THE RIGHT OF COMMUNICATION IN SINGAPORE

The right of communication was first introduced into Singapore five years ago as part of the 2004 amendments to the Singapore Copyright Act 1987. Modelled on Art 8 of the WIPO Copyright Treaty 1996, the right of communication enables the copyright owner to control the communication and dissemination of his works to the public. Admittedly, a considerable amount of uncertainty still prevails over the precise scope of the right of communication to the public, particularly in the sphere of electronic or digital transmissions. The objective of this article is to study the scope of this relatively new right of communication, assess its impact on the content industry (and on content users in particular) and offer possible interpretations of the statutory provisions. Finally, this article also considers the extraterritorial effect, if any, of the right of communication to the public and its impact on the doctrine of territoriality in copyright laws.

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I. Introduction

1 Advancements in information technology, in particular the creation of the Internet in the last two decades of the 20th century, have dramatically changed the way we work, play and live. Perhaps, one area in which the impact of digital technology is most keenly felt is the manner in which cultural and entertainment products such as books, music and movies are distributed and consumed by the public. Indeed, with the aid of the Internet, copyright owners are offered new (and

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more efficient) ways of presenting their works to the public. Communication and distribution channels for creative products traditionally employed in the "brick-and-mortar" world (such as distribution of hard copies of works, public performance of works and publication of works) are rapidly superseded by new channels and tools available in the electronic medium (such as e-mail, social networking websites, blogs, video-streaming, MP3 formats, peer-to-peer ("P2P") file sharing and webcasting *etc*). It is undisputed that these digitised modes of communication are significantly more effective compared to the traditional ones in terms of ease and quality of reproduction, speed of transmission, and the number of ultimate recipients. Whilst copyright owners appreciate that advancements in information technology have allowed them to more effectively exploit their works, copyright owners are at the same time also extremely fearful that these new digitised modes of distribution and communication will seriously threaten to erode the exclusive rights conferred on them to exploit their works. A response from the law is considered necessary by the copyright industries and the solution is the enactment of a technologically neutral right of communication for copyright owners. In recent times, countries have in one way or another amended their copyright laws to give effect to this right of communication.

2 Unlike jurisdictions elsewhere, Singapore's law, up to and until 2004, contained no additional exclusive distribution right (like in the US) or communication right (like in the EU). Prior to 2004, copyright owners of authors' works in Singapore relied on a bundle of traditional exclusive copyright rights, namely, to reproduce the work in a material form; to publish the work if the work is unpublished; to perform the work in the public; and to make an adaptation of the works, to control the dissemination of their works. For subject matters other than authors' works such as sound recordings, cinematography films, television and sound broadcasts and cable programmes, copyright owners similarly relied on reproduction rights; publication rights; and broadcasting rights to control dissemination. Following the footsteps of many other jurisdictions elsewhere, the right of communication to the public was introduced into Singapore five years ago as part of the 2004 amendments to the Singapore Copyright Act 1987.[1] Modelled on Art 8 of the WIPO Copyright Treaty 1996, the exclusive right of communication to the public (including the right of "making available") was specifically enacted by Parliament to enable the copyright owner to control the communication and dissemination of his works to the public, including the online environment.

3 Admittedly, a considerable amount of uncertainty still prevails over the precise scope of the right of communication to the public,

1 Cap 63, 2006 Rev Ed.

particularly in the sphere of electronic or digital transmissions. The objective of this article is to study – in some detail – the scope of this relatively new right of communication, assess its impact on the content industry (and on content users in particular) and offer possible interpretations of the statutory provisions. More specifically, the authors seek to provide plausible solutions to the following questions: (a) in an electronic or digital transmission, *when* does the act of communication occur; (b) in an electronic or digital transmission, *who* makes the act of communication; and finally, (c) in an electronic or digital transmission, *where* does the act of communication occur. The same three questions are also asked in the context of broadcasting, inclusion in a cable programme service and making available a copyrighted work on the Internet, which collectively make up the broad definition of "communicate" under the Copyright Act.[2] It is hoped that the answers to these three basic questions of *when*, *who* and *where* in relation to an act of communication to the public will be useful in fleshing out the scope and reach of the right of communication. In this article, the analytical framework has been built based on an understanding of the information transmission continuum over the Internet with a view that the analysis may be grounded in the state of the art transmission portals or networks. However, it is acknowledged that the task of clarifying the ambits of this right of communication is made ever more complex by the presence of a continuously evolving digital transmission architecture brought about by advancements in technology. The dynamic state of digital transmission is a primary limitation of an analytical framework. Finally, the authors also consider the extraterritorial effect, if any, of the right of communication to the public and its impact on the doctrine of territoriality in copyright laws.

II. The right of communication in Singapore – History and background

4 Although a first in our copyright laws, the right of communication is certainly not unique to Singapore. Strictly speaking, it is also neither novel nor modern in conception. In fact, communication rights have been part of the Berne Convention 1886 from as far back as 1925. However, the Berne Convention 1886 does not provide for an all-encompassing general right of communication to the public. Instead, certain communication rights such as communication to the public of the performance of their works, communication to the public of the recitation of their works and communication to the public by wire of their works are granted to the authors of specific categories of

2 Cap 63, 2006 Rev Ed.

subject matter.[3] In contrast, other forms of communication rights such as broadcasting, rebroadcasting, communication by wire and public communication by loudspeaker or any other analogous instruments transmitting by signs, sound or images are granted to all categories of literary and artistic works (which include dramatic, musical and cinematographic works).[4] It is not disputed that these early communication rights provided in the Berne Convention 1886 are limited in scope of protection. Overtime and against the backdrop of modern day sophisticated information distribution technologies, these early communication rights found in the Berne Convention 1886 are regarded by commentators[5] as inadequate to address concerns arising from the digital networked environment, in particular transmissions of authors' works over the Internet.

5 The modern version of the communication right is to be found, *inter alia*, in Art 8 of the WIPO Copyright Treaty 1996 ("WCT"). Article 8 of the WCT[6] provides that:

> Without prejudice to the provisions of Articles 11(1)(ii), 11*bis*(1)(i) and (ii), 14(1)(ii) and 14*bis*(1) of the Berne Convention, authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, *including the making available to the public* of their works in such a way that members of the public may access theses works from a place and at a time individually chosen by them. [emphasis added]

6 It is clear from a plain reading of Art 8 of the WCT that, unlike the communication rights in the Berne Convention 1886 which are subject matter dependent, it aims to confer a generic right of

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3 Article 11(1)(ii) of the Berne Convention 1886 confers on authors of dramatic, dramatico-musical and musical works the exclusive right of authorising the communication to the public of the performance of their works. Article 11*ter*(1)(ii) confers on authors of literary works the exclusive right of authorising the communication to the public of the recitation of their works. Article 14(1)(ii) confers on authors of literary or artistic works the exclusive right of authorising the public performance and communication to the public by wire of the cinematographic adaptation and reproduction of these works. Article 14*bis*(1) confers on authors of a cinematographic work similar rights of authorising public performance and communication to the public by wire as in a cinematographic adaptation of literary or artistic works.

4 Article 11*bis*(1)(i) of the Berne Convention 1886 confers a right of broadcasting to the public to all categories of literary and artistic works (which includes dramatic, musical and cinematographic works). Article 11*bis*(1)(ii) confers on authors of all works the exclusive right of communication to the public by wire, by rebroadcasting and by loudspeaker or other analogous instruments.

5 See, *eg*, Jane Ginsburg, "The (New?) Right of Making Available to the Public" in *Intellectual Property in the New Millennium* (David Vaver and Lionel Bently eds) (Cambridge University Press, 2004) ch 16. See also Mihály Fiscor, *The Law of Copyright and the Internet* (Oxford University Press, 2002) at p 155.

6 See also WIPO Performances and Phonograms Treaty 1996 Arts 10 and 14.

communication to the public to authors of *all* literary and artistic works. More significantly, Art 8 of the WCT encompasses not only a broad umbrella concept of "communication" to the public, but also provides for a specific and distinct right of "making available" to the public of the author's works within this general right. It is noteworthy that the right of "making available" to the public of the author's work, as it is conceptualised under Art 8 of the WCT, has never been mentioned as a mode which constituted a communication to the public in any of the early communication rights provisions found in the Berne Convention 1886. Whilst it is certainly no panacea for the many copyright issues which the digital environment has brought about, the right of "making available" to the public of the author's works encapsulated in Art 8 of the WCT is nevertheless a significant development and a timely response.

7 Singapore, a recent signatory to the WCT, chose to implement the Art 8 obligation through a fairly broad definition of the word "communicate" in s 7(1)[7] of the Copyright Act[8] which means to:

> … transmit by electronic means (whether over a path, or a combination of paths, provided by a material substance or by wireless means or otherwise) a work or other subject matter, whether or not it is sent in response to a request, and includes –
>
> (a) broadcasting of a work or other subject matter;
>
> (b) the inclusion of a work or other subject matter in a cable programme;
>
> (c) the *making available* of a work or other subject matter (on a network or otherwise) in such a way that the work or subject matter may be accessed by any person from a place and at a time chosen by him."
>
> [emphasis added]

8 In Singapore, the Copyright Act[9] therefore recognises the following distinct forms of communication: (a) *transmission* of a work or other subject matter by electronic means, whether over a path, or a combination of paths, provided by a material substance or by wireless means or otherwise and whether or not it is sent in response to a request. This definition of "communicate" is broad enough to cover electronic transmissions over the Internet; (b) transmission via *broadcasting* of a work or subject matter; (c) transmission via the inclusion of a work or a subject matter in *a cable programme service*; and (d) *making available* a work in such a way that the work may be accessed

7 *Cf* also Art 8 of the WIPO Copyright Treaty 1996 as well as Arts 10 and 14 of the WIPO Performances and Phonograms Treaty 1996.

8 Cap 63, 2006 Rev Ed.

9 Cap 63, 2006 Rev Ed.

by any person from a place and at a time chosen by him (in this situation, transmission of a work is said to be recipient-initiated). Scholars and commentators have generally characterised these various distinct forms of communications under two broad categories. The first category relates to "*transmission* by electronic means" and it includes broadcasting, inclusion in a cable service programme and some form of internet transmissions. These modes of communication are seen as forms of "push" technologies (where there is an *active communicator* with multiple *passive recipients*). The second category relates to the concept of "*making available* a work" which is characterised as a form of "pull" technology (*passive communicator* with multiple *active recipients*).[10] These two concepts of communication will be revisited especially in the context of the Internet when the different state of the art of transmission architectures presently available are discussed.

9 Under the Copyright Act, the right to communicate the work to the public is given to authors of original literary, dramatic, musical and artistic works.[11] It is similarly conferred on authors of subject matters other than works, namely, cinematographic films,[12] television and sound broadcasts[13] and cable programmes.[14] In the case of sound recordings, s 82(1) of the Copyright Act does not confer on the authors the general "right to communicate" the sound recordings to the public – a position quite unlike the other cases of cinematographic films, television and sound broadcasts and cable programmes. Instead, copyright owners of sound recordings are granted only a specific right "to make available to the public a sound recording by means of or as part of a digital audio transmission". Section 82(3) further explains that for the avoidance of doubt, "make available" for the purposes of this Part of the Act, does not include the causing of a sound recording to be heard, otherwise than by means of or as part of a digital audio transmission which means a transmission, in whole or in part, in a digital or other non-analogue form. These different forms of communication will be explored in greater detail below. But, before that, it is appropriate at this juncture to examine the state of the art in information transmission architectures available over the Internet.

10 As explained by Dr Mihály Ficsor in the *Guide to the Copyright and Related Rights Treaties Administered by WIPO* (WIPO Publication, 2003), the concept of communication to the public "… extends not only to the acts that are carried out by the 'communicators' themselves (that is, to the acts as a result of which a work or object of related right is, in fact, made available to the public and the members of the public do not have to do more than, for example, switch on equipment necessary for its reception), but also to the acts which only consist of making the work accessible to the public, and in the case of which the members of the public still have to cause the system to make it actually available to them" (at p 208).

11 Copyright Act (Cap 63, 2006 Rev Ed) ss 26(1)(*a*) and 26(1)(*b*).

12 Copyright Act (Cap 63, 2006 Rev Ed) s 83.

13 Copyright Act (Cap 63, 2006 Rev Ed) s 84(1)(*d*).

14 Copyright Act (Cap 63, 2006 Rev Ed) s 85(1)(*d*).

III. A brief description of the different information transmission architectures over the Internet

10 In general, there are two types of network architectures supporting the data and file transmission over the Internet: (a) client-server and (b) peer-to-peer ("P2P").

A. Client-server architecture

11 In client-server network architecture, certain computers are designated full-time servers, while others are full-time clients. For example, in an e-mail system, a server may be set up as a dedicated "post office" for an entire organisation. The duty of this server is to collect everyone's e-mail from outside sources for internal distribution and to serve as the transporter for all outgoing e-mail. In this network, each user's computer would be a client of the e-mail server. Another example is a file server which is set up to provide a shared storage of clients' uploaded files so that these files can be assessed by all the clients attached to the computer network. The manner in which information or data is transmitted over the information transmission continuum in a client-server architecture network varies with the client's usage of the network servers. In this regard, a server can function as an information delivery machine, file storage or a simple web publishing machine.

(1) Server acting as an information delivery machine

12 When network users send files (*eg*, e-mail, document, video, *etc*) from client computers to other network users, the files are first stored on web servers. When the intended recipients send their request to receive the files to the web servers, the servers will then emit the files to the recipients. The general process of file transfer over the Internet is depicted in Figure 1. Servers in most file transfer services, such as YouSendit, MailBigFile, SendThisFile, FTP file transfer, and e-mail system, deliver files and information through this client-server architecture. The file delivered may pass through multiple servers with different functions across domains.[15] For example, the actual e-mail system consists of two different servers: one is called the SMTP server, where SMTP stands for Simple Mail Transfer Protocol. The SMTP server handles outgoing e-mail. The other is either a Post Office Protocol (POP3) server or an Internet Mail Access Protocol (IMAP) server, both of which handle incoming e-mail.

15 Here "Domain" is a network address on the Internet. For example, the domain name of the Singapore Government is <www.gov.sg>.

13 A typical e-mail is sent over the Internet following this process: when an e-mail sender composes a message and presses the Send button on the e-mail client software (*eg*, Outlook Express), the e-mail client tells the SMTP server the address of the sender and the address of the recipient(s), as well as the body of the message. Then the SMTP server emits the message to the POP3/IMAP server if the recipient is at the same domain. If the recipient is at another domain, the SMTP server in the sender's domain will have conversations with the SMTP servers in the recipient's domain to deliver the e-mail. After that, the SMTP server in the recipient domain sends the message to the POP3/IMAP servers in the same domain. Then the message is put in the recipient's mailbox. During the process of message delivery, the message is uploaded into the sender's SMTP server and transferred to the recipient's servers. The file delivery via some other software webmail (*eg*, Gmail, Hotmail, *etc*) follows the same transmission procedure. The server keeps a system log which records the uploading time and file emitting time.

Figure 1
Internet file transmission process via client-server network architecture

(2) Server used as file storage

14 Internet users may upload files to web servers and store these files in the said servers for access by the public. For example, a Gmail user can compose an e-mail with the file attachments and store this mail in the draft folder or unsent folder. The user can then share the user account ID and password with the public so the public can get access to the specific account to open the mail and attachments. Similarly, an online file transfer service client can transmit the file and make it available to the public by storing the file on the account server and releasing the account information publicly. The key difference in the file transmission process is that the web server does not emit the file according to the request sent by the downloading client. The system log of the server only has records of file uploading time but not of the emitting time.

(3) Server used as web publishing machine

15 Another usage of a server is to upload files for purposes of web publishing such as blogging, webpage, webcasting and social networking sites (*eg*, Facebook) *etc*. When internet users upload the files to the web

host servers, the contents of the files are published on the web and are available to the public for viewing. Web publishing is similar to the "push" technologies such as broadcasting and cable programmes. No recipient request or access identity and password are necessary to access these files (the author, however, could, at his or her option, limit access to specified users).

B. Peer-to-peer architecture

16 In contrast to client-server networks, there is no dedicated server in P2P architecture. Alternatively, each computer in a P2P network functions as part server and part client. P2P users place the files in share folders in their hard disks and make these files and folders available to others for downloading. There is no central server that stores or keeps logs of all of the files available on the network. Instead, all of the machines on a P2P network tell each other about what files are available to share across the P2P network.

17 A simple example of P2P music sharing demonstrates the P2P processes. An internet user installs P2P software (*eg*, BearShare and GnucDNA) in his computer. As soon as his computer is connected to the Internet, the P2P software searches for other computers using the same P2P software. As long as the computer is connected to any of this kind of computer, it becomes a peer of this P2P network. When the computer sends a song query via the P2P software to other peers, it becomes a Peer Requester in this P2P network. All the computers connected to the requester machine search to see if the requested file is on the local hard disk. If so, they send back the file name and machine IP address to the requester. At the same time, all of these machines send out the same query to the machines they are connected to. For example, in Figure 2, Peer Requester is connected with two computers: Peer Responder 1 and Responder 2 and has no connection with Responders 3 and 4. When Peer Requester sends a query to Responders 1 and 2, these two computers will search the file in their own share folders in the hard disks and, at the same time, send the query to other computers they are connected to, *eg*, Responders 3 and 4. When the Responders 3 and 4 receive the query, the two computers search the file in their hard disks and send the query to other computers connected. In this way, a query propagates and reaches more machines. As long as a requester can get to at least one other machine running the same P2P software, the requester is able to query the P2P network.

18 If any of these computers receiving the query finds the requested file in their hard drive, this computer sends the peer requester a message telling the availability of the file and its own IP address. Most of the time, a query of a popular audio or video file will result in many response messages. In the end of each query period (normally 30 to

60 seconds), the P2P software in the requester machine shows a search window filling with IP addresses of the computers which are able to send the requested file to the requester. The peer requester can download the file from multiple peer computers at the same time in order to reduce the download time. Those computers which respond with the relevant IP addresses and share the files with the requester are known as the peer responders.

19 It is worthwhile to further note that in a P2P network, after the peer requester receives part or all of the requested files and stores the downloaded files in its share folders, it becomes a peer responder if there is another requester querying the same file. Therefore, compared to the file transmission in a client-server environment, it is relatively more difficult to decide *where* and *when* the right of communication has been exercised.

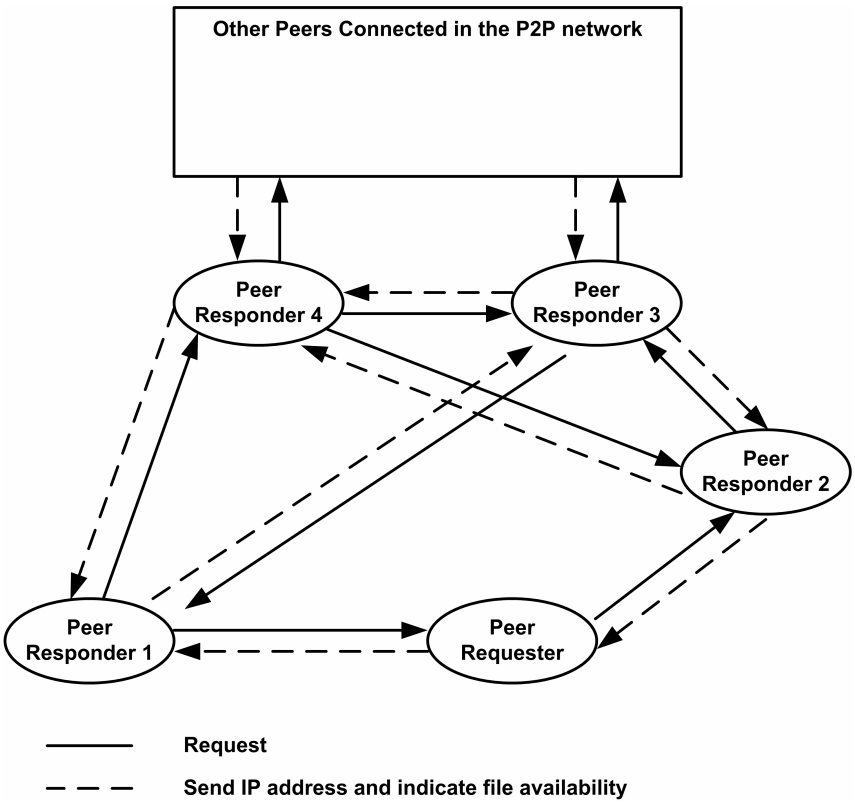

Figure 2
File Sharing in a Peer-to-Peer Network Architecture

IV. The right of communication in Singapore – Substance and scope

A. Communication to the public – Transmission of a work by electronic means

(1) When does a communication occur?

20 The act of communicating is synonymous with the act of transmitting. First, it is clear that transmission cannot occur without at least an emission of sorts, *ie*, there is a start point or the source or origin of the transmission. It is also logical to expect that with an emission, there should also be an end point to the whole process, *ie*, the point of reception. But, more importantly, for purposes of determining when a communication occurs through transmission of a work by electronic means is the question whether a reception of the origins of the transmission is necessary as a matter of law for an act to constitute a transmission. Commentators have canvassed arguments for and against reception being a necessary part of a transmission.

21 In the case of Singapore, it is submitted that on a literal interpretation of the definition of "communicate" in s 7(1) of the Copyright Act,[16] a transmission by electronic means does not require a reception of the origins of the transmission because (a) it is clearly stated in s 7(1) of the Act that to communicate is to transmit by electronic means and this is regardless of whether the transmission is sent in response to a request; (b) the right to communicate by electronic transmission includes the conventional communication rights of broadcasting of a work or subject matter and the inclusion of a work or other subject matter in a cable programme. Although there is no judicial decision definitively determining the issue in Singapore, it is well accepted generally that for broadcasting and cable-casting, no evidence of actual reception is required to establish that either of these rights has been exercised. It is sufficient to show that the work has been transmitted on the way to potential recipients. The point *when* communication has occurred in the case of a transmission by electronic means will now be considered.

(a) Broadcasting and inclusion in cable service programme

22 Under the CopyrightAct, broadcast is given a very technical definition and it means "broadcast by wireless telegraphy".[17] "Wireless telegraphy" is further defined to mean "the emitting or receiving,

16 Cap 63, 2006 Rev Ed.
17 Copyright Act (Cap 63, 2006 Rev Ed) s 7(1).

otherwise than a path that is provided by a material substance, of electro-magnetic energy" and it should exclude transmissions by electronic means via the Internet (discussed below). Generally, under the Act, a reference to broadcasting means broadcasting by way of sound or television broadcasting. *When* does a communication take place in the context of broadcasting? Following from the argument which has been canvassed above that no evidence of actual reception is required to establish that a right of broadcasting has been exercised and that it is sufficient to show that the work has been transmitted on the way to potential recipients, it is submitted that for a transmission by broadcasting, the logical point at which to consider *when* communication occurs is *when* the signal is emitted during the up-leg of the transmission.

23 Section 7(1) of the Copyright Act[18] defines "cable programme service" to mean a service which consists wholly or mainly in the sending by any person, by means of a telecommunication system (whether run by him or by any other person), of sounds or visual images or both either:

> (a) for reception, otherwise than by wireless telegraphy, at two or more places in Singapore, whether they are so sent for simultaneous reception or at different times in response to requests made by different users of the service; or
>
> (b) for reception, by whatever means, at a place in Singapore for the purpose of their being presented there either to members of the public or to any group of persons.

24 As in the case of transmission by broadcasting and for the similar argument that evidence of actual reception is not necessary to establish an exercise of this right, it is submitted that the logical point to consider *when* communication occurs is *when* the sounds or visual images or both of the cable programme have been sent out or emitted via a telecommunication system to the public or any group of persons.

(b) Transmission by electronic means via the Internet

25 It is submitted that in the case of an electronic transmission via the Internet, the point *when* communication has occurred is the point *when* a work is electronically emitted from the internet server. But given that there are different data transmission architectures available over the Internet, it is necessary to consider each of these transmission architectures in turn.

18 Cap 63, 2006 Rev Ed.

(i) CLIENT-SERVER ARCHITECTURE: SERVER ACTING AS AN INFORMATION DELIVERY MACHINE

26 In a client-server architecture where the server is acting as an information delivery machine, it is submitted that communication occurs at the time *when* the server emits the content according to the request of a downloading client. In this regard, an internet user (say, Jeremy) who forwards a large number of unauthorised MP3 files to other users of an online chat-room has necessarily engaged in acts of communication/transmission, and the same is true for those who are in the business of broadcasting and cable-casting (generally, operators of "push" technologies). If Jeremy had not obtained prior approval for his acts, he would be in breach of the copyright owner's exclusive right of communication to the public. In addition, it is easier to track the file transmission in this way because the system log of the server keeps records of the uploading and file emitting time.

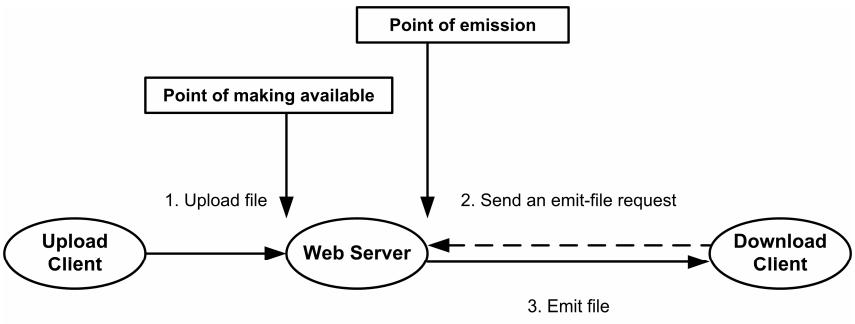

Figure 3
Internet file transmission process via client-server network architecture and point of emission

(ii) CLIENT-SERVER ARCHITECTURE: SERVER USED AS FILE STORAGE

27 In a client-server architecture where the server is used as file storage, there is no transmission by electronic means in this kind of situation because there is no emission of the file to the downloader. The only relevant act of communication is the act of making available the copyrighted work.

(iii) CLIENT-SERVER ARCHITECTURE: SERVER USED AS WEB PUBLISHING MACHINE

28 Similarly, in a client-server architecture where the server is used as a web publishing machine, there is no one-to-one or one-to-many

transmissions by electronic means. The only relevant act of communication is that of making available the copyrighted work.

(iv) PEER-TO-PEER ARCHITECTURE

29 It is important to recall that in a P2P transmission architecture, there are no servers. Thus, in such type of transmission architecture, the act of communication occurs at the time *when* the peer requester selects and activates the file transfer from the list of downloadable IP addresses of the peer responders. The activation by the requester is somewhat similar to the activity of a server when it emits files in client-server architecture.

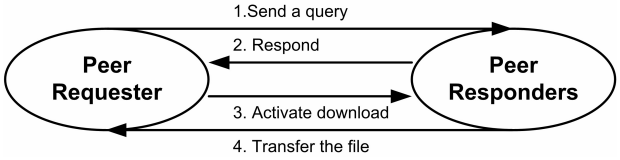

Figure 4
Sequence of File Sharing in a P2P Network

(2) Who makes the communication?

30 For communication by broadcasting and inclusion in a cable programme service (a single emitter and multiple passive recipients), it is clear that the person responsible for causing the work (insofar as it consists of visual images and sounds) to be seen and/or heard in public or to be seen and/or heard by a paying audience must be considered the person who makes the communication since it has been argued in the previous paragraphs that for a communication to occur by electronic transmission, there is no need for a reception of the origin of emission. The single emitter in broadcasting and cable-casting is also the only person who determines what the content of any particular transmission by broadcasting or cable-casting will be.

31 But, in the context of internet communications (e-mail, P2P file-sharing and webcasting *etc*), besides the person who uploads the work to the Internet for transmission by electronic means and the person who downloads the work at the end point of the transmission, there is also the intermediary Internet Service Providers ("ISPs") who are responsible for effecting the transmission itself. According to s 193B of the Copyright Act,[19] ISPs are considered mere conduits or facilitators

19 Cap 63, 2006 Rev Ed.

and are not liable for copyright infringement of any material that occurs by reason of the transmission or routing by the ISPs of an electronic copy of the material through the ISPs' primary network if the ISPs do not play any decisive role in the transmission whether in initiating the transmission, in the selection of the recipients or in making any substantive modifications to the content of the electronic copy of the material during the transmission of the electronic copy of the material through the primary network. Thus, under the Act, ISPs would not be considered in general to be the person who makes the communication in an internet transmission as they are exempted by law from copyright infringement.[20]

32 Between the person who uploads the material for transmission over the Internet and the person at the receiving end downloading the material, it is submitted that the better choice is the person who uploads the material and should be considered for all intents and purposes to be the person who makes the communication. This is because such an interpretation is consistent with the argument that communication via a transmission by electronic means does not require a reception of the origin in emission and that a communication has occurred when the material is uploaded on the internet server for purposes of transmission. Furthermore, the choice of the downloader as the person who makes the communication cannot be applied to the case of a communication by making available of a work because, in such a case, the person at the receiving end is not an actor. For consistency across all categories of communication, it is submitted that the person who uploads the material to the internet server for purposes of electronic transmission is the person who makes the communication.

(3) Where does the communication take place?

33 There is no simple solution to this difficult and complex question. Indeed, given the strong territorial premise of copyright laws, the localisation of the act of communication via an electronic transmission of online copyrighted material in a spatial dimension like cyberspace is a complex and problematic exercise.

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20 It is pertinent to note that ISPs are immune to copyright liability in countries like Singapore because of the "safe harbour" provisions. Elsewhere, website operators or ISPs may be held responsible for the copyright infringing files uploaded by their members or subscribers. Recently, a German District Court has held that file-sharing RapidShare is responsible for the files uploaded by its members, including the copyrighted ones. See 5 U 73/07 – *Haftung von Rapidshare IV* at <http://web hosting-und-recht.de/urteile/Oberlandesgericht-Hamburg-20080702.html> (accessed 1 July 2010).

(a) Broadcasting and inclusion in cable programme service

34 For broadcasting and cable-casting type of communications, it may be argued that the place of emission of the transmission signals is the most logical location *where* the communication takes place. This choice of location is also consistent with the answer to *when* the communication would be considered to have taken place in the context of broadcasting and cable-casting, *ie*, the up-leg of the broadcast or cable-casting transmission. But, an equally convincing argument may be made that for broadcasting and cable-casting type of communications, the transmissions are not complete until the signals have been received and the physical locations of the recipients are where the communications are considered to have taken place. Furthermore, adopting the up-leg location of the broadcasting or cable-casting transmission has the drawback that this may encourage broadcast and cable-cast operators migrating to jurisdictions where there is no or weak copyright protection, much to the detriment of copyright owners' interests. There are authorities in the EU involving simulcasting[21] and satellite transmission rights[22] which state that either the country of transmission or the country of reception will take jurisdiction with regard to a transmission or communication linked to its territory. Finally, it appears that a compromise of some sort has been reached. The country of emission of the signals is treated as the relevant location of where communication has taken place only where the standard of copyright protection is satisfactory.[23]

(b) Transmission by electronic means via the Internet

35 For communications via internet transmissions, again, there are three possible locations which could be considered as the place *where* communications may take place: (a) the location of the hard disk in a computer through which the copyrighted material is uploaded; (b) the location of the internet server through which the material is transmitted; and (c) the location of the hard disk in a computer through which the material is downloaded. If we accept the argument that for purposes of determining when a communication occurs through transmission of a work by electronic means a reception of the origins of the transmission is not necessary as a matter of law for an act to constitute a transmission, then we may safely rule out the location at (c).

21 Case No COMP/C2/38.014 IFPI.

22 *UEJF et LICRA v Yahoo! Inc et Yahoo France, Trib.gr.inst.Paris* No RG: 00/05308, (22 May 2000).

23 See Bently & Sherman, *Intellectual Property Law* (Oxford University Press, 2nd Ed) at p 145. See also s 6(4) of the Copyright, Designs and Patents Act, UK which defines the place of wireless broadcasting as the place where the broadcaster introduces program-carrying signals into an uninterrupted chain of communication, including any satellite relay.

The choice is narrowed to locations (a) or (b). It is logical to argue that *where* an electronic transmission occurs must be determined in relation to the *time* of the act of transmission and the *concept* of such an act of transmission.

(i) CLIENT-SERVER ARCHITECTURE: SERVER ACTING AS AN INFORMATION DELIVERY MACHINE

36 Following from the argument above, a plausible submission may be made that in a client-server architecture where the server is acting as an information delivery machine, the location of a transmission by electronic means is *where* the copyrighted material is uploaded to be emitted, *ie*, the location of the domain of the server emitting the content according to the downloading request. See Figure 3.

(ii) PEER-TO-PEER ARCHITECTURE

37 In a P2P transmission architecture, the absence of servers effectively rules out choice (b) – "the location of the internet server though which the material is downloaded". Choice (c) – "the location of the hard disk in a computer through which the material is downloaded" is also not tenable as it has been argued a reception of the origins of the transmission is not necessary as a matter of law for an act to constitute a transmission by electronic means. In P2P architecture, it is submitted that *where* an electronic transmission occurs is the location of the peer responder's computer from which the requested file is shared with the peer requester. On the Internet, each computer is assigned a numerical label, *ie*, IP address, which indicates the host identification and the location of the machine. Therefore, the location of the peer responder is the machine's IP address. In a P2P file-sharing network, "*where* the communication takes place" may have multiple locations depending on how many peer responders share the file with the requester.

38 It is further submitted that the choice of the IP address of the peer responder as the location of *where* a transmission by electronic means occurs does not run counter to the premise that a reception of the origins of the transmission is not necessary as a matter of law for an act to constitute a transmission by electronic means. The choice of the IP address of the peer responder as the location is not premised upon reception of the transmission but on the request for transmission being responded to by the peer.

B. Communication to the public – Making available of a work

39 Unlike an act of communication/transmission by electronic means which conceptually envisages both a point of emission and a

point of reception, there is only one point of reference in relation to the act of "making available". According to s 7(1) of the Copyright Act,[24] a work is made available to the public once members of the public can access the work from a place and at a time individually chosen by them. Thus, the process of "making available" is arguably complete as soon as the act of providing access to the work in question is performed. There is no need to make further reference to the points of reception.

(1) When does a communication occur?

(a) Client-server architecture: Server acting as an information delivery machine

40 The relevant act of communication in this type of architecture is transmission by electronic means and the issue of *when* the act of communication occurs over the information transmission continuum has been discussed above. There is no communication by the act of making available in this type of transmission architecture.

(b) Client-server architecture: Server used as file storage

41 In a client-server architecture where the server is used as file storage, the only relevant act of communication is the act of making available. Following from the argument above where the act of "making available" envisages only one single point of reference, *ie*, when the act of providing access to the work in question is performed, it is submitted that in a client-server architecture where the server is used as file storage, the time of making available is at the time *when* the file is uploaded and reaches the storage server where the user-id and password for access to this server have been released.

(c) Client-server architecture: Server used as web publishing machine

42 Similarly, in a client-server architecture where the server is used as a web publishing machine, there is no transmission by electronic means. The only relevant act of communication is that of making available. *When* does an act of communication by making available take place under such transmission architecture? It is submitted that it ought to be at the time *when* the content is released or published by the server.

(d) Peer-to-peer architecture

43 In a P2P transmission architecture, users of the P2P software set up a share folder in their hard drives and open all the files in that folder

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to all other P2P software equipped users who seek to acquire the digital files that users share. It is clear that P2P users are making these files available to the public, within the meaning of s 7(1) of the Copyright Act,[25] "in such a way that the work or subject matter may be accessed by any person from a place and at a time chosen by him". In a recent English decision *Polydor Ltd v Brown*,[26] Justice Lawrence Collins took the view that the act of connecting a computer (on which unauthorised music files were stored in a shared directory) to the Internet for P2P file-sharing purposes fell squarely within the types of activity prohibited by ss 16(1)(d) and 20 of the UK Copyright, Designs and Patents Act1988 – namely, the *making available* to the public of copyright works by electronic transmission in such a way that members of the public may access these works from a place and at a time individually chosen by them. Accordingly, an act of communication to the public through "making available" via a P2P transmission architecture occurs *when* the P2P peer stores the files intended for sharing into the share folders in his computer and connects his computer to the Internet for file-sharing purposes. It does not matter whether the access occurs from websites or hard drives because whether the files reside on a website or on an open hard drive, they are equally available for accessing.

(2) Who makes the communication?

44 The discussion is similar to that in paras 30–32 of this article.

(3) Where does the communication take place?

(a) Client-server architecture: Server used as file storage

45 In this situation, it is submitted that the location of the act of communication by making available is at the domain of the server that stores the files.

(b) Client-server architecture: Server used as web publishing machine

46 In this situation, it is submitted that the location of the act of communication by making available is at the domain of the web server hosting the webpage.

(c) Peer-to-peer architecture

47 In the case of P2P transmission architecture, it has been established in the foregoing paragraphs that the act of communication

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26 [2005] EWHC 3191 (Ch).

occurs at the time when the work is "accessed" by any person of the public and the relevant point in time is *when* the P2P user opens the files intended for sharing and connects his computer to the Internet for file-sharing purposes. Logically, this could therefore also be the location of the act of communication by making available because there is nothing further which needs to be done by the person responsible for storing the files in shared folders and making the access available through maintaining a connection over the Internet. The act of making available is thus complete according to the definition in s 7(1) of the Copyright Act.[27] Theoretically, the localisation of the act of making available in this situation is at the physical location of the hard drive of the sender peer computer. However, it is a practical impossibility to detect or to establish whether a P2P user's computer hard drive contains copyright infringing files until a request peer computer has successfully searched and downloaded the infringing file presented by the sender peer computer. Consequently, it is submitted that the act of communication by making available is exercised at the IP addresses of the peer responders.

C. Definition of the "public" in the right "to communicate the work to the public"

48 It is pertinent to note that under the Copyright Act,[28] the copyright owner is conferred a right to communicate his works to *the public*. But, there is no definition of "the public" in the Act. It is submitted that case law on "to perform the work in public" will be of persuasive value in defining "the public" in a right to "communicate the work to the public". Basically, it has been left to the courts to determine the divide between performances in public and in private. To be in public, a performance does not have to be to a paying audience or by paid performers. It is enough that entertainment is being offered as an incident of some commercial activity or industrial production. Judges such as Greene MR placed particular emphasis on the need to consider the relationship of the audience to the owner of the copyright rather than to the performers. The fact that an organisation is socially desirable does not normally give it a claim to free use of copyright material.

49 It is probably right to say that most will be able to recognise cases which fall at the extreme ends of being private or public. However, it is with regard to those cases which are at the margins that one may find difficulty as the line drawn between public and private is often not a bold hard one but is fuzzy at the edges. Often, a judgment call is required. The same may be said for "communicate to the public".

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A suggested line of divide is to use the concept of a family circle for communication purposes. Any communication within the family circle will be private communication, whilst any communication beyond this circle is communication to the public. It has been argued that communication to the public is not limited to the situation of providing access to the copyright protected material to the public at large and would include designated groups such as subscribers to an internet service.[29] In the recent High Court decision of *RecordTV Pte Ltd v MediaCorp TV Singapore Pte Ltd*,[30] Justice Andrew Ang opined that "the public" is not restricted to the registered end-users of the recording service provided by the plaintiff RecordTV but include any member of the public with an internet connection who may register for the service for free. Thus, the plaintiff RecordTV has made available the recorded television programmes to the public even though only registered users of their web services are able to have access to the recorded contents.

50 With regards to transmission of a work or subject matter by broadcasting, there were doubts before the amendments in 2004 whether there was any necessity that the broadcast must involve a direct transmission to the general public or a class thereof, given that the definition of broadcast though technical in nature was nevertheless silent on this matter. After the 2004 amendments and the reclassification of the right to broadcast under the broader umbrella provision of a right to communicate to the public, it is submitted that it is now beyond doubt that the better view is that broadcasting does involve some notion of a direct transmission to the general public or a class thereof.[31]

51 The issue of whether the communication is made to the public or otherwise is an important one also because it may be relevant either as an element to be satisfied in establishing a cause of action for copyright infringement or as a defence under fair dealing after infringement has been established. Section 35 of the Copyright Act[32] provides a defence to an action for copyright infringement if the act constitutes *a fair dealing* with a literary, dramatic or artistic work, or with and adaptation of a literary, dramatic or musical work. The burden of proof on the part of the plaintiff copyright owner is very different depending on whether the element of "the public" is subsumed under a cause of action for copyright infringement or under a defence of fair dealing. It is submitted that on balance, the communicator (defendant copyright infringer) is better placed to establish whether an act of

29 See *Copinger and Skone James on Copyright* (Sweet & Maxwell, 15th Ed, 2005) at para 7-118.

30 [2010] 2 SLR 152.

31 See, generally, Wei, *The Law of Copyright in Singapore* (SNP Editions, 2nd Ed) at pp 171–194.

32 Cap 63, 2006 Rev Ed.

communication is public or private. Accordingly, the communicator (defendant copyright infringer) of a copyrighted work could avail himself of a defence in law if he successfully proves that the act of communication is private and not public. Thus, the plaintiff copyright owner merely needs to prove communication either in the form of an electronic or digital transmission or in the form of making available the copyrighted work, after which the burden of proof is shifted over to the defendant copyright infringer (communicator) to prove that the act of communication in whichever form is made in private and not to the public.

D. The application of the doctrine of territoriality under s 31 of the Copyright Act on the right of communication in Singapore

52 It is trite law that the protection of copyright is territorial in nature and this is also the case under Singapore copyright laws. According to s 31 of the Copyright Act,[33] the copyright in a literary, dramatic, musical or artistic work is infringed by a person who, not being the owner of the copyright and without the licence of the copyright owner, does *in Singapore* or authorises the doing *in Singapore* of any act comprised in the copyright. In the context of a right of communication to the public, the exercise of such a right may involve a foreign party whether in the form of a foreign server, a foreign uploader or a foreign downloader. The question which is of interest to the discussion here is *when* is the act of communication considered an act done or authorised to be done in Singapore such that copyright infringement actions may be brought by a plaintiff in Singapore against defendants who may or may not be resident in Singapore.

53 It is noteworthy that as originally drafted and released for public consultation, the definition of "communicate" expressly covered making available to members of the public irrespective of whether the members were inside or outside of Singapore. The provision that it did not matter where the public were found (inside or outside of Singapore) was deleted in the Bill when it was presented for the first reading. Can an argument be made that Parliament intended the right of making available to apply only to cases in which the members of the public are in fact in Singapore? What about internet communications or distributions from Singapore to points of reception outside of Singapore, would such communications be an exercise of the copyright owners' right of making available in Singapore? What about internet communications or distributions from outside of Singapore to points of reception everywhere including inside of Singapore, would such communications be an exercise of the copyright owners' right of making

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available in Singapore? These are not easy questions to answer. It can be argued that since to communicate includes the making available of a work in such a way that the work may be accessed by "any person" from a place and at a time chosen by him and no qualification is made to "any person" (whether inside or outside of Singapore) by s 7 of the Copyright Act,[34] a work is made available to the public if accessibility is not restricted to a limited family circle. It does not matter whether the targeted audience is in Singapore or not. But, to constitute an infringement of the right of communication by making available, the act of making available must be done or authorised to be done in Singapore according to s 31 of the Act. In an attempt to decipher the applicability of the doctrine of territoriality in the various scenarios brought about by the different information transmission architectures, the authors have put together their proposed solutions in Tables 1 and 2 below.

Table 1
The Right of Communication in Client-Server Network Architecture

Rights of Communication	When	Who	Where	Doctrine of Territoriality and the application of s 31 of the Act	
Transmission by Electronic Means					
1. Server as an information delivery machine	At the time when the server emits the content according to the request of a downloading client (*ie*, Point 3 at Figure 3)	Uploader	The Internet domain of the server which emits the file according to the downloading request	Scenario 1: the server is in Singapore, but there is *no evidence* of file download	Communication right to the public *not* exercised. This is because there is no evidence of transmission by electronic means in Singapore.
				Scenario 2: the server is in Singapore, and there is *evidence* of file download	Communication right to the public is exercised in Singapore and Singapore law is applicable.
				Scenario 3: the server is out of	Communication right to the public is exercised and

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				Singapore *but accessible* to the public in Singapore and there is evidence of file download	Singapore law is applicable. Although the server is not located in Singapore, it is nevertheless accessible to the public in Singapore and we submit that in such a case there is authorisation of the electronic transmission in Singapore.
				Scenario 4: the server is out of Singapore *but not accessible* to the public in Singapore and there is evidence of file download[35]	Based on our analytical framework, communication right to the public is *not* exercised in this case. This is because the relevant act of communication (emission from the internet server and the downloading request) took place outside of Singapore jurisdiction. However, as there is evidence of download in Singapore, we submit that copyright liability will still ensue but it is the reproduction right of the copyright owner which has been infringed and not the right of

35 In the case where the access to a foreign web server is blocked for the public in Singapore, experienced internet users may use a proxy server to access this web. When a computer in Singapore requests a web access, the web content is retrieved by the proxy server and then sent to the requesting computer. In this way, there is no direct contact between the remote server and the client computer in Singapore. The proxy server acts as an intermediary between the client computer and the remote network.

					communication to the public.
2. Server as a file storage machine	No transmission	N/A	N/A	N/A	N/A
3. Server as a web publishing machine	No transmission	N/A	N/A	N/A	N/A
Make Available to the Public					
1. Server as an information delivery machine	N/A	N/A	N/A	N/A	N/A
2. Server as a file storage machine	At the time when the file is uploaded and reached the storage server where the user-id and password for access to this server have been released publicly	Uploader	The Internet domain of the storage server	Scenario 1: the server is in Singapore, but there is *no evidence* of file download	Based on our analytical framework, communication right to the public is exercised because the content has been "made available" and the server is in Singapore. It is submitted that copyright infringement of a right of communication is established even with no evidence of file download as long as there are evidence for (a) the uploading of the file to the server and (b) the release of the user-id and password to the public for access to the server.
				Scenario 2: the server is in Singapore, and there is *evidence* of file download	Communication right to the public is exercised in Singapore and Singapore law is applicable.

				Scenario 3: the server is out of Singapore but the server is *accessible* to the public in Singapore	Communication right to the public is exercised and Singapore law is applicable. Although the server is not located in Singapore, it is nevertheless accessible to the public in Singapore and we submit that in such a case there is authorisation of the electronic transmission in Singapore.
				Scenario 4: the server is out of Singapore but the server is *not accessible* to the public in Singapore	Communication right to the public is *not* exercised. This is because there is no evidence of making available in Singapore since the server is not in Singapore and it is also not accessible to the public in Singapore.
3. Server as a web publishing machine	At the time when the server published the file on the web.	Uploader	The Internet domain of the web hosting server which publishes the file	Same as in the "server as a storage machine"	Same as in the "server as a storage machine".

Table 2
The Right of Communication in Peer-to-Peer Network Architecture

Rights of Communication	When	Who	Where	Doctrine of Territoriality and the application of section 31 of the Act	
Transmission by Electronic Means	At the time when the peer requester selects and activates the file transfer	The peer responders	The IP addresses of the peer responders who respond to the peer requester that the queried file can be shared from their hard drive	Scenario 1: all the IP addresses of peer responders in the networks are in Singapore	Communication right to the public is exercised in Singapore and Singapore law is applicable.
				Scenario 2: some of the IP addresses of peer responders are in Singapore and the others are out of Singapore	For those IP addresses which are in Singapore, communication right to the public is exercised in Singapore and Singapore law is applicable. Communication right would also be exercised in other jurisdictions and depending on the national laws applicable, copyright liability will ensue in these other jurisdictions. In other words, a copyright owner is entitled to commence copyright infringement proceedings against multiple defendants in multiple jurisdictions.
				Scenario 3: all the IP addresses of peer responders are out of Singapore	Communication right to the public is *not* exercised in Singapore.

Make Available to the Public	The peer responder puts the files in the share folders in the computer hard disks	The peer responders	The IP addresses of the peer responders who respond to the peer requester that the queried file can be shared from their hard drive	Scenario 1 to 3: same as above	Scenario 1 to 3: same as above.
				Scenario 4: all the IP addresses of the peer responders are out of Singapore but the peer requester actually downloads part or all of the requested files and the peer requester's IP address is in Singapore	Communication right to the public is exercised in Singapore. This is because the peer requester (after downloading the requested files) becomes a peer responder for other peer requesters and since his IP address is in Singapore, he has thus made available the copyrighted files to the public.

E. Emerging transmission architectures

54 As mentioned in the Introduction to this article, the task of clarifying the ambits of this right of communication is made ever more complex by the presence of a continuously evolving digital transmission architecture brought about by advancements in technology. It is acknowledged that the dynamic state of the digital transmission architectures is a primary limitation of the analytical framework discussed in this article. Recent developments in the field of the *cloud computing* have given rise to further complications in the exercise of communication rights in a client-server architecture where the server is used as file storage. Cloud computing is a new method that allows authors to move data storage to equipment controlled by third parties. Generally, cloud computing service providers decide which server to use for storing data and uploaded files. They can even segment and store the files in several servers over the Internet based on the availability of their server resources. Therefore, putting data and files under the control of cloud computing providers may increase the chance that a third party can access and make the files available to the public without the author's permission. The questions of when, who and where the right of communication is exercised in a cloud computing information storage and transmission architecture are thus not easy to answer and are certainly beyond the scope of this article.

55 In terms of web publishing, things are also not as simple and straightforward as they appear. Complications have set in as a result of emerging technologies. A common practice which has recently emerged involves online content aggregators who take blog contents from all over the Internet and put them in the aggregation pages using web-based content aggregators such as AdSense links or Bloglines. The aggregated pages compete with the source blog for traffic and thus limit the source bloggers' right. In some cases, the aggregation pages may provide links to illegally copied contents (*eg*, music, videos, *etc*). Another emerging web content management technology – "mashup" – uses content from more than one source to create a completely new service. A typical example is the use of web scraping methods to create aggregate sites, such as a Google Maps "mash-up" with real estate lists such as HousingMaps that combines the Google Maps and Craigslist.com listings of housing. It is arguable that communication rights are infringed if the whole or a substantial part of the copyright work is copied or adapted in "mash-up" without the copyright owner's consent.

56 The development of mobile communication technology provides an alternative mode of electronic transmission. However, under such a mode of transmission, the locations of both client and server during the transmission are not fixed. Instead, they change according to the bandwidths and availability of wireless connections as the mobile user moves from place to place. Presently, mobile transmission technology is still in its infantile stages and most of the digital content transmitted via this mode may be categorised under the "push-technology" which is quite similar to broadcasting or cable-casting. As the mobile transmission technology matures, there is a possibility of digital content being transmitted under a "pull-technology" and future discussions may be made with regards to the *when*, *who* or *where* the right of communication is exercised in particular when copyrighted contents are "made available" by such a mode of transmission.

V. Conclusion

57 The authors have set out in this article to clarify the ambits of the scope and substance of the relatively new right of communication to the public conferred on copyright owners under Singapore's copyright laws. To achieve this objective, we have first sought to understand the state of the art information transmission architectures in their various forms. Armed with this knowledge, we proceeded to construct an analytical frame to discuss in some detail the right of communication to the public including Internet transmissions, broadcasting, cable casting and making available of copyrighted works. If this article has not been successful in meeting its objectives, it is hoped that at the very least, it

has demonstrated that it is a difficult and complex task to identify the *when*, *who* and *where* in the exercise of a right of communication to the public under copyright laws.

58 In this article, the two types of rights of communication (transmission by electronic means and making available) have been discussed in different case scenarios. As demonstrated in Tables 1 and 2, the application of the rules and laws depend on the network architectures, the functionality of the computers and the content management technologies. With the rapid development of information and communication technologies, the exercise of communication rights is further complicated. Going through each of the case scenarios for the two different forms of communication right, it is also noted that for transmission over the Internet, copyright owners are most likely to rely upon the right of making available to control dissemination of their copyrighted works over the Internet. However, the exercise of the right of communication to the public (and in most cases, the right of making available) is complicated by the doctrine of territoriality under s 31 of the Copyright Act.[36] With the help of Tables 1 and 2, the problem of applying s 31 of the Act in each of the scenarios listed were discussed and solutions proposed for them. The conclusion reached is that the application of the doctrine of territoriality for the communication right is far from being straightforward. Indeed, information networking technologies have made communication and transmission of copyrighted content over the Internet an easy task. But, it is also the same information networking technologies which have effectively expanded each country's jurisdictional territories in the borderless world of the Internet. From the copyright owners' perspective, a positive effect of this expanded jurisdiction may be that copyright owners now have more forums to choose from in an action for copyright infringement. However, this choice of forums also brings to bear the importance of having a consistent body of laws across nations. More critically, a framework must be developed to assist the courts to identify the *lex loci* or applicable law in a multi-jurisdiction scenario of an exercise of communication right, in particular, when transmission is effected through a P2P network architecture. Such is the nature of the Internet and internet transmissions, a fact that the law needs to contend with and respond to continuously.

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36 Cap 63, 2006 Rev Ed.