

Introduction to Patent Portfolio Building and Management

Stephanie Whitehorse

Stephanie Whitehorse is intellectual property manager and operations manager at the Wisconsin Alumni Research Foundation in Madison.

Introduction

There are numerous factors for university technology transfer offices to consider when devising a strategy for managing a patent portfolio. One solution does not fit all cases. This is particularly true because most offices have limited patent-expense budgets. If the technology is likely to be licensed by a startup company, the strategy may be more complicated and expensive than if the technology will be licensed nonexclusively to a number of major corporations.

Likewise, if the invention is the result of industry-sponsored research, there will likely be some rights granted back to the sponsor, which can impact and/or obligate a specific patent-filing strategy. In the ideal case, where the technology is the platform for an entirely new field, then using the strategy of filing a first foundational application with an eye toward future filing should be considered. Unfortunately, sometimes with brand-new-field technology, it's difficult to determine if the field is really going to be worth patent protecting.

Patent Family Filings

When it comes to building patent portfolios, perhaps the most straightforward way of thinking about them is in terms of patent families or cases that claim priority to or from each other. In the United States, these patent families typically fall into three categories: continuation, divisional, and continuation-in-part (CIP) filings. Provisional applications in the United States are also used as priority filings, but do not themselves ever issue. Finally, foreign applications stemming from U.S. applications can also be considered part of a patent family.

Use of Provisional Applications

Since their introduction into U.S. patent law in 1995, provisional patent applications have been used by many university technology transfer offices as a starting point for protecting new technologies, when the ultimate patent portfolio strategy is not yet clear. They can be filed with less formality than a regular utility filing and with lower U. S. Patent and Trademark Office (USPTO) fees.

Provisionals are never examined, so if licensing opportunities do not become apparent within the provisional year, the provisional application can be left to expire without ever accumulating prosecution costs. In this way, they can be a less expensive option than a regular utility application. However, over the last decade, as patent prosecution and litigation has occurred on applications stemming from provisional applications, it has become increasingly clear that the time and thought put into drafting the provisional application itself should not be significantly less than the effort for drafting a utility application.

U.S. vs. Foreign Rights

A provisional application used as a priority document in foreign jurisdictions must meet all of the requirements for priority filings. For example, in the European Patent Office (EPO), your priority document must clearly indicate what invention you are claiming. In this instance, simply slapping a coversheet on a manuscript that is about to be published and filing a provisional application may not adequately protect your patent rights in all foreign countries. Additionally, such filing may not be necessary to protect your rights under current U.S. patent law, so filing a provisional may not, in the end, accomplish anything.

In fact, one could argue that this practice gives a false sense of security and could, in the end, be just a costly exercise in futility. If you file a provisional of this nature, then later proceed to file a Patent Cooperation Treaty (PCT) application, then years later file a national phase application in the EPO or other foreign patent office, you may spend quite a bit of money only to find out during prosecution, the priority document you are relying on is not sufficient and that the published paper serves as prior art against your pending application.

Patent Term Optimization

One of the major benefits of filing a provisional first is that patent term (expiration) is not calculated from the date the provisional application was filed. It is calculated from the date the first nonprovisional application stemming from the provisional was filed, which is likely your U.S. utility application date. This means that your invention is protected in terms of public disclosure and an early filing date to eliminate prior art of others, but the patent that ultimately issues will not expire for twenty-one years from your provisional filing, rather than just twenty years, as would be the case if your first filing was a utility application.

In fact, the U.S. provisional application was created to maintain parity in U.S. and international patent terms. In 1994, the General Agreement on Tariffs and Trade Uruguay Round patent legislation changed U.S. patent term from seventeen years postissuance to twenty years from the filing date to create parity with other countries. It also introduced the provisional application to provide U.S. filers with the benefit of an earlier priority filing date that would not begin the patent term clock. Without the provisional application, foreign filers could have an advantage by filing first in a PCT country other than the U.S. and later filing a U.S. application stemming from the PCT application.

For example, if you file first in Germany, then twelve months later, you file a PCT and enter U.S. during national stage, your U.S.-issued patent expires twenty years from your PCT filing date, not your German filing date. The introduction of the provisional was an attempt to provide a PCT priority date for U.S. filers that would not start the clock ticking on patent life earlier than the PCT filing date.

It is still important to make sure your provisional application contains enough disclosure to meet all the requirements for patentability, including utility, enablement, and written description. In addition, if you plan to rely on your provisional for priority in international filings, such as the EPO, you must make sure to meet their requirements as well.

Utility Applications

In general, if the invention is fairly well-formed and proven, it may make sense to go ahead and file a U.S. utility application as the first filing, rather than starting with a provisional application. There are several reasons for doing so. First and foremost, your patent will be examined and should issue faster than if you start with the provisional applications. In university-based technology transfer, having an issued patent gives you a stronger bargaining position than a pending application. Likewise, many companies have the perception that universities tend to file weak provisionals, so even if the patent has not yet issued, showing that you have a well-supported pending utility application may also provide more value in licensing negotiations.

Converting from Provisional

If your first filing was a provisional application, you must decide within one year whether to file a utility and/or PCT application claiming priority from that provisional. Alternatively, U.S. patent law does provide a direct route to convert a provisional filing to a regular utility filing. In practice however, most patent attorneys and agents procedurally file new applications with a priority claim to the provisional, rather than doing a direct provisional conversion. Often the impending expiration of the provisional application provides an opportunity to review the provisional application with the inventors to see if any additional or differing data exists.

For many technologies, particularly in the biological and biotechnology areas, the utility application is an expansion of the provisional, which includes more experimental data to supplement what was already included in the application. This is data that will be useful in convincing the patent examiner that the invention disclosed, supported, and claimed in the provisional application does in fact function as previously described. This data should be incorporated in a way that does not cause it to be viewed as new matter.

When drafting a utility or PCT application claiming priority to a provisional, be cautious about what you add. Anything you add could be considered new matter and not be accorded the filing date of the provisional. This is important for determining what constitutes prior art and what does not. While there is no limitation on adding more disclosure

at this juncture (and, in fact, it is common practice to do so), if you plan to rely on your provisional filing date, be strategic about what you add and why, when filing the utility application.

It is also a time to consider whether the inventors feel there is a new best mode that needs to be added to the application to meet the best-mode requirement. The inventors are required to include in the application the best mode for practicing the invention *at the time of filing*. A new utility application sets forth a new time of filing for the purposes of meeting the best-mode requirement.

Finally, in some portfolios, a number of provisional applications are in essence rolled together into a single utility filing prior to the expiration of the first filed provisional. This rolling together of multiple filings can be a cost-saver down the line, in that prosecution costs are limited to a single application rather than several independent applications. In addition, you may find that, in the course of filing multiple provisional applications within a year, the invention you want to claim becomes more clear, but is supported and described in multiple provisionals; in that case, it makes sense to claim priority to all of those provisional applications.

Continuation and Divisional Applications

When combining multiple provisionals into a single application, bear in mind that, in many instances, USPTO examiners are issuing restriction requirements to limit the number of claims they have to examine in any one filing. It is useful to consider this when drafting your utility application claims, so that when faced with such a restriction, you can decide which claims will be most valuable today and if and when to file divisional applications for the unelected claims. Continuing applications (i.e., continuations, divisionals, and CIPs) can be filed as long as at least one application in the patent family is still pending (not issued.) For unlicensed technologies, you may want to wait until just before issuance of the first application before you invest additional filing and prosecution costs into another application.

You may decide the first set of claims issuing are broad enough to provide you with a solid licensing position. While having additional claims would be nice, they may not enhance the licensing revenue for your technology. As a result, it may make sense not to pursue further divisional applications.

Continuation applications serve two primary functions. First, you may need to pursue a set of claims to an invention described in your application that you did not originally claim. As you work toward commercializing a technology after filing the application, you or your licensee may recognize aspects of the invention that will be commercially valuable that would not have been obvious to you at the time of filing. As long as the invention is adequately described and supported in the original patent application, you can add new claims without adding to the specification and file a continuation application.

Another common reason to file a continuation application is to pursue a set of claims that you cancelled after filing. For example, you might file the application with many claims and shortly thereafter license the technology to a company. It can be important for the licensee to have a license to claims in an issued patent rather than pending claims, as is often the case for startup companies seeking financing.

If your first or final office action indicates that some, but not all of your claims are allowable, it might make sense to cancel those claims that stand rejected, amend any that are objected, and wait for a formal notice of allowance. Then, prior to paying the issue fee, file a continuation application for the claims you just cancelled. This strategy will likely result in one issued patent and one pending application. It will allow you additional opportunities to file arguments in favor of allowance, without the risk of delaying issuance of the allowable claims.

Continuation-in-Part Applications

Continuation-in-part applications are those where there is a need to add new matter to support new claims that you wish to pursue. A CIP application often looks like a similar, but completely new patent application that has a priority claim to an earlier filed nonprovisional patent application.

In a university research setting, it is all too common for the inventors to come to you with an invention and, after filing the utility application, come back with a modification or improvement to the original invention that was not disclosed or supported in the original filing. Use of a CIP may be an appropriate route for protecting the new invention. This is also an opportunity to consider whether the new claims render the claims in the original application obsolete or far less valuable. If this is the case, rather than proceeding with prosecution costs for two cases, you may consider abandoning the original application in favor of the new one.

In a university research setting, use of CIPs may be quite different than in industry, because of the frequent publication of scientific papers by inventors. CIP practice is fairly specific to U.S. patent law. As a result, claims supported by the new matter in a CIP must meet all of the criteria for novelty and nonobviousness in light of all prior art, including the inventor's articles published more than one year prior to the filing date of the CIP. If claims in the application are fully supported by the priority application, these claims are examined with respect to prior art as of the filing date of the priority application; any claims not fully supported by the priority application are not afforded a priority date of the earlier application.

If an inventor presents a paper at a conference just before your priority patent application is filed, and then just over a year later, the inventor comes back with a modification or improvement to the invention, you might be tempted to file a CIP application. However, there will be no benefit in terms of patentability due to his or her presentation more than a year ago. There is typically no cost savings in a CIP versus a standalone utility application and, in fact, there is patent life to be lost. If you believe you can argue that the new claims supported by new matter are novel and nonobvious in view of the inventor's public disclosure more than a year ago, you might as well go ahead and file a brand new utility application that will expire twenty years from your new filing date, rather than a CIP, which would expire twenty years from your priority date about a year earlier.

A final point on this subject is that, regardless of when the CIP application is filed, the resulting issued patents expire twenty years from the filing date of the earliest-filed non-

provisional application to which they claim priority. For this reason, you may want to pursue such filings sooner rather than later, so your effective enforceable lifespan for the resulting issued claims is maximized. On the other hand, you can delay the costs of filing and prosecuting continuing applications by filing them serially, each one just before issuance of the previous case.

Additional Filings on Follow-on Disclosure

Often in university research, inventors will submit follow-on inventions, which are related to a technology filed earlier. These follow-on disclosures may fall into the category of potential CIPs or may represent separate new inventions. Either way, making the decision about whether or not to file on such disclosures can be simple and straightforward in some cases and complicated in others.

If you have a good relationship with a licensee for the original patent, you may wish to get his or her input on the value of additional follow-on intellectual property. Keep in mind, you may be able to extend the life of your relationship with the licensee by having additional patent protection for the improved inventions. This could be positive or negative to the licensee, depending on his or her perspective. In some cases, he or she may be thrilled to extend his or her exclusivity in the market space. In other instances, he or she may not be thrilled to have continued obligations to pay you for freedom to operate.

Dominating Claims in the Patent: Are Follow-on Applications Worth it?

If extended patent life is not a large factor in additional intellectual property protection, other factors must be considered. Has your first patent issued? If so, are the claims broad? If the answer is yes, do you believe you can argue for a higher royalty rate or additional licensee fee for the new technology? If not, you may choose not to file on the new idea. Some licenses have *royalty-stacking provisions*, which limit additional royalties for follow-in inventions. Be sure to consider this when making decisions about additional filings.

If the patent has not yet issued or the claims are not as broad as you would like, having another patent on a follow-on invention may give you a better intellectual property position, as well as a stronger bargaining position.

Picket-Fence Filing Strategy: When Another Entity Holds Dominating Claims

The decision to implement a picket-fence patent-filing strategy should be considered differently in the realm of university technology transfer than in industry. This concept describes the practice of filing multiple patents on various aspects of a product that circle around the broad claim that would read on a single technology or invention.

A broad, dominating patent claim would read on every version of the invention that could be produced. However, sometimes such broad dominating claims are either not available, have expired, or are owned by another entity. In industry, a picket-fence strategy is often used for defensive purposes when a competitor holds rights to the base or dominating intellectual property. When discussions about infringement are raised by the holder of the dominating intellectual property, a cross-license for the narrower, yet still valuable *picket-fence* intellectual property is a common scenario. For a company, this is not only cost-effective, in terms of not having to pay a royalty, but can also allow the company access to the dominating intellectual property to stay in the market. A company might also employ this strategy when a broad dominating claim is not patentable or was patented but has expired to maintain a competitive advantage in the market space.

For a university however, the goal of patenting typically is to license. Cross-licensing, while useful in industry, is not typically a factor in the university setting, because a university does not make products. As a result, it is worthwhile to determine if there are broad dominating claims owned by another entity. If so, that entity may be your only potential licensee for any picket-fence style claims.

On the other hand, such dominating claims often are broadly licensed within a particular industry segment, in which case, your narrower picket-fence style claims could warrant a solid licensing revenue because of the competitive advantage they provide to your licensee. If you are lucky enough to own the dominating intellectual property, you might want to consider picket-fence claims surrounding this intellectual property as a way of extending your patent life, and thus, your licensing revenue for that technology area.

Methods of Use/Treatment vs. Composition/Device Claims

In the area of composition and their methods of use, the application of picket-fence type strategies is quite common. For example, an early patent may cover a new compound and its use in a particular application. Later, your inventors discover a new use for that composition. If you are successful in attaining patent claims covering that new use, frequently in the form of method of treatment style claims, you can prevent anyone from marketing that compound specifically for that new application. Such claims can prove to be quite lucrative. The same can be said for devices and new applications, but such use claims in these instances are not likely to generate licensing revenues of the same magnitude.

Foreign-filing Strategy Basics

In terms of patent portfolio management, it is wise to think about international filing at the time of your first filing. Filing and prosecuting international patent applications can take many years and cost hundreds of thousands of dollars. As a result, university technology transfer offices are often appropriately cautious about such filings. You have to weigh a number of factors carefully prior to making these expensive decisions.

Do you internationally protect a new platform invention? Ideally, yes; however, if you anticipate a big hurdle for patentability, it may make more sense to wait for a licensee and/or wait for the more specific but commercially important follow-on inventions, and pursue international protection for one or two key inventions.

For example, if the first filing contains key broad claims that may be difficult to prosecute toward allowance, and you anticipate the inventor may develop many follow-on inventions, it might make sense to consider international coverage for the later, narrower, but commercially important applications.

PCT

One way to hedge your bets with international protection is to file a PCT application at the twelve-month deadline and wait until the national phase to determine whether you wish to invest the substantial costs into further international filings. Generally, you will spend five to six thousand dollars for a PCT application, which basically buys you another

eighteen months to attempt to license the technology. Then, prior to the national phase deadline, you can discuss with your licensee its interest in international filings and use its desire and willingness to pay for such filings as a driver in your decision making.

National-Phase Filings

One strategy you may wish to consider is direct national-phase filings. If you already have a licensee or if you already know you will only be interested in pursuing international filings in a specific country or two, you might choose to skip the PCT and file directly in the regional office(s) for those countries, thus saving the expense of the PCT application.

Conclusion

Many factors should be taken into account when devising a strategy for managing and building a patent portfolio at a university-based technology transfer office. One size does not fit all; one solution is not the best choice for every invention. The best strategy could depend upon the technology, the goals of the inventors, the objectives of your university and/or its licensees, and of course, your budget. In general, for cash-strapped university technology transfer offices, filing early but perhaps not often is the most effective strategy. Each strategy offers unique advantages and disadvantages, and these can be combined to build and maintain a strong portfolio over the long term.