Foreign Patents

When Less Is More

by Robert Fieseler and Consuelo Erwin

Many scientists are familiar with the process of applying for and obtaining a US patent. You first submit your disclosure write-up to your supervisor or the company's patent department. You may get an initial reward from your company, say $100. You may then have to make a case for why the innovation you described should be selected for patenting in the United States.

After the company's patent approval process runs its course and your innovation is approved for patenting, a company patent lawyer or agent contacts you, hopefully before your initial enthusiasm for the innovation fades. The back and forth process of writing the patent application begins: The patent attorney reworks your initial write-up (forget about pride of authorship), and you (and your co-inventors) get a first draft of the patent application to review. You give the lawyer your comments, the draft gets sent around a few more times, and eventually a document that satisfies everyone (or at least doesn't dissatisfy anybody who matters) emerges.

The application then gets filed, and — after almost a year has passed — your company's patent lawyer often reappears to discuss with you whether the company should get patent protection in any foreign countries.

Table 1: US and foreign patent cost estimates

Patent Office	Application Filing Costs (US$)	Prosecution Costs to Grant (US$)	Maintenance Costs (US$)
United States (provisional)	3000–5000	—	—
United States (nonprovisional)	7000–15,000	4000–8000	1000–3000 every 3.5 years
English speaking countries	2000–3000	1000–2000	500–1500 annually
Non-English speaking countries	4000–8000	3000–5000	500–1500 annually

The question of whether and where to file foreign patent applications raises an unavoidable dilemma: On the one hand, no one wants to be known as the person who decided against getting foreign patents for an innovation that winds up having substantial worldwide commercial potential. On the other hand, no one wants to be the person who decided to obtain a slew of foreign patents for an innovation that seemed promising at the time but never made it into the company's product line or had any other commercial use, either. Here are some ways to resolve the foreign patenting dilemma.

The Economic Stakes

Foreign patents are expensive, both to get in the first place and to maintain during their 20-year term. Table 1 provides a rough idea of the costs involved (as of late 2003) for a previously-filed US patent application that is to be filed in one or more additional countries. The costs presume that the US application to be foreign-filed is about 20 pages in length, has no more than about 20 claims, and does not become involved in any contested proceedings before being granted (such as an appeal, opposition, or interference among competing applications). As Table 1 points out, translation costs in non-English speaking countries add significantly to the foreign patenting costs in those countries.

So the cost to obtain a patent in the United States and, say, Canada, Germany, Great Britain, and Japan adds up to about $45,000, not including maintenance fees, which would add another $2000 or so

Table 2: Constituencies for intellectual property protection as a company matures

Years Since Company Founded	Constituencies
0–2	Management, seed investors, employees, patent examiners
2–5	Management, private investors, employees, patent examiners, potential strategic partners, customers, competitors
5–10	Management, public investors, employees, examiners, strategic partners, customers, competitors, judges, juries, academia

annually. The economic consequences of deciding to commit such amounts, particularly if an innovation does not wind up in your company's product line, can be devastating in both the opportunity costs and the human costs involved. The opportunity costs are reflected in the patent coverage that could have been obtained for a different innovation that was not pursued because the resources were devoted to the unused innovation. The human costs are reflected in the hard reality that biotechnology companies now face: Personnel lay-offs result when money is spent unwisely.

On the other hand, the economic costs of deciding not to obtain patents for innovations that do wind up in a company's successful product line can also be devastating. Imagine having to justify a decision not to commit $10,000 or so for patenting costs in a country where the market was substantial and unfettered competition in the unpatented technology has forfeited millions of dollars of potential revenue.

Who Is Your Constituency?

Perhaps the place to begin your assessment of the value of foreign patents for an innovation is to ask: To whom do we expect our foreign patents to matter? In various stages of corporate development, companies use patents for different purposes and aim them at different constituencies or audiences, as Table 2 summarizes.

In the first two years or so of a company's existence, the primary purpose of getting patents should be to protect a company's fundamental intellectual assets. The constituencies concerned about patents in those initial years are company management, early seed investors, employees attracted to and retained by the company at least in part because of its intellectual and technical potential, and, of course, patent examiners who will determine whether patents should be granted for innovations described and claimed.

In years two through five, a company's adolescent years, patents are still aimed at management, employees, and patent examiners, but additional constituencies also emerge. As the company's capital needs increase, seed investors give way to private investors who take a greater economic stake in the company. Even more than seed investors, private investors demand patent protection for the intellectual assets in which they have invested. At this time, a company may also be courting potential strategic partners, each of which will consider whether it can circumvent the company's patents before deciding to partner with it. During these middle years, companies also promote their patents to customers as evidence of their leadership in technology and innovation and to discourage potential customers from buying infringing products from unlicensed competitors.

In years five through ten and beyond, public and institutional investors will have greater influence on corporate decision making, particularly regarding the company's worldwide patent strategy. A company's patenting efforts are still aimed at management, employees, strategic partners, customers, competitors, and patent examiners, but those constituencies tend to diminish in importance as the company matures. Moreover, a company at this stage of development can obtain patents with a view toward actually asserting them against competing infringers. Such enforcement efforts involve judicial proceedings that cost millions of dollars to pursue, amounts that companies in their infancy and adolescence cannot realistically afford.

What Are Your Business Objectives?

Most companies' main business objective is to develop and market products and / or services with features that differentiate them from, and make them more attractive than, competing products and services. Patents further that objective by giving a company the exclusive right to make, use, offer, and / or sell products or services that have those features. Patents thereby deprive potential competitors of the ability to offer those differentiated products and services. In the case of innovations that do not become incorporated into a company's line of commercial products and services (or are less important), patents become the vehicle by which a company can license out the technology to others in return for money or other compensation. Licensed patents thereby accomplish other business objectives even when the technology they cover is not critical to a company's commercial line.

How Should You Make Foreign Patenting Decisions?

Once you've gone through the exercise of assessing who your company's foreign patents will matter to and how your innovation will (or won't) promote your company's business objectives, you've essentially decided whether it would be worthwhile to obtain one or more foreign patents for your innovation.

If the answer to the "whether" question is "yes," then the question becomes, Where should foreign patents be pursued? Subsidiary but

equally important questions are: When should those foreign patents be initiated, and Is it possible to defer committing those costs until foreign patenting really looks worthwhile? The short answer to those questions is that you should use a selective approach, making use of grace periods afforded by international treaties and local laws, to ensure that the foreign patents you pursue wind up covering at least commercially viable, if not commercially successful, innovations.

What Grace Periods Are Available?

The grace periods afforded by treaties and local laws allow foreign patenting decisions to be made based on current information and — an important benefit — allow foreign patent costs to be deferred. Grace periods fall into two categories:

- Worldwide scope: one year in the case of the Paris Convention and two and a half years in the case of the Patent Cooperation Treaty (PCT) to decide whether and in which countries to file patent applications
- Local scope: in certain countries, applicants can defer examination for several years before the expenses of prosecuting the filed application to allowance and grant are incurred.

The Paris Convention is a treaty by which most industrialized nations of the world give limited recognition to each other's patent application filing dates. For one year after the filing date of a US patent application (or the filing date of an application in any of the other Paris Convention countries), essentially the same application can be filed as a foreign counterpart application in any or all of the countries that subscribe to the Convention. Any foreign counterpart application that is filed in this way will be treated in the country in question as though it had been filed on the first filing date (the *priority date*) rather than the actual (later) date of filing.

The Patent Cooperation Treaty makes it possible to preserve the option to seek patent protection for an innovation simultaneously in each of a large number of countries by filing one international patent application. The applicant designates in which countries the international application is eventually to have effect (the *designated states*). In each designated state, the effect of the international application while it is pending is the same as if a national patent application had been filed in the national patent office of that state.

The international application is subjected to an international search by one of the major patent offices such as the US Patent Office or the European Patent Office. It is then published along with the international search report. A PCT applicant can, at the end of the 20th month after the international filing date — or if the international application claims priority from an earlier-filed application, until the end of the 20th month after the earlier application's priority date — begin the national phase procedure before each of the designated states' patent offices. The original 20-month period can be extended by a further 10 months (to 30 months, or 2.5 years from the priority date) if an applicant requests international preliminary examination. International preliminary examination results in the issuance of an international preliminary examination report, which is also prepared by one of the major patent offices and contains a preliminary and nonbinding opinion on the patentability of the claimed innovation.

Although a PCT application will not itself result in the grant of a patent in any designated state, the national (or regional in the case of Europe) patent applications begun upon termination of the PCT proceedings will be treated by the individual countries' (or regional) patent offices as though they had been filed on the priority date claimed in the PCT application. Moreover, if the US or European patent offices were selected to examine the PCT application, a favorable international preliminary examination report will improve the chances of receiving a prompt allowance of the application from that patent office.

Whether or not the decision to pursue foreign patents is deferred using the grace periods just described, applicants in many countries can defer examination even longer under local law. For example, applicants in Canada can defer examination for up to five years from the priority date. Applicants in Japan can defer examination for up to seven years from the priority date. Keep in mind, however, that grace periods, whether of worldwide or local scope, cut into the term of any resulting patents, because patent term durations are calculated from the application's priority date and not from the date of the examination request or the date the patent is granted, as was the case for US patents filed before 9 June 1995.

Making More Out of Less

Where products that embody a patented innovation readily and customarily travel among countries in regions such as Europe or North America, a selective approach can effectively provide exclusive rights in those regional markets. Adopting a selective approach to filing patents balances the competing interests of obtaining broad patent protection

and minimizing the filing costs involved.

Under the selective approach, a few countries (or even just one) are identified in each of a company's important regional markets. The theory of this approach is that the entire regional market becomes essentially unavailable to a competitor unless all of that competitor's making and using and selling can be done entirely in countries where patents have not been obtained. In other words, if any of the making or using or selling occurs in even one country in which a patent has been obtained, that one patent can effectively preclude competition in the entire region.

For example, if one of the regional markets is Europe, a company can seek patent protection only in, say, Germany, and thereby preclude competition in all of the European Union unless competitors can avoid making or using or selling in Germany. Even if a competitor's own commercial activities avoid Germany, it would still face the risk that its customers could be charged with infringement if any of their use extended into Germany.

The Bargain Approach

An even more economical approach is to file foreign counterparts of an earlier-filed US patent application only in a small number of English-speaking countries. A company might pursue patents only in, say, Great Britain, Australia, and the United States. With patents in those three countries, and assuming that the products embodying the innovation readily and customarily travel among countries in Europe, North America, and the Pacific Rim, the respective British, US, and Australian patents could effectively and economically dominate competitors' activities in each of those regional markets. This approach is a bargain in the sense that it avoids the costly translations required to file patent applications in non-English speaking countries.

Other Streamlining Tips

When preparing a first application for filing, arrange for the contents of the initial application to satisfy most, if not all, of the patent formalities in all of the countries under consideration for potential patenting. To that end, the written description in the specification should be limited to between 15 and 20 pages, thereby minimizing translation costs. Longer specifications should be shortened by removing extensive prior art discussions and duplicate passages and by considering the inclusion of drawings that can take the place of wordy narrative descriptions.

The number of claims should also be limited by keeping to two or three independent claims and no more than 20 total claims, thereby reducing translation costs and avoiding unity of invention objections that can lead to the eventual cancellation of claims or the division of claims into separate applications.

Next, provide the verbatim support required by many patent offices, especially in Europe, by having a corresponding narrative description and illustration in the drawings for each component or limitation recited in the claims. The breadth of such support can be enhanced by describing claimed features using a spectrum of terms, from broad, outcome-orientated language (for example, "a surface temperature sufficient to vaporize the reactant") to specific, quantified expressions of those features (for example, "greater than 80 °C, preferably between 80 °C and 120 °C").

Also, be careful to avoid terms that give a narrowing construction to claimed features such as "critical," "essential," "necessary," "need," "most," "always," "never", "none," "any," and "all." Instead, use words like "preferred" and "desirable" to express claimed features. The term "can" should be used in favor of "may" because "may" implies uncertainty and lack of substantiation and could be considered merely predicative rather than something actually established.

Finally, include in your US application systeme internationale (metric) units for all your labeled measurements, thereby avoiding the time and expense of having to insert them later to satisfy filing requirements in other countries.

Today's Lessons

Know the Stakes Involved: The cost of obtaining and maintaining foreign patents is worthwhile only if an innovation has demonstrable commercial value.

Identify your constituency, recognizing that companies use patents for different purposes and aim them at different audiences at various stages of corporate development.

Identify your company's business objectives that can be furthered by acquiring patents, and then capitalize upon the exclusivity and licensing potential they provide.

Take advantage of grace periods afforded by treaty and local law to defer the ultimate foreign patenting decision while giving yourself more time to realistically assess the commercial potential of your innovation.

Adopt a selective approach to the filing of foreign patents to limit the number of countries to the most significant one or two in each of your company's important regional markets.

Tailor the contents of your initial application to satisfy patent formalities in all countries under consideration for potential patenting.

Expect to be accorded hero status for steering your company toward obtaining patents in the right foreign countries for commercially robust innovations and away from obtaining foreign patents for commercially tepid innovations.

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