as an "Evaluator," which gives such entity full access to the Specifications with confidential information, and later activate the license to permit commercial distribution of products with DTCP.

DTLA's license agreements set forth Encoding Rules that define the scope and limits of DTCP protection that can be applied to specific types of audiovisual content.¹⁰

⁸ See DLNA Interoperability Guidelines, October 2006; DLNA Overview and Vision White Paper 2007 at 18, available online at http://www.dlna.org/en/industry/pressroom/DLNA_white_paper.pdf Similarly, the now-disbanded High-definition Audio-video Network Alliance ("HANA") had selected DTCP under its voluntary inter-industry standards for home networking using IEEE 1394. See <http://www.1394ta.org/about/HANA/index.html>

⁹ See CMLA Client Adopter Agreement, Table Y1, CMLA Authorized Outputs at 55, <http://www.cm-la.com/documents/CMLA%20Client%20Adopter%20Agreement.pdf> (Dec. 12, 2009).

¹⁰ The DTCP encoding rules were jointly supported by the cable and consumer electronics industries, and were used as a model by the U.S. Federal Communications Commission for their encoding rules regulations applicable to multiple video program distributors over cable and satellite systems. See 47 C.F.R. § 76.1904.

DTLA has licensed more than 130 companies that manufacture devices that use DTCP (“Adopters”). Three major motion picture studios have signed licenses to encode content using DTCP (“Content Participants”). However, content owners need not enter into a license to encode DTCP protection for their audiovisual content. DTLA, through its “IP Statement,” <http://dtcp.com/data/IPStatement07102001.pdf>, permits content owners to encode DTCP for their content *if* that encoding conforms with the Encoding Rules.

Historically, DTCP protection was intended to perpetuate protections already applied to audiovisual content (such content defined as “Commercial Entertainment Content”), and was not permitted to be applied to unprotected free-to-air transmission systems. The Digital Television Group in the UK approached DTLA with a request to incorporate DTCP in HD DTT receivers based upon representations from content owners that content protection would facilitate licensing for the Freeview HD platform, in earlier windows, of the same types of content currently being made available elsewhere in the world over conditional access cable and satellite systems. In response, DTLA presented its policy that one of the conditions under which DTLA would consider the use of DTCP for unencrypted free to air broadcast is that broadcasters and content providers agree with certain Encoding Rules that give consumers the ability always to make at least one copy of any content broadcast over the HD DTT system and protected by DTCP. DTLA consulted extensively with its Content Participants and the Digital Television Group to craft a set of Encoding Rules and a revised IP Statement specifically for the HD DTT platform. Those proposed Encoding Rules and revised IP Statement since December 2009 have been available for review and downloading from the DTLA website. For convenience, the Encoding Rules are set forth here in Appendix B.

Appendix B

DTCP Encoding Rules for UK HD DTT Transmission Service

For inclusion in Section 5 of the DTCP Content Participant Agreement:

5.4 Encoding for UK HD DTT Transmissions. Notwithstanding the provisions of Sections 5.1 – 5.3, for the High Definition Digital Terrestrial Transmission service in the United Kingdom, consisting of a free-to-air non-conditional access high definition terrestrial digital audiovisual transmission system of multiplexed channels available without subscription or payment and excluding any portion of a service that enables an individual consumer to select a particular program to be transmitted only to that individual consumer (“UK HD DTT”), Content Participants may not encode, or direct to be encoded, using DTCP Commercial Audiovisual Content so as to prevent or limit copying thereof, except as follows:

5.4.1. Copy One Generation. Content Participant may encode, or direct to be encoded, using DTCP Copy One Generation encoding:

- a. content that previously has been available only in theatrical release or only on Prerecorded Media in any country of the world, and has not previously been licensed for television broadcast in any country of the world; or,
- b. content that --
 - i. was transmitted in North America, Japan, any Western European country, or in any country constituting a major market for such audiovisual programming (each a “Major Market”), by or under license from a person or entity authorized to license such transmission, and each such transmission has been made over Video on Demand, Pay-Per-View, Subscription-on-Demand, or Undefined Business Models that are comparable to the foregoing, or Pay Television Transmissions, and
 - ii. either—
 - A. has not been lawfully transmitted in any Major Market in greater than Standard Definition format without using one or more digital copy protection methods (*i.e.*, methods that impose numerical copy restrictions), including by way of example DTCP encoding and display-only methods, or,
 - B. is a version created specifically for the market in the United Kingdom, other than by minor editing processes typically performed for English-speaking foreign-produced programs re-broadcast in the United Kingdom, of a program that was broadcast or is scheduled to be broadcast in another country; or,

c. content that is co-produced by Content Participant and one or more other entities and is scheduled to be transmitted in a Major Market by or under license from one or more of the other co-production partners using a method of delivery set out in b(i) above and satisfies the condition set out in b(ii)(A).

5.4.2 Encryption Plus Non-assertion (“EPN”) Encoding. Content Participant may encode, or direct to be encoded, using DTCP EPN encoding any content that is broadcast over the UK HD DTT service, except that EPN encoding may not be applied to content that is broadcast (a) over another service in the United Kingdom in High Definition, (b) at or about the same date as the broadcast over the UK HD DTT service, and (c) without using one or more digital protection methods (*i.e.*, methods that impose numerical copy restrictions, restrictions upon retransmission, or both), including by way of example DTCP EPN encoding.

5.4.3 Copy Never. For the avoidance of doubt, Content Participant may not encode, or direct to be encoded, using DTCP Copy Never encoding content for transmission over the UK HD DTT service.