

COMMERCIAL LAW IN THE AGE OF THE INTERNET

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The decade from 1985 to 1995 was driven by the phenomenon of the personal computer. It was the focus for key advances in technology, the building block for business information systems, and a prime entertainment delivery vehicle. For the next ten years, the Internet promises to have an equally dramatic affect on our business, technological, and consumer environments. This paper will examine the impact of the Internet on the way we practice commercial law.

The Technical and Business Environment

At Nortel Networks, we believe that the phenomenon of the Internet will cause dramatic changes in every facet of the way we do business. As an organization we talk about the need to make a “right-angled turn”. We are moving from an environment of long product development cycles and long product lives, to one where we need to operate our business in “web time”¹ — characterized by dramatically shortened product development cycles and product lives. We are shortening our new product testing and trialing processes, outsourcing portions of our products, and altering our investment profile in the realization that product lives will be short and there will be a need to reinvest quickly to move on to the next generation.

The environment is complicated further by the increasing availability of different technological solutions. More so than at any time in the past, we are faced with a plethora of different products and potential technological solutions to the same basic problems. This phenomenon has been exacerbated in many industries by the removal of monopolies and geographic barriers to competition. An example of this phenomenon is currently at play in the wireless communications industry. Several different technological schemes are available for a cellular system. These include TDMA,

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¹ The Internet business environment is described in “Judo Strategy: The Competitive Dynamics of Internet Time”, by D.B. Yoffie and M.A. Cusumano, *Harvard Business Review* (Jan.-Feb. 1999), at 70.

CDMA, and the European GSM standard.² All of these are strong technological solutions, and for many customers all represent a potential solution. As a result, manufacturers in this business may need to be in a position to offer versions of all three systems. In such an environment, it is prohibitive to invest in developing all three systems completely in-house. This results in a series of commercial arrangements in which companies license in technology from others, and source third party products on an OEM (other equipment manufacturer) basis, greatly increasing the complexity of the commercial and intellectual property relationships needed to form a product line.

Another trend being driven by both technology and market dynamics is the move towards what business writers call "mass customization".³ This phenomenon applies when customers in an industry segment want a product that is slightly different than all other customers, and is modified to meet their particular needs or circumstances. The ability to deliver this kind of variation in product characteristics is enabled by the increasing reliance of products on software functionality. Modern product architectures often enable a company to have a basic product, and to alter the characteristics of that product merely by re-coding the software portion of the product.

The protection of intellectual property is also of increasing concern for businesses. The prevalence of network computing solutions and the advent of the Internet has made the flow of technology much harder to detect and control. Another risk factor is the increasing mobility of the workforce — not only is there an increasing willingness among employees to change their employers, but the competition for people is also becoming increasingly global. Now companies which are seeking employees in a particular technology area do not hesitate to aggressively take their recruiting campaigns into countries far away from their base locations.

Finally, we are witnessing increasingly aggressive behaviour by patent holders attempting to assert their patents in order to gain monetary or other advantages. This is a result of several factors, including a dramatically increased amount of patent filing (particularly in the electronics industries), an increased number of holdings in favour of patent owners by the Court of Appeals for the Federal Circuit (the U.S. "patent expert" appeals Court), and the structure of the U.S. contingency system (which makes it easier for independent inventors or small companies to bring patent suits).

² TDMA: Time Division Multiple Access. A technique for combining and transmitting multiple telephone calls into what would otherwise be a single channel on a single radio frequency by splitting the channel into time slots. The EIA/TIA (Electronic Industries Association/Telecommunication Industry Association) Interim Standard 136 ("IS-136") defined the dominant U.S. TDMA standard.

³ B. J. Pine II, *Mass Customization: The New Frontier in Business Competition* (Boston: Harvard, 1993)

Implications for the Practice of Commercial Law

These new paradigms in technology and business are placing a growing emphasis on the intellectual property content of commercial transactions. Increasingly, transactional lawyers are being required to carefully assess and structure the flow of intellectual property rights and obligations.

Hence we are seeing a strong move towards a need for intellectual property and information technology skills among commercial lawyers. A recent recruiter's ad in the *Ontario Reports* highlighted the issue. It read "if you have IP/IT, you're HOT".

I will discuss this trend in commercial law in five areas: (1) the protection of intellectual property: (2) apportionment of intellectual property rights in commercial transactions: (3) intellectual property indemnity agreements: (4) exploitation of intellectual property: and (5) standards setting activities.

Protecting Intellectual Property

The advent of the Internet, the increasingly networked nature of our information systems, and the increased mobility of employees, are making the protection of intellectual property an increasingly difficult task. Companies need to build internal information networks that are ubiquitous and easy for employees to use, but are also secure. Use of secure access methodologies and encryption techniques is an important way of achieving this. These approaches are also important to help ensure that companies do not unwittingly violate export control laws, or endanger the proprietary information of third parties that they may have in their possession.

Under both Canadian and U.S. export control regimes, a company may be liable for aiding and abetting an illegal export of technical information if it does not implement adequate control mechanisms in its internal information network.⁴ The risk of this increases as partnering with third parties becomes more common. In such cases it is not acceptable to allow third party personnel access to an information network which does not have some form of segregation or encryption to prevent access to export-controlled material. Implementing such measures also serves to protect third parties' confidential

⁴ For example, most commercial dual use exports of US-origin technology are controlled under the EAR (Export Administration Regulations), the principal statutory authorities for which are the *Export Administration Act* of 1979, as amended, and the *International Emergency Economic Powers Act*, as amended.

information that may be in one's possession. Typically confidentiality agreements with third parties require that the third party's information be protected to a reasonable standard of confidentiality. Leaving it open to view on a network to which third parties have access would not be sufficient. Finally, the segregation and protection of a company's own confidential information is important to protect it from both outsiders, and its own increasingly mobile employee population.

To protect their intellectual property from being appropriated by departing employees, companies should carefully structure their hiring and exit processes. All employees should be required to sign agreements in which they commit themselves to keep the company's information confidential, and assign rights in all their inventions and developments to the company. During the employment relationship, it is important that key trade secrets or inventions be captured from the employee and recorded, and that assignments required to register statutory rights (such as patents) be procured in a timely manner. Having such a proper record makes it much easier to react quickly when an employee departs from the corporation. The former employer should ensure that trade secrets and patents are secured, and that both the employee and his new employer are specifically put on notice about what he can and cannot use. A proper exit procedure will bring these matters to an employee's attention. It will often require that the employee sign a certificate of compliance acknowledging his obligations under his employment agreement, and bringing to his attention matters of a confidential or proprietary nature that he is not entitled to use for the benefit of his new employer.⁵

Litigation associated with employees departing to work for competitors has become increasingly common, particularly in the Silicon Valley. In this regard, the U.S. courts have recently developed the doctrine of "inevitable disclosure" which can be used by companies to prevent the employment of their former employees in certain positions for a period of time. In general, the doctrine is usable when (1) the former employer and the new employer are direct competitors; (2) the new and old positions are substantially identical; and (3) it appears likely that the employee will naturally make decisions in the new position that call upon the knowledge of his or her former employer's trade secrets rather than his or her own general skills and knowledge.⁶

⁵ A more thorough discussion on the topic of employee confidentiality may be found in R. A. Brait, "Confidentiality in the Employment Relationship" (1990), 5 I.P.J. 187.

⁶ W. T. Ellis, "The Inevitable Disclosure Doctrine: Does It Give X-Post Facto Non-Compete Protection?" (1998) *The Trade Secret News*, I:1; H. Bui-Eve, "To Hire Or Not To Hire: What Silicon Valley Companies Should Know About Hiring Competitors' Employees", (1997), 48 *Hastings L.J.* 981.

Apportioning Intellectual Property Rights in Commercial Transactions

Companies in the high-tech industries are no longer simply buying a supplier's product on an off-the-shelf basis. They are often seeking to purchase a product which is customized to meet their own needs. In our business, we refer to this as "buying intellectual property". A typical example occurs with the purchase of semiconductor devices. It has become increasingly common for these devices to be built such that a significant part of their functionality is determined by "burning in" a software program generated in response to the needs of a specific customer. When such a transaction happens, it becomes necessary for the purchaser and the seller to very carefully define the rights that each of them has in the custom software implementation. The purchaser usually wants to ensure that the seller does not use that customizing portion for the benefit of any of his other customers (which may be direct competitors of the purchaser). The seller, on the other hand, may have input certain generic algorithms or ideas into the custom portion that he needs to use for the benefit of others. In cases like this, a very careful division of the intellectual property needs to be performed.

An even more complicated situation arises when a purchaser enters into joint development or product definition activities with its supplier. This is becoming a common phenomenon in the electronics industries, as companies increasingly seek to purchase many of the inputs to their product (such as circuit boards, mechanical assemblies, and basic electronic devices) from outside manufacturers. This allows them to focus their efforts on their own core competencies. This has given rise to one of the fastest growing segments in the industry today — the contract manufacturing sector.

The number of ways in which rights can be divided between joint developers are legion. Three typical scenarios from our industry are discussed below.⁷

Product or System Definition. When two entities come together in order to define the characteristics of a product or service, or the architecture of a system, it is typical that neither party will want to be constrained in using the results. In cases where a supplier and purchaser work together, the purchaser will want to be able to offer products that work to the resulting specifications, and will want to be able to source these from entities other than his co-developer. Similarly, the supplier, having defined a broad architecture or product characteristic, will want to be able to sell this to other

⁷ A more thorough discussion on the topic of joint development may be found in R. A. Brait, "Defining and Managing the Development of Technology in an Alliance Situation", in *How Intraglobal Cooperation is Changing the Face of Licensing*, Licensing Executives Society, 1996 Annual Meeting, September 30, 1996.

purchasers. In such early-stage collaborations, it is therefore typical for both parties to obtain rights to use the fruits of their joint activity freely without consent or accounting.

Development of Different Portions of a Product. Often two parties will come together to develop a product that is an amalgam of two or more functional elements. It is typical in such a situation that one party will be an expert in one group of elements, and the other party will be an expert in another group of elements. The parties will generally retain ownership or exclusive rights to the elements in which they are expert, and the focus will shift to what rules the parties will set with respect to the use, communication, and publication of the interface between their respective groups of elements. Possible solutions include an agreement that the interface will be public, that it will be revealed to a limited number of jointly agreed parties, or that it will be retained in confidence and for the sole use of the parties themselves. Which formula is chosen will depend very much on the competitive dynamics of the business. The parties also need to consider the competition law implications of any decision which seeks to restrict access to the interface by others.

Joint Development In A Common Product Area. When the parties jointly develop technology that is mixed together in the same product, separating rights to that technology can become problematic. Often these sorts of arrangements will be characterized by a commercial agreement between the parties that allows one of the parties to commercialize the common product in certain customer, geographic, or product segments, and the other party to exploit the product in different segments. Such arrangements are often time-limited, and again must be carefully drawn to avoid competition law exposures.

In summary, it becomes necessary in these sorts of arrangements for the parties and their counsel to be very aware of the intellectual property composition of their products, and of the implications of accepting any restrictions on the use of that intellectual property.

Intellectual Property Indemnity Agreements

One of the most contentious elements in today's commercial agreements is the intellectual property indemnity clause. Typically this clause will specify that the supplier of the product or technology will indemnify the purchaser against intellectual property suits brought against the purchaser.

Several factors have combined to make this clause controversial. These include:

- The increasing tendency of individual inventors or smaller entities to attempt to enforce their intellectual property rights — this phenomenon has been

exacerbated by the ease with which contingency suits can be brought in the United States.

- The greater tendency of the Courts to uphold the validity of patents — in particular the Court of Appeals for the Federal Circuit, which has held a much greater percentage of patents to be valid and infringed.
- The growth in the number of patents being granted by patent offices around the world.
- The phenomenon of the “service patent”. Under the patent laws, patents can be granted to either an apparatus, or to a method of performing a function or delivering a service. Damages for infringement of a patent will usually be calculated as a percentage of the price of the product which infringes the patent. However, and particularly in the case where a “method” or “service” patent is infringed, the courts may also make an award based on the value generated by a service or process which is performed either by an infringing product, or in contravention of a method patent.⁸ In such a case, the manufacturer of the product which causes the infringement could find itself subject to an award based on a percentage of revenues brought in by its purchaser through using its product. Such an award could exceed the price of the product by several orders of magnitude.

Manufacturers have sought to limit their liability by putting a monetary cap on the amount of patent damages for which they will be liable to their purchaser, or by limiting their liability in the case where the patent damages award is based on the value of the service offered or method performed. Another provision used to limit damages is a clause which allows the seller to provide its purchaser with a notice that an infringement claim has been received, and to give the purchaser the option of returning the product for a rebate, or continuing use of the product at its own risk.⁹

The risk that companies in the computer and telecommunications industries will face suits seeking damages for the revenue realized from offering a service would appear to be much more significant in an Internet environment. One need only think of the typical method by which an e-commerce transaction takes place to realize how significant this liability may be. Each time one clicks on a “submit order” button on a web page, a commercial transaction has been transacted through the use of functionality which may infringe a service or method patent. Were a court to make a royalty award based on the value of each such transaction, it could, in aggregate, amount to a very

⁸ The principles are explained in the leading case of *de Graffenried v. U.S.* (1992), 24 USPQ 2d 1594 at 1600-1604 (U.S. Claims Court).

⁹ D. P. O'Reilly and E. H. Lim, “Let The Seller Beware! Indemnification Can Cost Big”, *The National Law Journal*, June 22, 1998; D. P. O'Reilly, E. H. Lim, and J. R. Thomas, “Liability Issues Change With Economy Shift”, *Les Nouvelles*, December 1997, 195.

large award. This award might be the responsibility of a software or equipment supplier which had supplied a very low cost network element.

Exploiting Intellectual Property

The last several years have seen a marked increase in the number of patents being granted. This has been particularly apparent in the electronic industries. The recent list of the "Top 10" patenting organizations for 1998 issued by the United States Patent and Trademark Office (USPTO) presents a startling picture.¹⁰ IBM tops the list, having received 2,657 U.S. patents, up a staggering 54% from the number of patents it had received the year before. It is notable that all but two of the Top 10 firms are in the electronic industries, that all of the firms were granted in excess of 1,000 U.S. patents in the year, and that IBM's percentage increase in the number of grants, far from being unusual, was only slightly on the high side of being representative.

One need only combine the above figures with the typical cost of maintaining a patent throughout its life (which may reach in excess of US\$100,000 per patent) to appreciate that a large number of companies are spending a staggering amount of money to obtain patents. These companies are increasingly seeking to recover their costs by obtaining patent licensing revenues, or driving other forms of commercial advantage, from those with less patents than themselves. An example of this is the estimated \$1 billion patent license agreement obtained by Texas Instruments Inc. from its competitor, Samsung, for use of its patents.¹¹ Texas Instruments was one of the

¹⁰ USPTO Web Page: www.uspto.gov/web/offices/ac/ido/oeip/taf/top98cos.htm

	Top 10 Recipients of US Utility Patents	
	US Utility Patents Issued in '98	% Increase from '97
IBM	2,657	+54%
Canon	1,928	+40%
NEC	1,627	+49%
Motorola	1,406	+33%
Sony	1,316	+53%
Samsung	1,304	+124%
Fujitsu	1,189	+32%
Toshiba	1,170	+36%
Kodak	1,124	+41%
Hitachi	1,094	+21%

¹¹ Texas Instruments News Release #C-96061, "Texas Instruments Reaches Licensing Agreement", Dallas, November 26, 1996, www.ti.com/corp/docs/

earliest aggressive builders of a patent portfolio and news reports indicate that in a recent year it realized in excess of \$700 million in income from its patent licensing activities.

The existence of such large and aggressive patent players leads others in the market to build their own patent portfolios in order to defend themselves. The natural result is that these companies also seek to gain income from their patent portfolio in order to offset the costs of building it. The net effect has been to produce an environment in which intellectual property activity is feverish, and in which parties to commercial arrangements are very sensitive to the existence of patents, and the possible liability for their use.

Standards Setting Activities

In the Internet environment, the activities of standards-setting bodies (whether official or *de facto*) become increasingly important. These standards bodies set the interconnection standards which those who offer products or services in the environment must meet in order to ensure that their products will be saleable.

Patents which read on the interconnection standards adopted by standards bodies become particularly important because everyone who wishes to operate to these standards must use those patents. It also becomes much easier for the owners of such patents to establish that they have been infringed. It is only necessary to know that the product in question meets the standard, rather than being required to reverse-engineer the product to establish infringement.

Before participating in standards activities, companies are typically required to agree that any patents which they may hold that read on the standard can be used by all comers in exchange for a reasonable, non-discriminatory royalty. Companies are also typically asked to make the standards forum aware of any patents they have which may read on the standard. Companies making such statements tend to be very careful about how they are worded, and in particular, will often qualify the statements in an attempt to protect themselves in the event that they have not unearthed all of the patents which may be relevant to the standards activity.

The recent Dell Computer case illustrates the dangers of carelessness in the patent/standards arena. Dell had participated in the Video Electronics Standards Association (VESA) and with other members had approved the VL-bus standard. When it later sought to assert one of its patents against those who had adopted the standard, it was taken to task by the Federal Trade Commission because it had failed to reveal the existence of that patent during standards discussions. In the result, Dell agreed to a

consent order with the Federal Trade Commission in which it was estopped from asserting its patent against users of the standard.¹²

With shortened product life cycles, design or implementation patents tend to be applicable for a shorter period of time, and thus not nearly so valuable. Patents which read on interconnection standards will, however, tend to be much longer lasting. Another relevant factor is the decrease in the tendency of companies to perform right-to-use studies on their products before releasing them. In the past, many companies would perform a detailed analysis of their products to ensure that they did not infringe anyone's intellectual property before the products were brought to market. In the current environment of short product development and short product life cycles, few companies can afford the time to perform such studies. This increases the risk of patent infringement.

Conclusion

It has become increasingly important for commercial lawyers to be acutely aware of intellectual property issues. These arise not only in connection with the building of patent portfolios, the licensing of patents, and the defending of patent infringement actions, but are becoming much more the "stuff of day-to-day commerce". Today's commercial arrangements no longer merely deal with the buying and selling of product, but involve the licensing of intellectual property, and require a keen awareness of what rights each party to the transaction is to be granted in the use and exploitation of that intellectual property.

¹² FTC File No. 931-0097, In The Matter of Dell Computer Corporation; *FTC News*, November 2, 1995, "Dell Computer Settles FTC Charges; Won't Enforce Patent Rights for Widely Used Computer Feature"; *Intellectual Property-Related Problems In Connection with Technical Standards*, Institute of Intellectual Property Panel Report, Patents & Licensing, April, 1996, at 11.