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# **Licence to lock: The overextension of technological protection measures**

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## **Abstract:**

As digital goods gain traction and technological advancements that enable and facilitate piracy develop, technological protection measures ('TPMs') have become indispensable tools for content-producers to safeguard their intellectual property ('IP') rights. Like other intellectual property laws, there is an inherent tension in TPM protection provisions between safeguarding the content-producers' IP rights and the consumers' collective legitimate right to access works. TPM protection may be overly broad in two major ways. Firstly, by an ineffectual transposition of the rights and authority requirements, which stems from Article 11 of the WIPO Copyright Treaty. Secondly, by an overly-broad protection of TPMs in domestic legislation. This article argues that circumventing TPMs should only be prohibited where this would also involve an infringement of existing IP rights. The first part of the article discusses the proper ambit of TPM protection provisions by comparing the scope of such laws in Australia and Singapore, concluding that the Singapore position effectively protects the content-producer's IP rights without extending the *de facto* enforceability of TPM rights. The second part considers the practical implications of TPMs, including how they affect parallel imports and related practices such as geoblocking, virtual private networks ('VPNs') and streaming.

## **Keywords:**

Technological protection measures, Comparative law, international treaties

## **A. Introduction**

Technological Protection Measures ('TPMs') are technologies that aim to prevent unauthorised access or use of copyright works, thereby protecting intellectual property ('IP') rights from infringement. TPMs can control access to the protected work (e.g. password control systems, paywalls, time access controls, geoblocking) and/or the use of the protected work (e.g. encryption measures to prevent duplication of the work). With content being increasingly consumed online, and advancements in information technology allowing for such content to be reproduced and disseminated with ease, TPMs are an important mechanism in preventing IP infringement.

TPMs are protected in turn by TPM protection provisions. These are laws that prohibit the circumvention of TPMs. TPM protection provisions may enable the IP right owner to take action against:



1. The actual circumvention (i.e. avoiding, bypassing, removing, deactivating, impairing, or decrypting) of a TPM that effectively controls access to a copyrighted work;
2. The manufacture, import, distribution or provision of any product or device that can effectively circumvent TPMs; or
3. The provision of any service that can effectively circumvent TPMs.<sup>1</sup>

An act of circumventing a TPM may not necessarily infringe the content-producer's IP right. For example, even though software might be used to circumvent encryption measures used to prevent duplication of a protected work, one might actually have the right to duplicate that work, thus there being no infringement.

The central argument of this article is that circumventing TPMs should only be prohibited where to do so would also involve an infringement of existing IP rights. Prohibiting the circumvention of TPMs in cases where there would be no such infringement would greatly extend the effective rights of content-producers beyond the scope of their true rights. TPM protection provisions have provided *de facto* enforceability that extends far beyond *de jure* enforceability, creating a class of quasi-IP rights that simply should not exist.

The article will show that there are presently two major ways that TPM protection may be overly broad. Firstly, by an inefficacious transposition of the rights requirement and authority requirement, which stems from Article 11 of the World Intellectual Property Organisation ('WIPO') Copyright Treaty ('WCT'). Secondly, by an overly-broad protection of TPMs in domestic legislation.

Section B will start off by discussing Article 11 of the WCT, before looking at how the US position on TPMs was exported to its trade partners. It will compare the positions in Australia and Singapore (both contracting parties to the WCT), which signed the USA-Australia Free Trade Agreement ('FTA') and USA-Singapore respectively. It comes to the conclusion that the protection afforded by Singapore effectively protects the content-producer's IP rights without extending the *de facto* enforceability of TPM rights. On the other hand, it concludes that the protection in Australia is overly broad.

Section C will then address the problems caused by a broad interpretation of TPM protection provisions. Section D will discuss the scope of TPM protection provisions in relation to the defences and exceptions that can be raised. Finally, Section E will address the practical implications of TPMs, including how they affect parallel imports and related practices such as geoblocking, virtual private networks ('VPNs') and streaming.

## **B. The nature of TPM protection**

### ***History of TPM protection***

While TPMs are closely related to digital rights management systems ('DRMS'), the two are distinct. DRMS do not restrict access or use of copyrighted materials in themselves but are used to identify such works (Hazucha, Liu, and Watabe 2013, 274). The earliest forms of TPMs and DRMS appeared in the late 1970s and the 1980s (Hazucha, Liu, and Watabe 2013, 275).



TPM protection began as clauses in individual contracts between content-producers and consumers (Hazucha, Liu, and Watabe 2013, 275). These legal measures proved to be ineffective over time with the associated difficulties of enforcing each individual contract, which led to attempts by several governments to propose a statutory framework for TPM protection and enforcement (Hazucha, Liu, and Watabe 2013, 275).

The WCT, adopted on 20 December 1996, is the most influential international treaty on TPM protection provisions. As the US was heavily involved (Sheinblatt 1998, 535) in the drafting of the WCT, the TPM protection provisions were a direct implementation of the recommendations in the Intellectual Property and the National Information Infrastructure Report ('the US Report') produced by the US Information Infrastructure Task Force.

### ***Nature of TPM protection under Article 11 WCT***

Article 11 of the WCT provides that:

Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.

The Article contains two conditions for TPM protection provisions: firstly, provisions must protect TPMs that are used by authors 'in connection with the exercise of their rights under this Treaty [the WCT] or the Berne Convention ('the rights requirement'), and secondly; provisions must 'restrict acts, in respect of their works, which are not authorised by the authors concerned or permitted by law' ('the authority requirement'). A similar provision was included in Article 18 of the WIPO Performances and Phonograms Treaty (WPPT).

At the WIPO-organised Workshop on Implementation Issues on the WIPO Copyright Treaty and the WIPO Performances and Phonographs Treaty, Dean Marks and Bruce Turnbull explained that TPM protection provisions are necessary as a response to increasingly prevalent piracy due to technological advances (1999). In particular, since digital copies do not degrade in quality with each copy (unlike analogue copies), there was a need to find a means of restricting such copying with technology (Marks and Turnbull 1999). Marks and Turnbull's paper shows that TPM protection measures were introduced to protect existing IP rights from the threat of piracy and not to extend the rights of content-producers. Professor Cornish echoes this view, noting that TPMs developed amidst a background of constant attempts at piracy and a desperate need for strong technological defences in order to protect the copyright industries (Cornish 2004, 54).

In light of this background, it is submitted that the two conditions in Article 11 of the WCT must be read conjunctively rather than disjunctively. In other words, the two conditions must be read together. A TPM should be used to restrict unauthorised acts *and* must be used in connection with the exercise of IP rights.

The rest of Section B will explore the legal position in the US and two of its trading partners: Australia and Singapore. In particular, it will explore whether the TPM protection provisions in these jurisdictions import both the rights requirement and authority requirement from Article 11 of the WCT. The US position illustrates the importing of the rights



requirement but not the authority requirement. US case law has yet to clarify whether the authority requirement exists. Problems thus arise where US-influenced TPM protection provisions are adopted by other jurisdictions that are trade partners of the US. In turn, this is illustrated by the contrasting positions of Australia and Singapore, who adopt a broad and narrow reading of TPM protection provisions respectively.

### ***An ‘American export’ TPM approach***

The US includes TPM clauses within its FTAs with other states as part of its intellectual property trade agenda. These TPM clauses generally construe the ‘right requirement’ broadly, i.e. the right protected by the TPM does not have to be a copyright. They also generally effectively do not import the ‘authority requirement’.

Some argue that it might be possible to narrowly construe the ‘right requirement’ under these TPM clauses. This is especially if one considers that the TPM clauses are usually located under a broader Article on ‘Copyright’. For example, Australia’s Attorney General’s Department, commenting on Article 17.4.7 of the Australia US Free-Trade Agreement, noted that the ‘broader context of the chapeau may support a reading that restricts rights to those comprising copyright’, in spite of the express wording of the clause (Parliament of Australia House of Representatives Committee 2006, 22) . Because Article 17.4 deals only with rights in copyright, and the fact that the effective technological measure must by definition protect a copyright, perhaps there is cause for the ‘right requirement’ to be interpreted narrowly (Parliament of Australia House of Representatives Committee 2006, 22).

### ***The US position***

The US Digital Millennium Copyright Act (‘DMCA’), was enacted to implement WCT and WPPT. Title I of the DMCA creates two new prohibitions in Title 17 of the US Code, including a prohibition on circumvention of TPMs used by copyright owners to protect their works.

Section 1201 DMCA provides for three main prohibited acts: (1) circumvention of TPMs protecting access control; (2) trafficking in devices or services that circumvent TPMs protecting access control; and (3) trafficking in devices or services that circumvent TPMs protecting copy control.

The provision on circumvention of TPMs protecting access control can be found in Section 1201(a) DMCA:

No person shall circumvent a technological measure that effectively controls access to a work protected under this title’ This prohibition contained in the preceding sentence shall take effect at the end of the 2-year period beginning on the date of the enactment of this chapter.

As noted by the US Copyright Office in its comprehensive review of Section 1201 in 2017 (US Copyright Office 2017) access control is generally protected under Section 1201(a) unless one of the permanent exceptions of Section 1201(d) to (j) apply, or where Congress passes a temporary exemption to prohibition under Section 1201(a)(1)(C) (US Copyright Office 2017, 6–7) In the case of the former, this includes situations where a TPM is circumvented under good faith circumstances by, *inter alia*, non-profit libraries, archives and



educational institutions (Title 17 US Code, §1201(d)), certain reverse engineering activities, (Title 17 US Code, §1201(f)) and encryption research (Title 17 US Code, §1201(g)) As for the latter, such exemptions have been voluminous, with the most recent exemptions spanning a total of 14 classes of copyrighted work (37 CFR Section 201.40(b)(2) – 201.40(b)(14))

Further, ‘circumvent a technological measure’ is defined in Section 1201(a)(3)(A) DMCA to mean ‘to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner’. A technological measure that ‘effectively controls access to a work’ means a measure that ‘in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work’ (Title 17 US Code, §1201(a)(3))

### ***Transposition of the rights requirement and authority requirement***

Prima facie, it appears that Section 1201(a) DMCA incorporates both the authority requirement (i.e. the reference to ‘without the authority’) and the rights requirement (i.e. the reference to ‘copyright owner’). However, on a closer reading, Section 1201(a) DMCA does not actually require the TPM to be used in connection with the exercise of IP rights. For example, an e-book may be protected by copyright, but the TPM used in relation to this e-book may protect purely contractual rights. On a strict literal reading of Section 1201 DMCA, the owner may have legal remedies when the TPM has been circumvented even if the TPM does not protect the copyright itself. In this regard, it appears that the DMCA deviated from Article 11 WCT. As long as the TPM controls access to a protected work, and the circumvention of the TPM is without the authorisation of the content-producer, this may attract liability under Section 1201 DMCA.

Indeed, US’s chief policy spokesperson and proponent of the DMCA, Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, Bruce A. Lehman, conceded that the DMCA TPM protection provisions went beyond the WCT and WPPT requirements (Hinze 1997, 61–63). Gwen Hinze of the Electronic Frontier Foundation has argued that this is problematic as it may give rightsholders a new right of controlling access to content, separate from and potentially unconnected to their pre-existing IP rights (Hinze 1997, 61–63). As noted above, this was never the intention of the drafters of the WCT and WPPT. Hinze expressed concerns that the US DMCA changes could ‘effectively override the traditional boundaries of copyright law’, threatening free and open software use, stifling technological innovation and the creation of interoperable devices, allow for anti-competitive misuse, have a chilling effect on scientific research and publication, and override national copyright law exceptions (Hinze 1997, 61–63).

The US position is notably different from the WCT in that it distinguishes between the concepts of ‘access control’ (i.e. restricting access to the work) and ‘copy control’ (i.e. restricting copying of the work). Section 1201 DMCA does not include a prohibition on circumvention of TPMs protecting copy control. Braun argues that this was an intentional omission to prevent a conflict in situations where ‘fair use’ copying might be prevented by a TPM protecting copy control (Braun 2003, 499). However, as shown subsequently in the *Universal v Eric Corley* case, this does not mean that a consumer’s right to fair use can always be exercised in practice. In that case, the court drew a distinction between ‘access’ and ‘use’ as two different stages. It held that a right to fair use does not permit



one to circumvent access TPMs preventing one from exercising the fair use right (Rychlicki 2007, 95). As Braun explains, since fair use only applies to the second stage, one will practically be unable to exercise a fair use right if there is a TPM protecting access at the first stage (Braun 2003, 499). Tangentially, this may raise constitutional challenges as to whether Section 1201 DMCA eliminated the fair use of copyrighted material, as noted in *obiter* by the court in *Corley (Universal City Studios Inc v Eric Corley 2001, 458)*. The court however declined on any definitive pronouncement as the issue did not arise for decision in that case (*Universal City Studios Inc v Eric Corley 2001, 459*)

To briefly summarise, while the US position seems to import both the rights requirement and authority requirements of the WCT, only the former is in effect imported. Crucially, the circumvention of a TPM under US law, does not need to be exercised in connection with existing IP rights. This has the effect of over-extending the rights of copyright holders and does not give rise to the legislative intent of the WCT.

### ***The Australian position***

When Australia signed the Australia-US Free Trade Agreement ('Australia-US FTA'), it was obliged to introduce stronger IP standards. The new TPM protection provisions, which are modelled heavily on the US DMCA, were implemented by way of the Australian Copyright Amendment Act 2006. Notably, Section 116AN of the Australian Copyright Act 1968 prohibits the circumvention of an access control technological protection measure ('access control TPM'), except where the person has the permission of the copyright owner to circumvent the access control TPM.

In section 10 of the Australian Copyright Act 1968, an 'access control technological protection measure' is defined as

a device, product, technology or component (including a computer program) that is used in Australia or a qualifying country, by, with the permission of, or on behalf of the owner of the exclusive licensee of the copyright in a work or other subject-matter, and in connection with the exercise of the copyright, and in the normal course of its operation, controls access to the work or other subject-matter.

However, like the US, the Australian Copyright Act 1968 does not prohibit circumvention of other TPMs, such as those protecting use of the copyrighted work.

### ***Transposition of the rights requirement and authority requirement***

The Australian Copyright Act 1968 clearly included both the rights requirement and authority requirement. The former can be found in the definition of an 'access control technological protection measure' ('in connection with the exercise of the copyright') and the latter can be found in Section 116AN itself (owner's permission is an exception to the prohibition on circumvention). As the Australian model is similar to the US model insofar as they both distinguish between TPMs protecting use and access of the protected work, similar issues arise.

However, much of the above position changed when Australia entered into the Australia-United States Free Trade Agreement ('AUSFTA') in 2006. Article 17.4.7 of the AUSFTA spelt out each countries' obligations in implementing anti-circumvention laws. Unfortunately, it seems that the TPM clause in the USA's free-trade agreements applied an over-broad definition of TPMs.



The three main differences between the Australian position pre-AUSFTA and with the imposition of the AUSFTA are summarised below (Parliament of Australia House of Representatives Committee 2006, 24–28)

***Effective technological measures versus technological protection measures.*** Under the AUSFTA, the definition of Effective Technological Measures ('ETMs') has a wider scope than the definition of TPMs under the Copyright Act 1968. In the AUSFTA, ETMs need only 'control access' to copyrighted material (Parliament of Australia House of Representatives Committee 2006, 24). This is in contrast to the Section 10(1) definition of TPMs, where there is a clear link between the 'access control' and the need to protect copyright. This link was heavily emphasised by the aforementioned ruling in *Stevens v Sony*.

***Scope of liabilities.*** Under the AUSFTA, 'both the provision of a circumvention device or service and the act of circumvention will be prohibited' (Parliament of Australia House of Representatives Committee 2006, 27). The Copyright Act 1968 used to only cover the latter form of liability.

***Scope of exceptions.*** Australia's exceptions to their anti-circumvention laws used to be extensive, in line with the need to balance the needs of the consumer with the rights of the copyright owner. However, the scope of the exceptions in the AUSFTA 'is narrow in comparison to the range of permitted purposes ... available in the Copyright Act 1968' (Parliament of Australia House of Representatives Committee 2006, 28). In attempting to assuage the discontent at the narrowed list of exceptions and the shifting balance of interests in Australia, prior to the signing of the AUSFTA, officials noted that 'Australia retains the ability to create appropriate exceptions to suit its own circumstances' (Parliament of Australia House of Representatives Committee 2006, 20).

On the whole, an overly broad definition of TPMs that over-extends the rights of copyright holders is adopted under Australian law with the entering of the AUSFTA. TPMs that only protect control access to content are protected, even where a link between access control and the need to protect copyright is absent. Providing a circumvention device is now prohibited and fewer exceptions for consumers to circumvent the TPMs are provided for under the AUSFTA.

### ***The Singapore position***

The current TPM protection regime in Singapore was enacted in 2004 after the US-Singapore Free Trade Agreement ('US-SG FTA') was signed. Article 16.4.7 of the US-SG FTA required Singapore to implement legislation to prevent the circumvention of TPMs. To this end, Part XIII A of the Singapore Copyright Act (Cap 63) (2006 Rev Ed) was introduced to address circumvention of TPMs.

Section 261C of the Singapore Copyright Act provides that:

'Subject to sections 261D and 261E, where a technological measure is applied to a copy of a work or other subject-matter by or with the authorisation of the owner of the copyright in the work or subject-matter in connection with the exercise of the copyright, or to a copy of a performance by or with the authorisation of the performer of the performance in connection



with the exercise of any right in the performance, no person shall, without the authorisation of the owner of the copyright or the performer of the performance ... if the technological measure is a technological access control measure, do any act which he knows or ought reasonably to know circumvents the technological measure. (emphasis added)

Section 261D of the Singapore Copyright Act sets out exceptions to the prohibition on circumvention of TPMs. Exhaustion of rights is not expressly stated as an exception in the Singapore Copyright Act but it appears that circumvention of TPMs under such circumstances will be condoned (The Straits Times [2016](#))

### ***Transposition of the rights requirement and authority requirement***

Section 261C of the Singapore Copyright Act includes both the rights requirement and authority requirement. It is interesting to note that Section 261C specifies that the TPM must be used 'in connection with the exercise of the copyright' or 'any right in the performance'. In other words, the rights requirement in Section 261C is a more stringent requirement than that in Article 11 WCT, as it makes specific reference to copyright, which is an IP right.

### ***Comparison***

TPM protection provisions in Singapore and Australia clearly include both the rights requirement and authority requirement. This is in contrast to the US, where Section 1201(a) DMCA includes the authority requirement, but does not actually require the TPM to be used in connection with the exercise of IP rights. Thus, Singapore and Australia, in some senses, are better off than the other jurisdictions.

However, Australia seems to have taken a step backwards in its enactment of the AUSFTA. It is interesting to note that despite the apparent similarity between the US-SG FTA and the AUSFTA, there is a substantial divergence between the two jurisdictions in their implementation of TPM protection. As Singapore takes a narrow approach to the implementation of the TPM clause in its FTA with the US, the protection afforded by Singapore effectively protects the content-producer's IP rights without extending the *de facto* enforceability of TPM rights. On the other hand, Australia takes a broader approach, resulting in TPM protection that may be said to be overly broad.

## **C. Perils of overextending TPMs**

The section above has illustrated how some TPM protection provisions may lead to liability even where the TPM is not being used in connection with the exercise of IP rights. This clearly goes beyond the intended scope of the TPM protection provisions in WCT. This section will focus on the dangers of overextending TPM protection provisions.

### ***Extending effective rights***

Over time, concerns have arisen about TPM protection provisions and how they may have exceeded their original purpose. TPMs and TPM protection provisions were created to prevent IP infringement and rampant piracy caused by technological advancements. The intention was to effectively protect the IP rights of content-producers. However, TPMs have gradually expanded to cover situations where there is no issue of piracy.



Content-producers can significantly increase their effective rights by including a TPM in everything they produce.

The extension of the scope of TPM protection provisions has been noted by the Australian courts. In *Stevens v Sony*, the High Court of Australia was wary about TPM protection provisions covering conduct which did not infringe copyright and that was not otherwise unlawful (*Stevens v Sony* 2002, para 47). Kirby J expressly rejected Sony's argument for a generous construction on the ground that it would extend *de facto* rights beyond those ordinarily protected by copyright law (*Stevens v Sony* 2002, para 211). He went on to oppose the idea that content-producers should be able to use TPMs designed to prevent copyright infringement to enforce divisions of the global market (*Stevens v Sony* 2002, para 214). Similar sentiments were expressed by Gleeson CJ, Gummow, Hayne and Heydon JJ as they considered the same example (*Stevens v Sony* 2002, para 47).

Broad TPM protection provisions (i.e. those with no clear rights requirement) would prohibit TPMs that are not used to protect IP rights at all. As a result, this may enable content-producers to stifle legitimate activities and potentially infringe the legitimate rights of others. For example, broad TPM protection provisions may threaten fair use rights and impede lawful competition and innovation. In effect, such broad TPM protection provisions would extend the effective rights of content-producers.

### ***Threatening fair use***

There is a far more concerning way in which TPMs can reduce utility. Numerous countries provide for a 'fair dealing' exception, where, for example, copying done for the purposes of research or study is permitted if no more than 10% of the number of pages in a book are copied. Also, once the copyright has expired, the work will enter the public domain, where they can be freely accessed and copied. Such rights are statutorily conferred and intended to benefit the consumer. However, a broad construction of TPM protection provisions would prevent consumers from exercising these rights. Educators for instance, would be prevented from using excerpts of a film released on DVD for classroom use (Von Lohmann 2010).

The difficulty lies in the indiscriminate manner in which TPM protection provisions prohibit the circumvention of TPMs. As there are no provisions dealing with fair dealing or public domain access, a consumer may still be liable even if the circumvention of a TPM is required for him to exercise his rights. Therefore, TPMs have the potential to render the fair dealing exception and public domain access redundant in certain cases despite these exceptions being expressly provided for by Parliament. The WIPO and its signatory states could not have possibly intended to confer such a power on content-producers.

## **D. Scope of TPM protection provisions**

Section B has illustrated how the scope of current TPM protection provisions may have gone beyond what was envisioned in the WCT. Section C has then illustrated the dangers of broad TPM protection provisions. This section aims to shed light on the true scope of TPM protection provisions by discussing the effect of defences and exceptions to breaches of TPM protection provisions.



There are three main defences against a charge of breaching a TPM protection provision: either (1) the device in question is not a TPM; (2) the act in question is not one of circumvention; or (3) the circumvention is not a breach.

### **(1) Not a TPM – *Stevens v Sony***

The Australian case of *Stevens v Sony* provides an example of a successful argument that the device in question was not a TPM. Prior to 2006, Section 10(1) of the Australian Copyright Act 1968 defined a TPM to mean:

a device or product, or a component incorporated into a process, that is designed, in the ordinary course of its operation, to prevent or inhibit the infringement of copyright in a work or other subject matter by either or both of the following means: (a) by ensuring that access to the work or other subject-matter is available solely by use of an access code or process (including decryption, unscrambling or other transformation of the work or other subject-matter) with the authority of the owner or exclusive licensee of the copyright; (b) through a copy control mechanism.

The High Court of Australia affirmed (*Stevens v Sony*, para 38) the trial judge, Sackville J's definition of a TPM as:

a device or product which utilises technological means to deny a person access to a copyright work [or other subject matter], or which limits a person's capacity to make copies of a work [or other subject matter] to which access has been gained, and thereby 'physically' prevents or inhibits the person from undertaking acts which, if carried out, would or might infringe copyright in the work [or other subject matter]. (*Stevens v Sony* 2002, para 81).

The High Court drew a distinction between devices or means designed to prevent any copying at all and those designed to impair the quality of copies (*Stevens v Sony* 2002, para 37) Since the alleged TPMs (the access codes, in this case) did not prevent the act of infringement from occurring in the first place but prevented access only after any infringement had taken place, the High Court held that the devices were not TPMs (*Stevens v Sony* 2002, para 46).

While *Stevens v Sony* provides an example of how to assess whether a device is a TPM, it is noted that its actual application is very limited indeed. Firstly, it is based on a highly technical construction of the Australian Copyright Act 1968. The High Court expressly rejected the Full Court's 'broader approach' (*Stevens v Sony* 2003, para 69–70). in favour of this technical approach (*Stevens v Sony* 2002, para 48–50). This was to prevent giving copyright owners an overly broad form of access control to give rise to legislative intent, as indicated by Australian and international extrinsic material (*Stevens v Sony* 2002, para 49). Secondly, Section 10(1) of the Australian Copyright Act 1968, which specific wording was so crucial to the outcome of *Stevens v Sony*, was subsequently amended in the Australian Copyright Amendment Act 2006.

In fact, as Raval argues, the TPM protection provision in the Australian Copyright Act 2006 has now been aligned with the DMCA because both statutes require 'the application of information or a process, with the permission of the copyright owner or exclusive licensee ... to gain access to the [copyright work]' (Raval 2012, 103). The provisions in the Australian Copyright Act 2006 and the DMCA map neatly onto each other and are very similar in content. This supports Raval's argument that there has been selective harmonisation of



the two Acts. However, the new Section 10(1) of the Australian Copyright Act 2006 may be even more stringent than the US DMCA, since a measure may be a TPM 'regardless of its effectiveness', while the US DMCA requires the measure to 'effectively control access'.

This issue of the effectiveness of TPMs has also arisen in EU law. Article 6(3) of the InfoSoc Directive (2001/29/EC) provides that:

Technological measures shall be deemed 'effective' where the use of a protected work or other subject-matter is controlled by the rightholders through application of an access control or protection process, such as encryption, scrambling or other transformation of the work or other subject-matter or a copy control mechanism, which achieves the protection objective. (emphasis added)

Braun argues that '[i]n order to provide a faithful application of Article 6(3)', the notion of 'effective technological measure' has to be construed in a way that the technological measure does not need always to achieve its objective in order to be deemed effective' (Braun 2003, 498). It is submitted that this must be correct. An excessively technical interpretation of the 'effective' requirement would run entirely contrary to the whole point of inserting that provision in the first place.

## **(2) Not circumvention**

The issue of whether an act circumvents a TPM may be less contentious than expected. In the *Stevens v Sony*, the issue of circumvention was readily conceded and did not feature prominently in the proceedings (*Stevens v Sony* 2002, para 28). Circumvention was similarly a non-issue in the EU case of *Nintendo v PC Box*. Likewise in the US, the definition of 'circumvention' is broadly defined under Section 1201 of the DMCA, which catches a wide variety of conduct. It seems that since it is obvious that there has been a circumvention in most cases, counsel would rather focus on the more contentious points.

## **(3) Circumvention is not an infringement of IP rights**

The most promising argument for a narrow interpretation of TPM protection provisions is consistent with its underlying purpose. The two main principles governing TPM protection provisions are that: (1) TPMs are not meant to extend existing IP rights; and (2) international exhaustion of rights takes precedence.

The first principle is the rationale for the introduction of TPM protection provisions. The second principle focuses on the well-established principle that the intellectual property rights of commercial exploitation over a given product are considered exhausted once the product has been sold by their rights owner or with his consent in any part of the world (Mirandah 2008). This doctrine is also known as the 'first sale doctrine': the rights of commercial exploitation for a given product end with the product's first sale and subsequent acts of resale can no longer be controlled by the content-producer (Mirandah 2008).

### **(1) No extension of rights**

As considered in detail above, the original purpose of the TPM protection provisions in Article 11 WCT was to protect existing IP rights and not extend them. Any TPM protection provisions must be interpreted in a consistent manner.



## ***(2) International exhaustion of rights***

The principle of international exhaustion of rights provides that a sale of a lawfully made copy terminates the copyright holder's authority to interfere with subsequent sales or distribution of that particular copy (Bhatt 2005). If such a doctrine is recognised in the jurisdiction in question, then parallel importation should be permitted as a practice, since the content-producer cannot enforce any contractual terms providing for geographical restrictions on the sale and use of its content. Also, once the consumer has purchased the content, he or she has ownership of that particular copy and has a legitimate right to access the content. This then raises a fundamental question of whether the principle of exhaustion necessarily applies to digital goods. Briefly, it is submitted that from an analysis of the EU position, there is no reason why the doctrine cannot be extended. This will be considered in detail in Section F.

While there may be restrictions on making copies or for non-private usage, accessing the content in this situation is the most fundamental right of ownership. A consumer should be allowed to circumvent any TPMs in order to access the content which he or she has legitimately purchased.

The argument that international exhaustion principles should take precedence over the TPM protection provisions is supported by the original words of Article 11 WCT. The prohibition against circumventing a TPM is conditional upon the TPM actually protecting an existing IP right. This must mean that the question of whether a right exists is conceptually prior to the application of the TPM protection provisions. Since international exhaustion relates to the question of whether there is a right in the first place, it must rationally take precedence over the TPM protection provisions.

TPM protection provisions must be interpreted to reflect this. TPMs may not be circumvented to access content which one has not legitimately purchased; there is no exhaustion of rights in such cases. However, for content that has actually been legitimately purchased, the doctrine of exhaustion of rights should operate to allow circumvention of any restrictions on the legitimate access of content.

## ***(3) Conclusion***

An analysis of the history of TPMs shows that they were intended to protect existing rights, not extend them. The principle of exhaustion of rights (if recognised by the relevant jurisdiction) then operates to ensure that the consumer has the right to access legitimately purchased content. With such a right, the consumer may circumvent any TPM that prevents the exercise of that right of access. It is submitted that the TPM protection provisions must be interpreted to accommodate these two principles.

## **E. Practical implications of TPMs**

As digital goods gain traction, TPMs are increasingly important as a means to control access and use of these digital goods. This section will discuss how TPM protection provisions affect parallel importation in the context of digital goods, in particular, geoblocking, VPNs, and streaming.



## ***Parallel imports in the context of digital goods***

### ***(1) Parallel imports***

Parallel imports are genuine goods purchased from one country and then imported into a second country for resale without the consent of the party that owns the trademark or copyright in the country of import (LaFrance 2013, 45). The permissibility of parallel imports depends on whether the doctrine of exhaustion of rights exist. Exhaustion of rights means that the rights of commercial exploitation for a given product end with the product's first sale and subsequent acts of resale can no longer be controlled by the content-producer (Mirandah 2008). In other words, if a country has laws recognising the doctrine of exhaustion of rights, parallel imports are likely to be permissible.

For example, generally, Singapore permits parallel imports. The two cases of *Television Broadcasts Ltd v Golden Line Video* and *PP v Teoh Ai Nee* formed a common law position that recognised exhaustion of rights (Bhatt 2005). Section 32 of the Singapore Copyright Act provides that there is an infringement if certain conditions are met and:

where he knows, or ought reasonably to know, that the making of the article was carried out without the consent of the owner of the copyright. (emphasis added)

This was elaborated upon in *Highway Video Pte Ltd v Public Prosecutor* where the Singapore High Court differentiated infringing copies from legitimate parallel imports on the basis that a copy would be an infringing copy only if it was manufactured without the consent of the copyright owner in the country of production and imported without the consent of the copyright owner in Singapore. It would be assumed to be legal otherwise (Bhatt 2005).

This clarified position essentially means that goods which have been released anywhere in the world with the consent of the copyright owner in that particular location can be legally imported into Singapore. This will be the case even if the copyright owner in the country of manufacture and/or the Singapore copyright owner place restrictions on its export into Singapore (Bhatt 2005). Thus, Singapore's position as to the parallel importation of copyrighted goods is liberal and permissive.

### ***(2) 'importing' digital goods***

A preliminary question that arises is whether digital content is even capable of being 'imported' in the first place. It is clear that physical goods can be exported and imported. Content distributed through the use of a physical medium, such as CDs and DVDs, are also capable of being imported and exported.

However, when the medium of distribution is wholly digital, it is not clear whether the traditional conceptions of geographical and physical boundaries that underpin the idea of parallel imports still hold. While all the constituent elements of cyberspace, including human actors and communications equipment, all exist in the real world and have a physical location, (Bigos 2005, 590), the question here is whether the digital content itself can be said to have crossed any geographical boundaries in its transmission.

It may be argued that geographical and physical boundaries do not apply to the cyberspace. In support of this view, Oren Bigos has argued that since the internet is inherently accessible from every country, once content is uploaded, it is usually open to all users anywhere in the world.



### ***(3) Geoblocking and VPNs***

On the other hand, it may also be argued that TPMs strengthen geographical boundaries in cyberspace. For example, TPMs like geo-blocking allow content-producers to restrict access to its content based on the user's geographical location. Geoblocking refers to any of a set of measures designed to determine the physical location of the person attempting to access content (typically through, but not limited to, IP address) and then deny access to those connecting from certain locations. In effect, this would prevent any 'parallel importation' of digital goods.

However, users may utilise VPNs to circumvent geo-blocking. VPNs are tools which receive network traffic over a secure connection and act as a proxy for information exchange over the internet. The user's computer effectively behaves as if it is on the network, at the physical location of the VPN. Therefore, VPNs enable the equivalent of 'parallel importation' of digital goods in the digital world. On this view, using VPNs to circumvent TPMs may not necessarily be prohibited if the doctrine of exhaustion of rights is recognised in that particular jurisdiction.

However, there remains some uncertainty as to how this might apply in practice. For example, at present, the Singapore Copyright Act generally prohibits users from circumventing TPMs, or from selling products and services to help others do so. There is a list of exemptions for certain situations where circumventions of TPMs are allowed (Ministry of Law 2016, 52). The general principle for allowing exceptions for circumventing TPMs is to prevent adversely impairing legitimate non-infringing uses (which includes preventing interoperability, repairs, and innovation, and shutting out competition) (Ministry of Law 2016, para 48).

Despite this articulation of a general principle, the law continues to operate on a specific exception basis and does not expressly recognise the precedence of the international exhaustion principle over TPM protection provisions. This approach is likely to be retained, as the Public Consultation Paper sought to extend the list of current exceptions (Ministry of Law 2016, para 53) rather than implement a general principle-based approach. It is noted that both the current list of exemptions (Ministry of Law 2016, para 52) and the proposed list of exceptions (Ministry of Law 2016, para 53) do not expressly state that international exhaustion of rights is an exception where circumvention of TPMs is allowed.

Despite the lack of statutory recognition of this issue, it is likely that circumventing TPMs where international exhaustion applies is permissible given Singapore's liberal position in relation to parallel imports. The Chief Executive of the Intellectual Property Office of Singapore, Daren Tang, noted that there are some concerns that bypassing geo-blocks could infringe copyright. He added that Singapore remains a strong supporter of parallel import, which is essentially what VPN allows in the digital world (Straits Times 2016)

In the statement above, Tang draws a parallel between VPNs and parallel imports, which are allowed in Singapore. Although the current law is silent on the use of VPN technologies, Tang's statement indicates that there may be a possibility that VPNs will be allowed to circumvent TPMs such as geoblocking in certain situations.

### ***(4) Streaming***

Streaming can either refer to direct streaming from a content-producer ('direct streaming'), or from another active communicator who receives copyrighted material and



then transmits or disseminates it to multiple passive recipients (indirect streaming) (Saw and Chik 2015, 63). Streaming can give rise to several legal issues. Firstly, a content-producer may only be willing to stream content to consumers in particular territories at particular prices. A consumer seeking to circumvent this form of geoblocking may use a VPN to fool the content-producers' devices into thinking that he or she is from the permitted territory and thereby access the content at those prices. Secondly, a distributor may, in breach of contract with a content-producer, decide to stream content to territories not under its licence. Streaming content without a licence is a clear infringement of copyright and will not be discussed further.

Streaming is different from traditional sale of digital content. Unlike regular digital content, streaming does not necessarily involve content being downloaded onto one's computer. In fact, many new forms of software make it exceedingly difficult to download the content for later viewing. It seems as though one merely gets a licence for one-time viewing, which immediately lapses (subject to contract) once the video ends.

If direct streaming only involves a licence and not any proprietary rights, then the arguments raised earlier, relating to parallel imports, may not be applicable to streaming. International exhaustion of rights are unlikely to apply here since it is possible to say that the content was never 'sold'. If the content-producer's rights are not exhausted when the transmitter receives the content, then there is no legitimate right of access for the end-users.

It is noted that there has been considerable discussion on whether the doctrine of exhaustion of rights is limited to physical media. The jurisprudence on this issue has been particularly rich in the EU. While the InfoSoc Directive makes it clear that the doctrine of exhaustion is confined to physical media, the CJEU has come to a different conclusion. In the *UsedSoft* case (2013) the CJEU extended the doctrine to include computer programmes, reasoning that while the language used in the purchase of software was that of the granting of a licence, the contract should be regarded as a sale (Mazziotti 2016, 367–368).

The CJEU went on to clarify the position in *Art & Allposters* (2015), holding that two conditions had to be satisfied for there to be exhaustion of rights. 'First, the original of a work or copies thereof must have been placed on the market by the rightholder or with his consent and, secondly, they must have been placed on the market in the EU' (*Art & Allposters* 2015, p 31). It is submitted that the judgment of the CJEU, having clearly listed its reasons for coming to its conclusion, is more persuasive than the simple assertion in the InfoSoc Directive that the doctrine of exhaustion is confined to physical media. It follows that there is no reason why the doctrine cannot be extended to software and, consequently, streaming.

It is also necessary to consider whether TPMs are unduly extending the rights of content-producers. Content-producers have three main IP rights: (1) right of reproduction; (2) right of communication to the public; and (3) right of distribution. If transmitters are prohibited from circumventing TPMs and disseminating the content to end-users, the content-producers retain their right to communication to the public and distribution. The use of TPMs in this case would not result in an extension of rights.

However, it may be argued that streaming involves downloading a copy of the content onto the user's hard drive (cache) so that the computer can read it and display it. Even if the content is distributed with the expectation that it may only be viewed once, this does



not change the fact that the consumer has purchased a legitimate right to access the content. There is no reason why the doctrine of exhaustion of rights may not apply in such a situation. Our analysis on parallel imports discussed above then applies to permit the circumvention of the TPMs on the content. This analysis is based on a more accurate understanding of the technical workings of the internet and is to be preferred.

Returning to our two cases in which legal issues can arise, it has been shown that there are no legal issues with direct streaming from the content-producer. The doctrine of exhaustion of rights can still apply and TPMs can be circumvented if the consumer has a legitimate right to access the content. As for streaming through a distributor, there is even less of a legal concern here, since it is even clearer that the doctrine of first sale applies in this context.

While consumers who circumvent TPMs (i.e. geoblocking) with legitimate rights to access the content may not be penalised under IP law, they may be liable under contract law for breaching the terms of the licence. While in most cases content-producers will not find it worthwhile to bring an action against the consumers for breach of contract, countries may consider expressly permitting such activities to remove any possibilities of civil liability.

## **G. Conclusion**

This article has reviewed the history, nature, legal framework and existing positions in several jurisdictions on the issue of TPM protection provisions. It has compared the positions in Australia and Singapore, and concluded that there is a distinct risk that TPM protection provisions stemming from the US approach may be unsatisfactory, particularly if a broad approach is taken (as in Australia), though the Singapore approach has shown that a balance can nevertheless be struck.

One of the main criticisms levelled at current TPM protection provisions is the lack of certainty and its ambiguous scope. The need for a bright line rule, or, a clear line in the sand, exists because of the ubiquity of digital goods and the potential criminal liability TPM protection provisions impose. There must be a clear position, backed up by strong justifications, on what is acceptable and what is not.

The key to ensuring a robust and fair TPM protection regime is in striking a fine balance between the protecting the content-producers' IP rights and the consumers' collective legitimate right to access works. A broad reading of TPM protection provisions, such as the Australian position, might result in extending the content-producers' effective rights. Conversely, a narrow reading of TPM protection provisions might render content-producers vulnerable to the risk of piracy. This article has shown, by reference to Singapore, that it is entirely possible to draft legislation that balances the abovementioned rights and as a practical rule-of-thumb, it would be prudent to include specific references to copyright in TPM protection clauses.

At the very least, TPM protection provisions must safeguard the economic rights of the content-producer, while affording governments sufficient flexibility to curb their monopoly power and ensure that society as a whole benefits. It is worth emphasising that this is the minimum position permissible in this context. In other words, governments are not free to simply infringe on the economic rights of the content-producer without proper justification. A proper study and proportionality analysis needs to be carried



out, following which certain, carefully designed rules can be used to reduce the monopoly power of the content producers. Failing that, the presumption should still be that content-producers have the right to control the distribution of their own works.

The ideal situation is for the national legislatures to expressly lay out the limits of TPM protection provisions, respecting the rights of users such as exhaustion, fair use and unrestricted public domain access, and restricting the application of such provisions to the protection of the existing rights of content-producers.

## Note

1. To illustrate, Person Z by way of a computer software resets the region code of a DVD so as to watch a film that has yet to be released in his country. Person Z may be in breach of the TPM protection provision via actual circumvention of a TPM, while the creator of the computer software may be liable for providing the software to circumvent to TPM.

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## **Treaties**

'WIPO Copyright Treaty' (WIPO, 20 December 1996)

## **Cases**

Case C-128/11 *UsedSoft GmbH v. Oracle International Corp.* [2013] Bus. L.R. 911  
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