INSIDE THE MINDS

Global Patent Prosecution

Leading Lawyers on Developing a Strategy for Foreign Patents, Making Filing Decisions, and Understanding the Challenges of Overseas Protection

ASPATORE

©2009 Thomson Reuters/Aspatore
All rights reserved. Printed in the United States of America.

No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, except as permitted under Sections 107 or 108 of the U.S. Copyright Act, without prior written permission of the publisher. This book is printed on acid free paper.

Material in this book is for educational purposes only. This book is sold with the understanding that neither any of the authors or the publisher is engaged in rendering legal, accounting, investment, or any other professional service. Neither the publisher nor the authors assume any liability for any errors or omissions or for how this book or its contents are used or interpreted or for any consequences resulting directly or indirectly from the use of this book. For legal advice or any other, please consult your personal lawyer or the appropriate professional.

The views expressed by the individuals in this book (or the individuals on the cover) do not necessarily reflect the views shared by the companies they are employed by (or the companies mentioned in this book). The employment status and affiliations of authors with the companies referenced are subject to change.

Aspatore books may be purchased for educational, business, or sales promotional use. For information, please email West.customer.service@thomson.com.

For corrections, updates, comments or any other inquiries please email TLR.AspatoreEditorial@thomson.com.

First Printing, 2009
10 9 8 7 6 5 4 3 2 1

If you are interested in purchasing the book this chapter was originally included in, please visit www.Aspatore.com.

Developing a Foreign Filing Strategy

Daniel N. Yannuzzi

Partner

Sheppard, Mullin, Richter & Hampton LLP

ASPATORE

The ever-increasing reality of the global marketplace has, for many years, driven U.S. companies to seek intellectual property protection beyond the nation's borders. Unfortunately, the reality they face is that global patent protection, and even multi-jurisdiction protection, is prohibitively expensive for all but those entities with the deepest of pockets. This, coupled with practicality problems associated with patent enforcement in foreign jurisdictions, has driven companies to develop a more strategic approach to foreign patent filings. There is no one-size-fits-all approach to foreign filing strategies. Each company must consider its business model and channels of commerce for its products, its business goals and objectives, desired utilization for its intellectual property items, and its budgetary constraints in developing a foreign filing strategy that is best suited for its needs while maximizing return on investment. Tough decisions must be made along the way, but with a practical value-minded approach, these decisions can become much easier and can increase the value returned for the foreign-related expenditures.

Patents Are Territorial

There is no such thing as a "worldwide patent" or even an "international patent." Patent protection must be sought on a country-by-country basis in each country for which the patent applicant desires patent protection. Accordingly, a U.S. patent is generally not enforceable in other countries such as Australia, Japan, China, or Korea. Despite some myths to the contrary, this holds true even in the European Union, where patents must ultimately be filed and pursued for granting in each European country for which patent protection is sought.

A few exceptions that help expand the territorial reach of patents can be found in 35 U.S.C. § 271. For example, 35 U.S.C. § 271(f) allows U.S. patents to be enforced against one who exports components of a patented invention from the United States for assembly into a patented invention outside of the United States. Accordingly, even if the invention is not made, used, or sold in the United States, one who exports components in a manner covered by this statute might still be found liable for infringement in the United States. Particularly, 35 U.S.C. § 271(f)(1) provides that a U.S. patent can be enforced against somebody who provides to a foreign country all or a substantial portion of the components of a patented

invention from the United States, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States. Similarly, 35 U.S.C. § 271(f)(2) provides that infringement of a U.S. patent can be found where somebody supplies to a foreign country from the United States any component of a patented invention. However, under 35 U.S.C. § 271(f)(2), the component must be specially made or specially adapted for use in the invention rather than simply a staple article or commodity of commerce suitable for substantial non-infringing use. Such infringement can be found even where the component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States.

Under the U.S. patent laws, 35 U.S.C. § 271(g) provides a mechanism for enforcing a U.S. patent against acts of foreign infringement in certain circumstances where a product is made outside the United States by a patented method. This statute allows enforcement of a U.S. patent where a product made by a patented process in a foreign jurisdiction is imported into, or sold or used in the United States. However, note that in each of these cases under 35 U.S.C. § 271(f) and § 271(g), the U.S. patent is not actually enforced in the foreign country where the infringing process is practiced to make the article. Instead, it is enforced in the United States to reach foreign acts of infringement that have the specified ties to the United States.

Importantly, a few Federal Circuit decisions in recent years have ruled on the applicability of § 271 in the case of computer software. In July of 2005, in the case of *AT&T v. Microsoft Corp.*, 414 F.3d 1366 (Fed. Cir. 2005), the Court of Appeals for the Federal Circuit decided the issue of whether a software company can be found liable for indirect infringement under 35 U.S.C. § 271(f) for exporting software outside of the United States for subsequent copying distribution in foreign jurisdictions. In this matter, AT&T alleged that speech codecs included in Microsoft's Windows software infringed a patent owned by AT&T. Microsoft supplied golden masters of its Windows software incorporating these codecs to foreign computer manufacturers, who, in turn, generated multiple copies of

Windows from the master and installed them on computers assembled and sold outside of the United States. Microsoft was found liable for infringement under § 271(f) for copies of Windows software that were replicated overseas from the golden master version that was exported from the United States. The court, in so ruling, determined that software on the golden disks was a "component" within the meaning of § 271(f) of the patent laws, and that foreign-replicated copies were supplied from the United States as contemplated thereunder.

This case followed on the heels of *Eolas Techs. Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005), where the Federal Circuit reasoned that "software code alone qualifies as an invention eligible for patenting, and that the statutory language did not limit § 271(f) to patented 'machines' or patented 'physical structures.'"

There are limitations on the reach of 35 U.S.C. §§ 271(f), 271(g). For example, in the case of *Pellegrini v. Analog Devices Inc.*, 375 F.3d 1113 (Fed. Cir. 2004), components of a patented invention were designed within the United States, and instructions for their manufacture into the patented invention were transmitted from within the United States to a foreign jurisdiction where those components were manufactured into the patented article. However, those components themselves were never physically shipped to or from the United States. The court determined that "'suppl[ying] or caus[ing] to be supplied' in § 271(f)(1) clearly refers to physical supply of components, not simply to the supply of instructions or corporate oversight." *Pellegrini* (emphasis added). Thus, even though the accused infringer gave instructions from the United States, causing components of the patented invention to be supplied, those components never physically entered the United States, and the court declined to stretch § 271(f)(1) to reach the mere supply of instructions.

Business Considerations in Developing a Foreign Patent Strategy

Even though patents are territorial, U.S. patents or other patents in selected key jurisdictions can go a long way toward making a global intellectual property strategy, provided the jurisdictions are carefully and strategically selected. But if patents are territorial, how can one utilize a targeted filing

strategy to achieve its intellectual property goals beyond the selected territories?

To do so, the company must first understand the goals of its international patent program. Some goals and objectives that might be considered include:

1. Is the company looking to enforce its patent rights to gain exclusivity in international or foreign markets? To this end, is the company looking to gain leverage against its competitors? Will it seek to enforce patent rights against its customers?
2. Is the company looking to use foreign patent rights as defensive mechanisms, such as in cross-licensing or patent counter-claim situations?
3. Is the company looking to use foreign patent rights as a tool to leverage alliances and partnerships with foreign entities?
4. Is the company seeking to establish a territorially defined licensing program?

In addition to identifying the business goals, the company must consider its business model from an intellectual property perspective and integrate business model considerations into its patent strategy. For example, the company must consider how its products enter and travel through the stream of commerce from the design phase through manufacturing, production, and final sale to the end user. There is no one-size-fits-all approach, and the company's business model will be an important factor to consider in tailoring a suitable approach.

Consider, for example, the simple case of a widget company making devices for sale in markets throughout the world. It is important for this company to consider not only where the products might be sold, but also where product manufacturing is likely to occur should likely infringers seek to enter the market. Patents that cover processes for making the device, the processes of using the device, or the device itself can be useful to achieve leverage over would-be infringers in countries where manufacturing occurs, as well as in the markets where the products are to be sold. Accordingly, in addition to filing for patent protection in major markets where the product is sold, the widget company might consider filing for patent protection in

countries where the widgets are manufactured, even if those countries do not have a large market for the widgets themselves.

Consider a more complex case of a fabless semiconductor company whose products are semiconductor chips used for consumer electronics devices. This company's business model might be a little more complex than the case of a simple widget company. For example, this company's semiconductor products might be designed in one location; the semiconductor wafers fabricated in another location; the die assembled into chips and tested in a third location; the assembled chips stuffed into a board at a fourth location; the board assembled with other boards or modules and a power supply at the box or chassis level at a fifth location; the box integrated as part of a larger system in a sixth location; and the system put into use at a seventh location. In some instances, the company itself might be the entity that is performing each of these operations, and the company itself makes the final sale of the system-level product to the end user. In other more likely scenarios, a fabless semiconductor company sells the manufactured chips to the board stuffer or chassis maker, and other value-added resellers are involved in the subsequent operations as well. As is apparent, this is a much more complex scenario than the first example, and it allows the greater opportunity or need to consider foreign patent protection in a larger number of jurisdictions.

In these and other scenarios, the company must understand what its intellectual property items cover, how these items can be used in these various phases of entry into commerce, who the company's competitors are, and who the likely infringers will be at each phase of entry into commerce.

Finally, the company must consider its intellectual property budget, not only in the near term, but also over the next several years. The cost of obtaining and maintaining patent protection extends beyond the initial preparation and filing costs. It can take several years of back-and-forth negotiation with the patent offices to obtain patent protection and, once a patent is granted, there are ongoing maintenance fees or annuities that must be paid to maintain the patent in full force and effect. A comprehensive international patent strategy is costly, and of little use if the company's budgetary constraints prohibit implementation of such a strategy—or worse yet, if a company's future budget cannot sustain tomorrow filings that are made and paid for today. Accordingly, when

considering patent strategies, it is important to map out the costs of patent protection several years down the road.

The High Cost of National Stage Filings

If cost were not an obstacle, developing a foreign patent strategy would be a simple matter. However, filing even a single patent application on a global basis results in a significant commitment of funds over a several-year period, and even companies with the deepest of pockets will want to weigh their options carefully before committing such large sums of money without understanding the likely returns. Because there is no such thing as an international patent, patent applications must be filed in each country in which protection is sought. Effectively, because of this harsh reality, a company's patent filing expenses increase in proportion to the number of countries in which protection is sought. Each country will require fees such as filing fees, examination fees, granting fees, and annuities or maintenance fees. Likewise, the company will likely need to engage foreign patent counsel in each jurisdiction for which patent protection is sought. On top of all this, in most foreign countries, translations are required for the initial application, and prosecution is conducted in the country's native language. This means that not only does the initial application need to be translated, but also subsequent correspondence with the patent office may need to be translated such that the company and its U.S. attorneys can participate with local foreign counsel in prosecution activities. These translation fees can be extremely expensive and add dramatically to the cost of seeking and obtaining patent protection in foreign jurisdictions.

Consider a simple example of a patent application that is forty-five pages in total length and has twenty-five patent claims, three of which are independent, and seven sheets of drawings. The appendix outlines representative costs associated with filing this single application in a sampling of popular jurisdictions as of the date of this writing. The appendix also lists granting and annuity fees estimated through the life of any patent granted from the application. What is not shown in this appendix is the prosecution costs associated with arguing patentability before each of the patent offices. Because costs and fees associated with prosecution vary widely, they are more difficult to predict. Also, the appendix shows the costs of filing after the application has already been prepared, so it does not include patent drafting fees. However, the

appendix does illustrate the fact that foreign filing costs will multiply somewhat proportionally to the number of jurisdictions in which protection is sought. The larger filing costs associated with Japan, China, and South Korea are largely attributable to translation fees.

The large expense associated with a greater level of global protection can be extrapolated from the expense associated with this small number of representative jurisdictions.

	Filing in United States Only	***Filing in Representative Countries***
Filing Fees	$ 1,879.00	$ 42,667.00
Total Annuities	8,170.00	108,998.00
Total	$ 10,049.00	$ 151,665.00

As this table illustrates, at the filing stage, the filing fees in the United States are approximated at less than $2,000, while adding filing in the sampled jurisdictions brings the filing fees and costs to almost $43,000, a factor of twenty-one. Through the life of the patent, the costs escalate from approximately $10,000 for the United States to a total of more than $150,000 for the sampled countries. Accordingly, for foreign filing, the corporate planner must allocate a significant amount of cash per patent application in order to properly budget expenses for the life of the patent.

Accordingly, a company should seriously evaluate its patent filings before deciding on within which jurisdictions to seek protection. In some instances, companies may apply a simple numerical or statistical limit on the number of foreign filings they pursue. For example, some companies may determine that of their entire application filings for a given year, only a certain percentage of those filings will be considered for foreign filing. They may even go further and determine that, of that group, these applications be only selectively be filed in certain countries where they have the most influence. For example, companies that file hundreds of applications on an annual basis may decide that 10 percent, 15 percent, or even 20 to 25 percent is an appropriate limit on foreign filings. This can be a very

effective strategy for implementing a target and managing foreign filing expenses for companies that file a large number of applications on an annual basis, because it forces the decision-makers to make tough decisions about which applications to file overseas and in which jurisdictions they should be filed. However, for small companies that only have a handful of patent applications, this approach might not be possible or practical. Indeed, for startup or emerging growth companies with only a handful of core technology patent applications, it might be important for most or all of their applications to be considered for foreign filing. Even these companies, though, are wise to consider the foreign jurisdictions carefully to ensure they return the most value for their foreign filing dollars.

Expanding on the above example, the large company prepares and files 200 patent applications in the United States on an annual basis. This company also files each one of those applications in the international phase in each of the countries listed in the appendix. The cost of the initial filing for 200 applications in each of these jurisdictions would add up to approximately $375,000 for each year (again, exclusive of application drafting fees). However, due to foreign filing costs, an annualized budget of $375,000 will not be sufficient to allow this organization to maintain 200 new filings per year, while also pursuing foreign filings. The table below illustrates the costs of maintaining a filing goal of 200 new applications per year, assuming Year 1 is the first year any applications are filed. The table extrapolates the costs through one possible foreign filing route, where the applications are filed in the Patent Cooperation Treaty (PCT) one year later, enter the national stage at the thirtieth month, are filed in the European Union member states one year later, and grant in the fifth year. This deferral of foreign filing actions is discussed in further detail in the next section of this chapter.

	United States Filings	*PCT Filings*	*National Stage*	*EU*	*Granting*	***Total***
Year 1	$375,800					$375,800
Year 2	$375,800	$1,000,000				$1,375,800
Year 3	$375,800	$1,000,000	$10,605,400			$11,981,200
Year 4	$375,800	$1,000,000	$10,605,400	$2,218,000		$14,199,200
Year 5	$375,800	$1,000,000	$10,605,400	$2,218,000	$2,802,200	$17,001,400

As this table illustrates, what started out as a $375,800 annual budget for patent filings turned into a $17 million annual budget to maintain that level of filing and enter the nine foreign countries listed in the appendix, and this does not include annuities or attorneys' prosecution fees.

Now if this company were to file 15 percent of its applications in the jurisdictions listed in the appendix, the initial filing costs for the U.S. filings would remain the same. However, PCT, national stage, and European Union costs would be reduced accordingly. Also, granting costs would be reduced by 85 percent in foreign jurisdictions, but remain the same in the United States. This scenario is illustrated in the table below, which shows a dramatic reduction in costs, especially in Year 5 when the pipeline is full.

	United States Filings	*PCT Filings*	*National Stage*	*EU*	*Granting*	***Total***
Year 1	$375,800					$375,800
Year 2	$375,800	$150,000				$525,800
Year 3	$375,800	$150,000	$1,590,810			$2,116,610
Year 4	$375,800	$150,000	$1,590,810	$332,700		$2,449,310
Year 5	$375,800	$150,000	$1,590,810	$332,700	$770,530	$3,219,840

This is a large savings over the approach of filing of 200 applications in all jurisdictions. In addition, should the company become even more selective and further limit those applications designated for foreign filing to a smaller subset of the foreign jurisdictions, even more can be saved.

Of course, the estimate over a five-year period depends on what happens during prosecution, which can be difficult to predict. Indeed, different areas of technology can vary greatly from a cost perspective over the five-year period. This is part of the reason attorneys' fees for prosecution are not included in the estimates. In addition, when each patent office issues an action, there will be fees for U.S. and local counsel to prepare a response. If the local patent offices make multiple rejections, these costs can add up.

Deferring the Cost of National Stage Filings

The Paris Convention

There are a few procedural options for filing patent applications in multiple jurisdictions. One option, which to the uninitiated might seem like the only option, is to file separate patent applications at the same time in all of the countries in which you would like protection for your invention. This approach requires preparation of the application for filing in each country, including any necessary translations, and it requires payment of the filing and related fees up front. To help alleviate the need to have all of this done at once, a vehicle known as the Paris Convention, initially signed in 1883, allows applicants to take up to one year to file foreign counterpart applications in member countries.[1] Under the Paris Convention, one can elect to file a patent application in a Paris Convention country and file separate patent applications in other member countries at any time within twelve months from the filing date of the original application. This allows deferment of translation and filing costs for up to one year from the original filing date. However, any applications filed after the one-year grace period will not be accorded the benefit of the original filing date, which can result in serious prior art issues.

The PCT

Because country-by-country filings can be prohibitively expensive, companies not only seek to limit the number of foreign filings, but also to defer foreign filing expenses. The PCT, signed in 1970, allows country-by-country filings to be deferred for thirty to thirty-one months.[2] The PCT is an international treaty administered by the World Intellectual Property Organization. The PCT allows patent applicants to file a single "international" patent application for examination by a major patent office before filing on a country-by-country basis. As of October of 2008, the PCT has 139 contracting states who have signed on to the treaty. Accordingly, a PCT application can give the applicant the right to ultimately enter and seek patent protection in any or all of those 139 countries at the so-called "national stage." The international PCT application

[1] The full text of the Paris convention can be found at www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf.

[2] The full text of the patent cooperation Treaty can be found at www.wipo.int/pct/en/texts/articles/atoc.htm.

can be filed by anyone who is a national or resident of one of the PCT contracting states, and may generally be filed in the patent office of the state in which the applicant resides.[3]

To take advantage of the deferral mechanism of the PCT for a given patent application, the applicant can make the initial patent filing directly with the PCT, or the applicant can first file a patent application in one of the contracting states and later file in the PCT. For example, a U.S. company might choose to file its initial patent application in the United States and then enter the PCT, or it might file with the PCT directly and then seek to enter the United States within the thirty-month national stage window offered by the PCT. If the applicant chooses to file its initial application in its home country rather than in the PCT, the treaty allows the applicant one year from the U.S. filing date in which to make the PCT filing. If done properly, this can preserve the original application priority date while deferring requirements to file patent applications in individual member countries. This does not serve to extend the thirty- to thirty-one-month time window for national stage entry, but it can delay entry into the PCT.

Under current rules, the PCT application filing effectively designates all PCT contracting states. The effect of this international application is to act as a placeholder just as if the international patent application had been filed in the national patent office of each contracting state as of the priority date. However, while the applicant is not actually required to seek patent protection in each contracting state, national stage filings will ultimately be required in those states in which protection is sought. The applicant, however, can defer its decision as to which countries to seek protection in and the costs associated with country-by-country protection.

Conducting an International Search

After filing, an international search is conducted on the PCT application. One of the patent offices of the major contracting states conducts this search, and the applicant can select the search authority. The patent offices

[3] A list of contracting states can be found as of this writing at www.wipo.int/export/sites/www/treaties/en/documents/pdf/pct.pdf. Because this list changes from time to time as member states are added and removed, the applicant is advised to check the list regularly when relying on the PCT as a placeholder for subsequent national stage filings.

that can be selected to conduct such searches include the United States, Japan, and the Republic of Korea, among others.[4] Upon completion of the search, the International Searching Authority issues an international search report. This search report lists publications that might be material to the patentability of the invention as claimed in the PCT application. The results are typically categorized based on their materiality in light of the claimed subject matter. In addition, a preliminary, non-binding written opinion is issued, which provides an analysis of the claimed invention in light of the search results in the search report. PCT Rule 34 sets standards for the international search, and it is carried out in accordance with the International Search and Preliminary Examination Guidelines, which are available on the PCT Web site at www.wipo.int/pct/ en/texts/gdlines.htm.

Choice of the searching authority, referred to as an "international search authority," can have a significant effect on the process. For example, if the original patent application is filed in the United States and the U.S. searching authority is chosen in the PCT, the search results for the international search report can be, and often are, the same as the search results for the U.S. application. Although the applicant is free to elect its desired search authority, if the applicant elects a different searching authority for the PCT from that of the initial filing, often a different set of search results is returned in the international search report. This can give the applicant a broader view of the potential prior art that might be of importance in considering the patentability of the patent claims. This may result in a stronger claim set upon granting of any subsequently obtained patents. The applicant is reminded, however, that the U.S. rules of practice under 37 C.F.R. § 1.56 place upon the applicant a duty to disclose any information material to the patentability of the claims in the U.S. patent application. Accordingly, any references uncovered in an international search report (an international search report, or indeed a search report of any other foreign jurisdiction) issued in the corresponding application should be considered for submission in an information disclosure statement in the U.S. application. Some practitioners, out of an abundance of caution, routinely cite in an information disclosure statement all references returned in corresponding application search reports.

[4] International searching authorities under the PCT as of this writing include the patent offices of Australia, Austria, Canada, China, Finland, Japan, the Republic of Korea, the Russian Federation, Spain, Sweden, the United States, and the European Patent Office.

An advantage of the international search report and written opinion is that it gives the applicant a view toward patentability of the invention before the applicant is required to incur significant expenses of country-by-country filings, which are referred to as national stage filings. After reviewing the provided information in the international search report, the applicant may elect to make voluntary amendments to the claims to place the claims in better condition for patent examination at prior to entry in the national phase. This can have the advantage of streamlining examination in the national phase.

In addition, the applicant may also take advantage of an international preliminary examination, which is also referred to as a Chapter II examination. A Chapter II examination is an optional second evaluation of the potential patentability of the invention conducted through the PCT. Chapter II examination allows the applicant to make amendments to the international application based on documents cited in the international search report, and it allows the applicant to participate in the examination process and to file arguments in an attempt to influence the findings of the examiner before entering the national phase. Additionally, the applicant is entitled to an interview with the examiner during Chapter II examination. The preliminary examination results in an international preliminary report on patentability that provides a preliminary, non-binding opinion on the patentability of the present claims. The international preliminary report on patentability is provided to any contracting state that requests it, and it provides the opinion of the International Preliminary Examining Authority as to compliance of the claims with international patentability criteria.

Timing Considerations and the PCT

Without the PCT, many countries allow applicants a one-year grace period to file a national stage application while maintaining the priority date of the original domestic application. Because of the timing afforded by the PCT, the applicant has thirty months (thirty-one months in some cases) to make the desired national stage filings. Accordingly, taking advantage of the PCT allows the applicant an additional approximately eighteen months to consider the desirability of seeking protection in foreign countries. While the applicant need not wait this entire time, this window can provide valuable time. For example, this allows the applicant to defer expenses and

provides time to seek or obtain funding for his or her company, which could be an extremely important consideration for startup or early-stage concerns. This can allow deferral of not only filing and examination fees for each country, but also deferral of costly translation fees in countries where translation is required. Even if the company is well funded, deferral of the high cost of national stage entry is a welcome relief. Additionally, if the international search report and written opinion reveal the presence of prior art that reveals little or no chance of obtaining patent protection, the applicant can abandon efforts to pursue patenting before incurring the high cost of national stage entry.

This extra time also allows the applicant to see how the market evolves as it relates to the patented invention. Thus, an applicant may decide whether to pursue foreign patent protection, and in which jurisdictions to pursue it, based on the extent of adoption of the technology in the marketplace. This can be particularly effective where a company has filed numerous applications around developing technology (such as in a standards setting situation) and utilizes the thirty- to thirty-one-month time window to see which of the applications gains traction in the marketplace before making expensive national stage filing decisions.

This also gives the applicant time to seek and retain local patent agents in each foreign country. Larger companies often have relationships with local patent agents. Likewise, U.S. law firms with robust patent practices also have relationships with patent practitioners in foreign jurisdictions. Accordingly, this can be less of a factor for many applications, but it is a consideration nonetheless.

The above-mentioned opportunities afforded the applicant to amend the claims during international examination allow the application to be put into better condition for national stage examination before entry into the national stage. Thus, patentability of the claims can be considered and addressed in one forum, rather than in many different forums in parallel. While this does not guarantee success in any national filing, it does, at least in theory, improve the applicant's position before processing by the designated offices. The designated offices cannot be expected to simply rubber-stamp the claims based on the PCT examination, but the international search report, the written opinion, and the international

preliminary examination report can help jump-start the national prosecution. Although the international preliminary report on patentability is not binding on the national patent offices, the report is typically considered by them.

Other Considerations for Developing a Foreign Filing Strategy

If one were to attempt to put into practice a strategy based on the case study described above, one might be tempted to create multiple patents with different types of claims from a single core invention, and file multiple patents across multiple jurisdictions to blanket the territories in which the company's products are made, used, and sold. However, as noted at the beginning of this chapter, global foreign protections can be quite expensive to obtain, and care must be taken when implementing a foreign filing strategy.

One approach can be likened to the eighty/twenty rule. In other words, the company might consider filing a limited number of patents in a limited number of jurisdictions that cover a large percentage of the market. For example, if 80 percent of the market for a given product is in the United States, Europe, Canada, and Japan, the patent applicant would capture the bulk of the market with filings in these jurisdictions and worldwide filings, but only net the remaining 20 percent of the market. While Europe, Canada, and Japan together can be significantly more expensive than filing in the United States alone, this somewhat limited set of jurisdictions is far less expensive than attempting to obtain worldwide patent protection. Related to this strategy, the company should consider whether its competitors would seek to enter the market even in unprotected jurisdictions, if that competitor is foreclosed from a few key markets by patent protection in those key jurisdictions. Simply put, if your patents are sufficient to keep a competitor from selling its products in the United States and Europe, it might not be worth it for the competitor to even enter the space in the remaining, unprotected jurisdictions.

Considering the Practicality of Enforcement

While foreign patent protection can sound very attractive to many companies, it is important to consider not only the administrative costs of

obtaining and maintaining patents in those jurisdictions, but also the practical issues associated with enforcement of patents in those jurisdictions. International patent rights are almost worthless if they cannot be put to any meaningful use. However, enforcing patent rights on a worldwide scale can be a costly and resource-intensive exercise. Even though the PCT and the European Patent Convention have streamlined, to some extent, the process for seeking foreign protection, a patent holder must still sue infringers in each country to enforce those rights in the individual countries. Even if the patentee's budget permits securing patent rights in a variety of different foreign jurisdictions, those patent rights could be of limited value if budgetary or other practical considerations limit one's ability to utilize or enforce those foreign patent rights. Filing a patent lawsuit in a foreign jurisdiction does not only involve legal fees, but also has practical ramifications that can render such an action futile. For example, the patent holder must hire foreign counsel to initiate such an action. It is also desirable to have local U.S. counsel (whether in-house or outside counsel) help manage foreign counsel and issues associated with the enforcement action. Accordingly, legal fees might be higher than expected.

Translation costs may be involved for many or all of the documents relating to the lawsuit. This typically turns out to be a necessary expense so the patentee's U.S. counsel, executives, and technical experts can understand and participate in the legal process in the foreign jurisdiction. Such translation costs can be prohibitive and, in some circumstances, can effectively force the company to dramatically minimize involvement of its key personnel and advisers in foreign matters. Accordingly, the company may have much less control and input into the process, which can dramatically affect the likelihood of success.

The distance factor can also give rise to practicality problems associated with foreign patent enforcement. For example, the company's executives and technical personnel may be required to travel overseas to meet with foreign counsel, provide testimony, and otherwise facilitate the enforcement. Travel costs to foreign jurisdictions can be quite high, but the time required for key personnel to travel overseas affects their ability to perform their regular job function, which is often more of an impact to the company than the out-of-pocket expenses. This time factor is often underestimated by executives, even in domestic litigations.

In addition, enforcement mechanisms in foreign jurisdictions are often different enough from U.S. actions procedurally, such that the company's management team and its U.S. counsel may have to rely heavily on foreign counsel even for procedural matters in the process. Discovery issues may be complicated and drawn out, and even if a judgment is obtained, enforcement of the judgment in a foreign jurisdiction can be difficult for companies that have no legal presence in that jurisdiction.

While all of these items are manageable, not every company is in the position to address these items in an effective way. Accordingly, it is important to keep a long-term view in mind when considering the initial foreign filing decisions.

Foreign Filing Licenses

35 U.S.C. § 184, et seq., provides that a foreign filing license is required to file for patent protection in foreign jurisdictions for inventions made in the United States. Typically, the question of foreign filing license is considered by the patent office upon filing of the application, and when issued, the foreign filing license is granted upon issuance of the filing receipt. Therefore, in normal circumstances, the patent applicant knows fairly early in the process whether the invention has been granted a foreign filing license. Care must be taken not to violate these provisions, as they are punishable by fine and imprisonment.

Likewise, many foreign jurisdictions also require foreign filing license before allowing patent applications to be filed outside of those jurisdictions. Consider the case of typical technology companies that have design centers in multiple locations, such as the United States, England, China, and India. Each of these jurisdictions requires a foreign filing license before patent applications can be filed outside of those jurisdictions on inventions made in those jurisdictions. Accordingly, if a company wants to file for patent protection outside of the foreign country in which the invention is made, and does not make its initial filing in that country, the issue of foreign filing license will have to be considered and, in many cases, addressed up front. It is not only the patent rules that should be considered, but also any technology transfer regulations a country has in place, which may be different from the patent rules.

This situation can be further complicated in situations where the company is looking to file for patent protection outside of the jurisdiction in which the technology was developed, and is not planning on filing for patent protection within that jurisdiction. For example, consider technology developed by Acme Semiconductor in its India design center, and that Acme only wants to file for patent protection on this technology in the United States. Because Acme only intends to seek patent protection outside of India, Acme must go through a separate process to apply for a foreign filing license allowing Acme to file its patent applications outside of India. Acme must engage counsel in India to assist in this process and to prepare and file the necessary paperwork. Acme must consider and allow for additional time necessary to complete this process before filing its patent application in the United States.

China, as another example, is a case where its patent regulations restrict the first filing of an application outside of China where an invention is made in China. See Article 20 of the Patent Law of the People's Republic of China.[5] However, in a loophole that is reportedly in the process of being plugged, there is no actual penalty under the Chinese patent system for violation of Article 20. There have been conflicting views on this point, but this conclusion was confirmed by calling the China Patent Office. The China Patent Office also noted that, in compliance with Article 20, the question can be avoided by filing a PCT application designating any receiving office, as long as China is designated and actually entered at the national stage.

As these examples illustrate, you must be aware of the various technology transfer and other related regulations that may exist in countries where your intellectual property is being developed before you seek to file foreign

[5] Article 20: "Where any Chinese entity or individual intends to file an application in a foreign country for a patent for invention-creation made in China, it or he shall file first an application for patent with the patent administration department under the State Council, appoint a patent agency designated by the said department to act as its or his agent, and comply with the provisions of Article 4 of this Law. Any Chinese entity or individual may file an international application for patent in accordance with any international treaty concerned to which China is party. The applicant filing an international application for patent shall comply with the provisions of the preceding paragraph. The patent administration department under the State Council shall handle any international application for patent in accordance with the international treaty concerned to which China is party, this Law and the relevant regulations of the State Council."

patent protection outside those jurisdictions. In some instances, filing a patent application under the PCT can help avoid these issues.

In the United States, a foreign filing license is not generally required to file international application in the U.S. receiving office, but may be required before a copy of the application can be forwarded to a foreign patent office under the PCT. It is noted that a foreign filing license may be required if the international application discloses subject matter in addition to that disclosed in a prior U.S. national application. 37 C.F.R. § 5.11. In such cases, the applicant should petition for a foreign filing license 37 C.F.R. § 5.12 and identify additional subject matter in international application that was not in the prior U.S. national application. 37 C.F.R. § 5.14. However, under 35 U.S.C. § 368, if a secrecy order is applied to an international application, that application will not be forwarded to the International Bureau for so long as a secrecy order remains in effect.

Such companies often have one or more design centers, both U.S.-based and foreign-based, responsible for the design of the semiconductor products. Intellectual property arising out of such operations can include intellectual property relating to circuit designs, semiconductor device structures and designs, semiconductor manufacturing techniques, and other like technologies.

Business Method Inventions and Computer-Implemented Inventions

Computer-implemented inventions have been and continue to be the topic of much discussion in the global patent community. The U.S. Patent and Trademark Office's position on software-related inventions has been in a constant state of flux since it first published its initial proposed examination guidelines. In the mid-1990s the Patent and Trademark Office addressed the legal requirements for statutory subject matter under 35 U.S.C. § 102 as it relates to computer-related inventions. The office's "Request for Public Comment on the Proposed Examination Guidelines for Computer-Implemented Inventions," published on June 2, 1995, (60 FR 28778-01, 1995 WL 326629) was a major milestone in the United States in the patentability of software and computer-implemented inventions. This ultimately led to the Patent and Trademark Office's Examination Guidelines for Computer Related Inventions. 61 FR 7478-02, 1996 WL

82067. Subsequent to the publication of those guidelines, the Court of Appeals for the Federal Circuit addressed the patentability of business methods in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, (Fed. Cir. 1998). In allowing the patentability of the claims in *State Street*, the court found that claims drawn to a method of doing business should not be categorized as "business method" claims, but should instead be treated like any other process claim.

Ever since the time that software and computer-related inventions were first considered patentable more than a decade ago, and since *State Street*, the United States has been a fairly liberal jurisdiction as far as software, computer-related, and business method patent claims are concerned.[6] The Patent and Trademark Office's position on the subject matter eligibility of computer-related inventions and mathematical algorithms can be found at MPEP §§ 2106.01, 2106.02. However, very recently, the Court of Appeals for the Federal Circuit addressed the patentability of business methods in *In re Bilksi*, 545 F.3d 943 (Fed. Cir. 2008). This decision, while having a significant impact on business method patents in the United States, has also begun to impact the way computer-related methods are treated by the Patent and Trademark Office. In *Bilski*, the Court of Appeals for the Federal Circuit stated that the so-called "machine-or-transformation test" is the proper test of subject matter eligibility under 35 U.S.C. § 101 for a claimed process, and that to be patentable, the process must either (1) be tied to a particular machine or apparatus, or (2) transform an article into another state or thing. Although the Patent and Trademark Office has not yet issued an official position on *Bilski*, and there will undoubtedly be a fair amount of shake-out in the wake of *Bilski*, the Patent and Trademark Office has begun rejecting computer-related inventions claimed in the form of method claims without any tie to a computing or processing apparatus. In another decision tightening the requirements of computer-related inventions, the Court of Appeals for the Federal Circuit in the case of *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007) held that "signal claims" disembodied from a storage medium do not recite patentable subject matter under 35 U.S.C. § 101.

[6] The Patent and Trademark Office's 2005 "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" as of this writing can be found at www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm.

Other jurisdictions that have been historically considered to be friendlier for computer-related and business method inventions include Australia, Canada, South Korea, and Japan, provided the claims are in the proper form. In Japan, business methods are considered to be patentable subject matter as long as the invention is directed toward a highly advanced creation of technical ideas by which a law of nature is utilized. While Japan's Article 2(2) requires industrial applicability, this is a somewhat vague requirement. This requirement has been interpreted to preclude the patentability of mathematical formulae, and other non-industrial methods, but has not precluded the patenting of computer software. In Japan, business methods have been treated as computer-related inventions and have been held patentable if they include technical features. However, pure business methods with no technical features are generally not considered patentable subject matter.

In Australia, software-related inventions are generally considered to be patentable subject matter, provided that a mode or manner of achieving an end result is claimed and it is a manmade state of affairs of utility. Australia also allows business method inventions to be claimed, subject to the same legal requirements for patentability as they may apply to other process or product claims.

In Canada, software-related inventions are also generally patentable subject matter, provided software is integrated with other traditionally patentable subject matter material. Accordingly, claims to software methods that are cast in terms of a computing system are considered patentable subject matter. Software in the form of an abstract theorem or algorithm is automatically excluded from patentability under Subsection 27(8) of the Canadian Patent Act. Business method inventions in Canada are evaluated based on their means of implementation. There is no authority in the Canadian Patent Act or rules, nor in Canadian jurisprudence, to limit the patentability of business methods. They are not automatically excluded *per se*. Computer-implemented business methods are generally considered to be statutory subject matter in Canada, and are examined in accordance with computer-implemented examination guidelines. For computer-related and business method claims examination guidelines, see the Canadian Intellectual Property Office's manual on patent office practice, Sections 12.0 4.04 and 12.0 4.05.

In South Korea, software-related inventions are generally considered patentable subject matter, provided the software is combined with specific hardware means (like a computer), but pure computer software is not patentable. Likewise, processes that involve a physical transformation of signals to demonstrate usefulness, or where a form of industrial applicability is expressly recited in the claims, are generally considered to recite patentable subject matter. Business methods must also be combined with technical means to be considered patentable subject matter. Pure business methods are not considered patentable subject matter.

Mexico allows software-related inventions to be patented as long as a technical and tangible effect is obtained using the invention. As far as business methods are concerned, Mexico does not look favorably upon methods for doing business *per se* unless they too can be shown to lead to a goal and tangible effect.

While the United States and some other countries have been friendly jurisdictions when it comes to software and computer-related inventions, and even business methods to some extent, countries like Israel, China, and India have been and continue to be difficult jurisdictions for business method patents. Europe is particularly difficult for business method and computer-related inventions because the patent applicant must show that the invention actually makes a contribution in a technical field. The European Patent Convention's Article 52 on the Patentability of Inventions states that mathematical methods, schemes, rules, and methods for performing mental acts or doing business, and programs for computers "shall not be regarded as inventions within the meaning of paragraph 1 of article 52."

First to File versus First to Invent

The United States is considered to be unique from most other foreign jurisdictions in one important aspect: the United States is not a first-to-file country. Instead, the United States considers the date of invention to determine which inventor or inventive entity should be granted the right to pursue a patent application in cases where multiple inventive entities are claiming the same invention. This so-called "priority of inventorship" is determined in the United States by a process known as an interference

proceeding. This first-to-invent standard is based on 35 U.S.C. § 102(g), which generally provides that the inventor or inventive entity who first conceives and reduces an invention to practice in the United States shall be eligible to seek patent protection in the United States. However, if an inventive entity has conceived of the invention before the other competing entity, yet later reduced that invention to practice, the reasonable diligence of the one who first conceived the invention, despite later reduction to practice, shall be considered in determining the rights under 35 U.S.C. § 102(g).

One major disadvantage of the first-to-invent system is that if there is a dispute, it involves a lengthy and costly interference proceeding in which the inventors battle it out for priority of inventorship. Unfortunately, the expense of entering into and fighting a patent interference and the complexity of the interference proceedings can render it prohibitive for small companies or the individual inventor to participate. Also, the first-to-invent system necessitates careful and diligent record-keeping such that, if a priority of inventorship dispute arises, the inventor will have the appropriate evidence to corroborate the alleged dates of conception and reduction to practice. Remember too that in the first-to-invent system, priority of inventorship may arise not only in proceedings before the Patent and Trademark Office, but also in patent infringement litigation. Priority of inventorship is often a defense raised by those accused of patent infringement for U.S. patents.

Another consideration of the first-to-invent patent system involves third-party prior art. Under U.S. patent laws, if another patent application is cited as prior art against an inventor's filing, that inventor will have the opportunity to swear behind the filing date of the cited patent application, as long as the cited application or patent did not publish more than one year before the inventor's fling date. 35 U.S.C. § 102(e). This can be a useful avenue for the patent applicant in the United States, but again, the applicant is advised to follow careful and diligent record-keeping practices so evidence necessary to support an affidavit of prior inventorship is available.

In contrast, in a first-to-file system, the right to pursue the grant of a patent for an invention resides with the first person or inventive entity to file a patent application for that invention. The filing date is considered,

regardless of the actual date of invention, as among the multiple competing inventive entities. Virtually all foreign patent offices are first-to-file jurisdictions rather than first-to-invent. These countries consider the first to file for patent protection rather than the first to invent when awarding patent rights. One advantage of the first-to-file system is that it is based on objective criteria, which can be easily determined on the face of the filing documents without requiring extensive evidentiary procedures, and without the costs associated therewith. This provides a measure of procedural certainty, as the filing date of an application can very rarely be challenged. While the first-to-file rule can simplify patent prosecution greatly, it does create another reason to be diligent in seeking the earliest possible filing date for patent applications, and preserving the priority date for foreign filings.

The EPC 2000

The European Patent Convention (EPC) is a multilateral treaty that provides a single legal framework and unified procedure for the examination and litigation of patents in European member states, referred to as "contracting states." The EPC provides a legal framework that is followed by the European Patent Organization and the European Patent Office. The EPC was revised by the Act Revising the Convention on the Grant of European Patents, which was signed in Munich on November 29, 2000. Available at http://www.epo.org/patents/law/legal-texts/epc.html. This act, referred to as the EPC 2000, was adopted by the administrative council of the European Patent Office on June 28, 2001, and entered into force on December 13, 2007. Since that time, all newly filed patent applications at the European Patent Office are processed in accordance with the provisions of the EPC 2000. To simplify matters, currently pending European patent applications are also being handled under the EPC 2000, provided no other restrictions apply.

The majority of the changes provided by the EPC 2000 to the substantive patent law in Europe concern novelty, industrial applicability, and priority rights, as well as a number of smaller amendments. Since that date, EPC member states have adhered to this new version of the treaty. According to Alison Brimelow, president of the European Patent Office, the EPC 2000 "simplifies access to Europe-wide patent protection and makes procedures

before the EPO easier for applicants and patent proprietors, while maintaining the office's reliable structures and high quality standards." The EPC 2000 helps better align European Patent Office practice with international developments by reflecting more current aspects of international patent law, such as the Agreement on Trade Related Aspects of International Property Rights of the World Trade Organization and standards of the Patent Law Treaty. The European Patent Office heralds the EPC 2000 as having a more flexible structure amenable to amendments to keep pace with future developments in patent law and litigation.

One key advantage offered by the EPC 2000 is that under revised Article 14, patent applications can be filed in any language, eliminating the need to obtain costly translations at the application stage. This will present a significant cost savings to applicants at the filing stage. It is not until two months after filing the European patent application that the application will need to be translated into one of the three working languages of the EPC: English, French, or German. In addition, all EPC contracting states are now automatically designated upon filing of the European patent application under Article 79(1) EPC 2000.

The EPC 2000 provides a little more flexibility on the requirements for obtaining a filing date. For example, under Rule 40(1) EPC 2000, a patent claim need not be included in order to obtain a date of filing. However, the receiving office will check to see whether the application includes one or more claims or a reference to a previously filed application indicating that it replaces the claims. Rule 57(c) EPC 2000. If the application does not comply with this requirement, the applicant will be allowed a two-month window in which to correct the deficiency. This will necessarily, however, delay the time in which the European Patent Office can commence examination and begin preparing the European search report.

Another item that can be deferred is the declaration of priority for the application. Rule 52(2) EPC 2000 provides that the declaration of priority may be made within sixteen months of the earliest priority for the application. However, a declaration of priority cannot be made after a request for early publication has been filed. Article 93(1)(b), Rule 52(4) EPC 2000.

The revised Article 121 EPC 2000 extends the application of further processing and makes it the standard remedy for missed time limits in the European patent grant procedure. Under Article 121(1) EPC 2000, the applicant can request further processing of their application if they fail to observe a time limit *vis-à-vis* the European Patent Office. Further processing is thus available for all missed time limits in the grant procedure, with the exception of those excluded under Article 121(4) EPC 2000 (see also the list of exclusions in Rule 135(2) EPC 2000). As in the past, Article 121 EPC does not apply to the time limits to be observed by the parties in opposition and opposition appeal proceedings. Under the EPC 2000, in contrast to the previous situation, further processing is also available where only a partial loss of rights has occurred, or where the missed time limit is one that is fixed by the convention. The EPC 2000 provides reestablishment of rights in the priority period under Article 87(1) EPC 2000 as long as a request is filed within two months of the expiration of the priority period. Rule 136(3) EPC 2000 rules out the reestablishment of rights for any period during which further processing under Article 121 EPC 2000 is available.

One advantage offered by Rule 112 EPC 1973 was that several inventions could be searched in a single application with the payment of additional search fees. This was removed from the new version of the corresponding rule, Rule 164 EPC 2000. The EPC 2000 provides two possibilities for international applications entering the regional phase before the European Patent Office. These are situations in which (1) the office draws up a supplementary search report or (2) the office does not draw up a supplementary search report. Under the first scenario, if the European Patent Office determines the application does do not meet the unity of invention requirements, a supplementary search report will be drawn up on subject matter first mentioned in the claims. Rule 164(1) EPC 2000. The applicant will then be given the opportunity to limit the application to a single invention as covered by the supplementary search report. Rule 164(2) EPC 2000. Accordingly, the applicant no longer has the option of paying additional search fees to expand the scope of examination to cover further technology, but divisional applications can be filed for parts removed due to lack of unity. However, where the European Patent Office does not draw up a supplementary search report, and the examining division finds that the application does not meet the requirements of unity of invention, the applicant will be asked to limit the application to one invention covered

by the international search report. Like the first scenario, the applicant cannot opt to have further inventions searched by the payment of additional search fees, but divisional applications can be filed.

Furthermore, under Rule 56 EPC 2000, filing of missing parts from the description or the drawings (not the claims however) of an application is now possible without losing the original filing date, provided they are filed within two months of the filing date or within two months of a communication from the European Patent Office inviting submission of the missing parts. Rules 56(1), 56(2) and 56(3).

EPC 2000 also deleted Article 54(4) from the EPC 1973 so that any European application falling under Article 54(3) EPC 2000 constitutes prior art for all EPC contracting states at the time of its publication.

Sample Case Study

As stated above, there is no one-size-fits-all approach to foreign patent strategies. But due to the overwhelming cost of global protection, a carefully planned strategy is essential to maximizing your company's foreign filing dollars. To help illustrate an example of how some of the above-outlined considerations might be put into effect, it is useful to consider a hypothetical case study. Let us return to the example discussed above wherein a fabless semiconductor company is seeking to implement a global patent strategy, but understandably does not want to file all of its patent applications in every country in the world. To help make the description more meaningful, we will fill out the hypothetical with a few more assumptions. Assume that our hypothetical company, Acme Semiconductor, is headquartered in the United States and has several design centers in the United States, within which their semiconductor chips are designed. Assume also that Acme Semiconductor has a design center in England and another in Bangalore, India. Acme's semiconductor wafers are fabricated in China and Taiwan, and final assembly into a packaged die and testing occurs in China. At this point, Acme sells its chips to its customers who assemble Acme chips with other components onto circuit boards and assemble the circuit boards into a final product. In some cases, the final product might be further integrated into a larger system, or it might be sold directly to the end-user consumer. Consider for example a GPS navigation

system, which might be packaged as part of a larger system, or it might be packaged as a stand-alone consumer electronics product. For example, in the case of the former, the GPS navigation unit might be integrated into an automobile on the assembly line before sale to the end user. In the case of the latter, it might be sold to consumers in retail outlets as a handheld portable navigation system.

What IP Is Being Created?

An important consideration in Acme's strategy is to understand the types of intellectual property Acme is creating. It may be creating intellectual property related to all phases of productization, including design and development, manufacturing and product features, and functionality. For example, Acme might be developing intellectual property related to:

- Features and functions of the end-user product
- Chip-level features and functions
- Semiconductor design tools
- Semiconductor manufacturing techniques
- Semiconductor device structure
- Circuit-level designs
- System-level designs

What Is the Relative Importance of the Different Types of Intellectual Property?

As part of this process, Acme will naturally have to make decisions regarding the importance of innovations they make in each of these areas. Acme will want to consider factors such as the patentability of its innovations, their commercial significance, and whether infringement is detectable. Assuming that Acme has appropriately evaluated its candidate inventions for patenting, they might consider the following.

Looking first at the wafer fabrication and chip-level assembly and testing, Acme's operations at these stages occur in China. Acme also knows that its competitors have their chips manufactured not only in China, but also in Taiwan. Accordingly, inventions relating to semiconductor manufacturing techniques, semiconductor device structures, and circuit-level designs might be good candidates to consider for patent protection in China and Taiwan.

However, patents relating to system-level design and end-product features and functionality will typically not be infringed at the wafer fabrication and chip packaging stages, although there are exceptions. Therefore, unless China and Taiwan are key markets for the end-user products, Acme will likely forego filing for patent protection on end-product features and functions and system level designs. One important note in this respect is that Taiwan is currently not a member of the PCT. Accordingly, if patent protection in Taiwan is part of the company's patent strategy, it must file directly in Taiwan, even if it relies on the PCT for filing the application in other countries. The PCT filing will not preserve the filing date in Taiwan.

Similar considerations will occur at the board- and device-level manufacturing phases. Acme will consider where its chips are assembled at higher levels of integration, and where its customers and competitors are performing similar operations. Again, Acme will look at which of its intellectual property developments are likely to be infringed in these jurisdictions, and limit its filings in those jurisdictions to the identified families of invention. For example, and assuming the board- and device-level manufacturing is in a different jurisdiction from the wafer fabrication, Acme will likely not look to patent semiconductor manufacturing techniques in this jurisdiction.

Generally, a large focus of Acme's patent strategy will be the end-user markets. However, there are several considerations to keep in mind. Recall that Acme's products are not the end-user products themselves. In other words, Acme's products are not the cell phones, GPS devices, or other consumer electronics products into which its chips are integrated. Instead, Acme's products are the chips themselves. Nonetheless, that does not stop Acme from enforcing its intellectual property rights against original equipment manufacturers, value-added resellers, and others who sell end-user products with infringing chips integrated into their products. In addition, Acme wisely develops and protects its intellectual property relating to features and functionality of end-user products. Accordingly, patent rights arising out of such intellectual property will be enforceable against original equipment manufacturers, value-added resellers, and other sellers, as well as against end users. For consumer products, it is doubtful that Acme would look to enforce its patent rights against end-user consumers. However, for commercial products, Acme might be more likely to consider

enforcement not only against the sellers, but also against the customers. Also, consider that the end-user product is typically sold on the market for much higher prices than the semiconductor content of those products. For example, certain chips within a cellular telephone might be sold by Acme for a few dollars or tens of dollars, whereas the cell phone itself might be sold for several hundred dollars. Accordingly, the potential is greater in this market for larger patent damages depending, of course, on the nature of patent protection Acme actually obtains. Also, Acme may want to consider including patent claims at the system level or product level for patents sought in end-user markets in an effort to avoid having to argue entire-market-value damages theories.

Which Types of Patents for Which Jurisdictions?

As the above case study indicates, different types of patent claims might be suitable for different candidate foreign jurisdictions. Simply put, patents relating to manufacturing are generally best suited to jurisdictions in which the products are manufactured, while patents on the end-products or on features or functionality of the end-product are best suited to markets in which the product is sold. While this sounds abundantly obvious, it is not always put into practice. However, there are exceptions to this generalization. For example, there are mechanisms for enforcement of U.S. patents covering methods of manufacture employed outside the United States, but only for products manufactured by those methods and brought into the United States.

How Might Acme Craft Patents for Foreign Filing?

As the above scenarios indicate, different types of patent protection for a company's products or processes can be important in different jurisdictions. Therefore, it is important to weigh the various foreign filing considerations during initial patent drafting stages. For example, in the case of Acme, it will want to consider the locations in which the various phases of product development and commercialization occur as they prepare their initial patent filings. Consider an example in which a particularly important Acme innovation involves a new semiconductor manufacturing process. It might be natural in such a circumstance for Acme to prepare and file a patent application that covers the manufacturing process. That is, a patent that

covers the step-by-step process through which the device is manufactured. Such a patent might only be useful in countries where manufacturing occurs, but such a patent might also have usefulness in particular countries that allow enforcement against products manufactured in a different country by patent process. However, as this example illustrates, certain patent claims may have limited jurisdictional applicability. The converse to the above example may also be true. Patents that claim the end-user product or features of the end-user product might not be infringed by the manufacturers in jurisdictions where the wafers are fabricated. Accordingly, such claims typically have the greatest utility in end-product markets.

To carry the example further, assume that the patentable process relates to photolithography operations used with a predetermined set of lithography masks. In this example, patent claims that can be crafted might not be limited to the manufacturing steps or process followed by the wafer foundry. Indeed, patent claims might be crafted to cover unique features of the photomasks themselves, a novel process by which the photomasks themselves are created, or computer-aided design tools used to create the mask set or the data for the mask set. Accordingly, Acme should consider the commercial importance of these novel aspects of the creation and where infringement of these claims is likely to occur. Acme should recognize that these different types of patent claims arising out of the same invention would have different levels of importance to the patent strategy into different jurisdictions. Acme should also consider who the likely infringers of these various claim forms might be, as these parties might be different from likely infringers identified by Acme for its product or manufacturing process claims.

APPENDIX

REPRESENTATIVE ESTIMATES FOR NATIONAL STAGE FILING AND ANNUITIES

Australia	
Filing	$2,944
Examination	$1,003
Granting	$3,947
Country Total	$4,654
Total Annuities	$11,894

Canada	
Filing	$2,096
Examination	$1,216
Granting	$888
Country Total	$4,200
Total Annuities	$11,063

China	
Filing	$5,882
Examination	$905
Granting	$389
Country Total	$7,176
Total Annuities	$18,041

European Patent Office	
Filing	$11,806
Examination	$2,802
Granting	$4,301
Country Total	$18,909
Total Annuities	$2,257

France	
Filing	$1,556
Total Annuities	$13,797
Total Including Annuities	$15,353

Germany	
Filing	$2,143
Total Annuities	$25,864
Total Including Annuities	$28,007

Japan	
Filing	$11,930
Examination	$4,503
Granting	$1,090
Country Total	$17,523
Total Annuities	$35,367

Korea (South)	
Filing	$6,130
Examination	$1,810
Granting	$1,336
Country Total	$9,276
Total Annuities	$24,463

Spain	
Filing	$6,264
Total Annuities	$13,440
Total Including Annuities	$19,704

United Kingdom	
Filing	$1,127
Total Annuities	$11,540
Total Including Annuities	$12,667

United States of America	
Filing	$1,879
Examination	
Granting	$2,060
Country Total	$3,939
Total Annuities	$8,170

About the Author

Daniel N. Yannuzzi is a partner in the Intellectual Property Practice Group at Sheppard, Mullin, Richter & Hampton LLP. He advises clients in all areas of intellectual property law, including patent and other intellectual property litigation, strategic portfolio development, technology licensing, and transactional matters.

Mr. Yannuzzi has extensive experience advising high-technology companies and their stakeholders on complex, business-critical IP matters. His intellectual property practice focuses on patent litigation; developing IP strategies and IP portfolios aligned with business goals; assessing, avoiding, and responding to third-party IP threats; in-bound and out-bound technology licensing, including standards-based licensing; and negotiating IP asset transactions such as mergers, acquisitions, joint ventures, and the like. He has advised a wide range of industry leaders, including companies such as Olympus Corporation, Hewlett-Packard, Samsung, International Business Machines, Conexant Systems, and Cadence Design Systems. Mr. Yannuzzi has served as primary outside intellectual property counsel to numerous electronics, software, telecommunications, and medical device companies.

Previously, Mr. Yannuzzi was a partner and co-manager of the electrical patent practice group at a prestigious Washington, D.C. firm. Mr. Yannuzzi also has several years of in-house legal experience, where he served as Vice President of Worldwide Legal Affairs to Skyworks Solutions, Inc., and as Vice President and Chief Intellectual Property Counsel to Conexant Systems, Inc., a multi-billion dollar semiconductor company.

Prior to entering the legal profession, Mr. Yannuzzi was an engineering manager at Allied Signal Aerospace, where he managed the development and integration of spacecraft communication and tracking systems for various NASA programs. He also led a team of scientists and engineers in the development of high precision satellite laser ranging systems for NASA's Crustal Dynamics Project.

Mr. Yannuzzi attended the University of Maryland School of Law (J.D., with honors, 1993), Johns Hopkins University (M.S., 1986), and the University of Delaware (B.S., 1982).

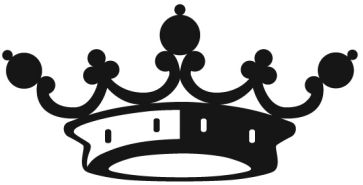
ASPATORE

www.Aspatore.com

Aspatore Books is the largest and most exclusive publisher of C-Level executives (CEO, CFO, CTO, CMO, Partner) from the world's most respected companies and law firms. Aspatore annually publishes a select group of C-Level executives from the Global 1,000, top 250 law firms (Partners & Chairs), and other leading companies of all sizes. C-Level Business Intelligence™, as conceptualized and developed by Aspatore Books, provides professionals of all levels with proven business intelligence from industry insiders – direct and unfiltered insight from those who know it best – as opposed to third-party accounts offered by unknown authors and analysts. Aspatore Books is committed to publishing an innovative line of business and legal books, those which lay forth principles and offer insights that when employed, can have a direct financial impact on the reader's business objectives, whatever they may be. In essence, Aspatore publishes critical tools – need-to-read as opposed to nice-to-read books – for all business professionals.

Inside the Minds

The *Inside the Minds* series provides readers of all levels with proven business intelligence from C-Level executives (CEO, CFO, CTO, CMO, Partner) from the world's most respected companies. Each chapter is comparable to a white paper or essay and is a future-oriented look at where an industry/profession/topic is heading and the most important issues for future success. Each author has been selected based upon their experience and C-level standing within the professional community. *Inside the Minds* was conceived in order to give readers actual insights into the leading minds of business executives worldwide. Because so few books or other publications are actually written by executives in industry, *Inside the Minds* presents an unprecedented look at various industries and professions never before available.



ASPATORE