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So much choice...

Tools for patent searching: what are your options?

One of the primary purposes of the patent system is to publish and disseminate technical knowledge.

First came libraries and carefully crafted classification systems. Computer technology was quickly applied to patent documentation and manual searching was initially aided by the possibility of retrieving mainframe computer-generated lists of patents allocated to a particular classification symbol. Then came the internet, and patent offices were able to discharge their duty to publish far more effectively.

Why search?

There are three main purposes for which patent searches are carried out:

- Investigating patentability;
- Establishing the background IP in a technical field prior to entry or looking at infringement risks; and
- Validity searches if one has been unfortunate enough to receive a patent infringement complaint.

The first and third are still carried out extensively and there is an existing industry catering to this need. That industry also strives to cater for the second type of search – but it is a struggle. Such searching is expensive, time consuming and leaves a business with difficult decisions to make, based on reports that are inevitable surrounded with caveats as to their reliability. It is so much easier to bury your head in the sand and plough on regardless until some obstacle is encountered. Nevertheless technology is offering the opportunity for more of us to preview those obstacles.

The products and providers

The industry is divided into that which is accessible by the consumer through computers or through people. If you take the personal interface, your provider, whether he or she be a patent office employee or employed by a professional firm of searchers, will inevitably be using computer-based tools at some point in their work.

The computer-based tools: In preparing this article I have looked at four tools – one publicly available, ESPACENET and three commercial offerings DECOPA, PatBase and

DELPHION. There are many other services available, but the intent of this article is to provide a thumbnail sketch of some existing services, in order to demonstrate to readers the sort of services that are available to them.

I anticipate my readers will be familiar with ESPACENET, which now has the most comprehensive offering and a variety of access options through national patent offices. The best interface is offered by the European Patent Office (EPO) at <http://ep.espacenet.com/> and covers as much as national patent offices have been able to make available electronically.

With the EPO's new interface, launched in October 2004, this utility presents a major challenge to the subscription services, which now need to offer more than just multi-page downloads of patent documents to justify their existence. There are two ways it can do this – increasing efficiency and the offering of analytical tools. PatBase and DECOPA are relatively new products in this sector that aspire to rise to the challenge and offer new opportunities for the patent world. DELPHION has its origins in the once freely accessible IBM Intellectual Property Network, but has since been acquired by the Thomson group, which also now owns Derwent and MicroPatent, creating one of the biggest worldwide information providers.

Some national offices, while still contributing to the worldwide collections, offer their own data via proprietary interfaces of their own. The US Patent and Trademark Office (USPTO) goes its own way

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at <http://www.uspto.gov/patft/index.html>.

The table which accompanies this article offers a brief comparison of what is on offer amongst the computer-based tools. There may be other services available not included in the table, as it does not claim to be comprehensive.

Raw or improved patent data: Whatever the tool, the data is the raw text of patent specifications written by and for inventors around the world. Examiners in patent offices classify the inventions at the point of search.

Patent office examiners are also entitled to edit the Abstracts that are provided by the applicant to improve their functionality as a search tool.

While PCT publications often contain improved abstracts, the general standard is less than helpful. This raw data is distributed by the EPO. Their products and services are presented under the acronym EPIDOS (European Patent Information and Documentation Services – formerly INPADOC). EPIDOS products and services are available both directly to users and to commercial data suppliers.

Standards of classification vary and it is not uncommon for two patent offices to take a widely different view of the appropriate classification. Since the matter is subjective and different examiners may genuinely take a different perspective, it is unlikely that anyone will be wrong as such but the variation may lead to surprising results in a search too rigidly based on classification symbols.

Initiatives such as the Memorandum of Understanding, signed on 19 November, 2004 by the heads of the USPTO, EPO and Japanese Patent Office (JPO), which between them will search an enormous proportion of the inventions patented worldwide and almost all of those that are patented in more than one territory, are aiming to improve the situation.

These patent offices will continue discussions on international patent classification reform.

The Offices are seeking ways to harmonise the basis on which searches and examinations are conducted. This harmonisation should make patent applicants around the world confident that the harmonised standards are being applied objectively in each Office conducting the searches and examinations.

Meanwhile, these variable standards have offered a commercial opportunity to Derwent to improve the data by using subject specialists to produce their own consistent abstracts in English and apply the Derwent classification – based on but different from the International Classification. Accordingly searching this improved data should be more reliable, but because it is expensively produced the cost of searching it, as opposed to the raw data distributed by the patent offices, is going to be more costly. DELPHION offers the choice of searching with the raw data or switching to the Derwent data, which may be an attractive choice when searching chemical inventions.

The other tools ESPACENET, PatBase and DECOPA rely on raw data only.

As illustrated by the IPCentury Challenge box the way database providers choose to build indices of their data for Boolean searching can have a serious impact on the results. Although the incoming raw data may be the same there is clearly differentiation in this area that must have an impact on customer confidence.

The products: Whereas ESPACENET, PatBase and DELPHION rely on offering the user an interface to search, display and manipulate the data, DECOPA has a different approach. It offers simply the search engine and users must rely on the USPTO, ESPACENET or DELPHION to view results.

According to one of its own patent application¹ abstract the DECOPA search engine offers a “Computer-based method and arrangement for text analysis in which semantic text clusters are calculated from document term matrices and used for said text analysis.

Additionally probability densities can also be used for the text analysis.” Its best results are obtained when a reasonably substantial amount of text is offered up for analysis against the contents of the database. Users are encouraged to use a patent publication as a seed to start the search. Of course when conducting validity searches, this is a perfect option.

The search engine can also be set off to compare the whole text of the seed with all of the contents of the database or simply with the text of claims if you are concerned about infringement risks.

Likewise the claims of the seed can be compared with the whole text of the database if validity is the central reason for the search.

The customers

The industry has different types of users.

The requirements of a businessman, patent agent and professional searcher are fundamentally different.

The individual researcher: Even the simplest of the available tools demand of their users a reasonable knowledge of the patent system and some skills in navigating the interface. Probably the best starting point for a novice user is a trip to one of the network of patent information or PATLIB centres around Europe. For locations see <http://patlib.european-patent-office.org/directory/overview.pl>.

Even a simple search to investigate the patentability of a new idea is unlikely to be a success without a little training. Nevertheless it is not always appropriate or cost-effective to seek professional help immediately. If your research question is fixed and certain, then the professional route is indicated. But suppose your invention is but imperfectly formed or your task is to find out what solutions already exist to the problem you are grappling with, then your initial results may govern the route you take.

Novices are intractably drawn to keyword searching. Information overload almost inevitably ensues. At this point the value of the classifications immediately becomes manifest.

Indeed you may find it better to start your keyword searching in the classification itself to try and bring focus. Classifications are the delight of librarians and they are generally better and more willing than patent agents or professional searchers at explaining how to use them. Fortunately for most researchers there will be relatively few classification symbols that represent their interests. Since the classification symbols are printed on published patent applications finding one almost on-point document is always a good start for a review of the classification. There is regrettably something of a proliferation of classifications. The UK Patent Office, the USPTO and the EPO each have their own and none is the same as the International Patent Classification (IPC), though all have a similar structure. You can search the EPO's classification (ECLA) on ESPACENET at <http://v3.espacenet.com/eclasrch?CY=ep&LG=en>. More about the IPC and a detailed guide can be found at the website of its custodian and creator the World Intellectual Property Organization (WIPO) at http://www.wipo.int/classifications/fulltext/new_ipc/index.htm.

To search it you will need to access a paid for service such as DELPHION or the CIB database on Questel-Orbit.

For a reasonably reliable search it is unsafe to limit oneself to the patent publications of just one country. To avoid multiple searches the utility of a tool that allows multiple databases to be searched simultaneously is clear. Fortunately each of the tools listed (except the USPTO) offers such a facility. Therefore knowing the IPC of your field of interest and some salient key words is a good starting point for the individual researcher.

At this point for immediate gratification the only options for the individual researcher are the ESPACENET or DELPHION, which will offer a day pass or monthly subscription to any credit card holder. However the charges may be more than you bargain for if you download certain documents. For the other services you would need to set up a subscription – but you could get access to Derwent by paying a visit to the British Library – London's PATLIB member. The principal value of using the paid for service is that you can readily acquire the full document and this is essential for evaluating what it discloses.

If you spare the time to learn more about the interfaces you may find that the analytical tools offered by DELPHION and PatBase could help get a grip of some larger search results sets but for most individuals ESPACENET will meet their needs. See the Comproom Limited Challenge in the Box.

The patent agent: Patent agents are increasingly finding their clients doing some of their own research and seeking further guidance. A patent agent may also want to use the search tools to get some insights into the prior art to help the drafting process, without necessarily doing an exhaustive prior art search.

Saving results is always a must for any professional. Even ESPACENET now allows users to save one patents list. It will disappear after 30 days of non-use. DELPHION and PatBase have more sophisticated offerings but DECOPA has none. However as its hit lists tend to be concise and built up by the search engine, they would probably say that the painstaking multiple searches to build up a results list are non-essential.

Tools such as alerts are also valuable to the patent agent. An alert allows users to monitor a subject or company (patentee), without the need to run the search manually each week or month. If the alert finds matching records, they are delivered to the requester by email.

Both DELPHION and PatBase offer the ability to do this effectively. PatBase is a little more generous with the list of email addresses that can be entered. DELPHION has a limit of two, which is probably sufficient for most situations. You can get round this limitation by separating several addresses in a single box by commas.

It is possible to envisage that tools such as the citation link may allow the enterprising patent agent to add value for his client by monitoring potential infringers.

Nevertheless most patent agents will still be fairly infrequent users due to the time needed to do thorough searching. For extensive research a professional option is likely to be the best. One of PatBase's parents is the professional search organisation RWS Group and by offering the interface to agents they also provide an option to get a quote for a full search. Other companies, such as CPA, also offer professional searches and search reports.

The professional searcher: One side effect of testing search tools is a huge growth in respect for the professional searchers of the world, and perhaps most of all those at the EPO, who consistently produce searches of a quality that I can neither produce, nor afford the cost of commissioning privately for a client, because of their extensive nature. A private professional searcher will always be under more time pressure than one in a patent office who is working after the priority date has been established and must therefore pay attention to any tool that can speed up the focus on relevant results.

Conclusions

To maximise confidence you might want them all to cross-reference each other and no doubt that is to some extent an option for professional searchers. For the infrequent user, the pressures of skill-building, if not economics, dictate the use of only one.

For the user in a hurry DECOPA is the only product offering magic results, but perhaps not every time. The need to find the seed material may perhaps make it less attractive to the business user. A professional searcher may be wary of the underlying reliance on technology he does not understand but patent offices may well find it offers increases in productivity. However, for a patent agent under pressure such a tool could lead to a following of happy clients.

DELPHION's simplicity of subscription will win it customers who want to use tools that ESPACENET does not offer. However, although PatBase is the newest UK offering and may have some current shortcomings these will probably disappear as its user base grows. It will certainly keep the competition hot, to the benefit of us all.

To the readers who are devotees of the products I did not challenge in my preparations for this piece, I humbly apologise. I look forward to reading your comments in the letters page.

I acknowledge with gratitude trial subscriptions from IPCentury for DECOPA and Minesoft for PatBase. The DELPHION salesman did not follow up on his exhibition offer.

Notes

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About the author

Barbara E Cookson is a partner at Nabarro Nathanson. A patent agent and qualified solicitor, she deals with the drafting and filing of patents and trademarks. Whilst focusing on the registration of rights, Ms Cookson also advises extensively on related transactions and adversarial matters both in the UK and worldwide.

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