SCRIPT-ed

Volume 3, Issue 2, June 2006

Patent Remedies: Online Management of IP Services

Allan Gordon[1], Jim Adams[2], Alexis Barlow[3], Peter Duncan[4], John Huntley[5], Martin Jones[6]

Abstract

This paper was inspired by work currently in progress under a DTI (Department of Trade and Industry) funded KTP (Knowledge Transfer Partnership) Project between Kennedy's Patent and Glasgow Caledonian University. The project offers a unique opportunity to study the interplay between the firm's business exigencies, and the constantly evolving legal and procedural framework within which the firm operates. The particular focus of the paper is the issues raised by the provision of online legal/quasi-legal services in an 'e-government' context.

DOI: 10.2966/scrip.030206.109

---

[1] KTP Associate, Kennedys Patent, Glasgow.

[2] Patent Attorney, Kennedys Patent, Glasgow.

[3] Lecturer, Caledonian Business School, Glasgow Caledonian University.

[4] Lecturer, Caledonian Business School, Glasgow Caledonian University.

[5] Professor, School of Law and Social Sciences, Glasgow Caledonian University.

[6] Senior Lecturer, School of Law and Social Sciences, Glasgow Caledonian University.

1. Introduction

This paper was inspired by work currently in progress under a DTI (Department of Trade and Industry) funded KTP (Knowledge Transfer Partnership) Project between Kennedy's Patent and Glasgow Caledonian University. The project offers a unique opportunity to study the interplay between the firm's business exigencies, and the constantly evolving legal and procedural framework within which the firm operates. The particular focus of the paper is the issues raised by the provision of online legal/quasi-legal services in an 'e-government' context. The paper focuses on the practical issues and changes wrought by the incorporation of information and communications technologies (ICTs) in the form of electronic filing within a case management system in the patent and trademark law domain. In addition to exploring the drivers for, and management of, this change process, it considers the implications of such processes, not only in the relationship between the firm and the patent offices involved, but also between the firm, its clients and other agents. The paper attempts to extrapolate wider lessons of more general application to the provision of legal services.

The topic under discussion in this paper is but one element – albeit an important element – of a wider project to review the management processes in the work of a patent agents' office. Even at this early stage of the project, it is clear that the emergent electronic environment for online filing in the process leading to the creation of intellectual property rights will impact on those management processes. Thus, whereas in the past our preoccupation has been with the drivers for change internal to the firm that encourage the adoption of ICTs in such management processes, our focus in the project and for the purposes of this paper will be on the external drivers for change in the context of online filing. We must also point out that the work under the project covers intellectual property rights management in general and is not restricted to patents. Neither time nor space permits the consideration of other intellectual property rights – most particularly trademarks and designs – in this paper, even though similar issues arise in relation to the registration of trademarks and the registration of design rights.

Susskind predicted[7] that by 2005 most major law firms would be using ICTs to provide clients with a wide variety of services online. That has not been fully realised, despite clear benefits to firm and client. This is as true for patent and trademark agents as for other providers of legal services. Unless there is customer demand for such services, or a competitive edge to be acquired, drivers for change to implement such technologies and to provide such services are unlikely to arise.[8] That is not to say that ICTs have not made any kind of impact in the domain of patent and

---

[7] Susskind R, *Transforming the Law: essays on technology, justice and the legal marketplace*, 2000, Oxford University Press, Oxford, UK.

[8] Bernstein H et al, 'Managing Change in the Legal Firm through the Teaching Company Scheme,' 2001, available at:

http://www.bileta.ac.uk/Document%20Library/1/Managing%20Change%20in%20the%20Legal%20Firm%20Through%20the%20Teaching%20Company%20Scheme.pdf

trademark agents. Like other professional legal service providers,[9] they are under similar pressures to implement ICTs to manage and deliver the services they do provide.

We have elsewhere been variously involved in considering the use of ICTs in the management of legal services and the automation of the legal office[10]. The most observable driver for change in general terms was the internal dynamic of the firm and that, in turn was influenced by the need to acquire competitive edge, to improve the service to the client. Even where we have also been involved in project work dealing with the interface of the law office with other, notably government agencies there was little to suggest that there was much pressure for this beyond that internal dynamic, whether from clients or the agencies themselves.[11]

2. The Project

This project was established to develop integrated practice management systems having secure, seamless communication between staff on multiple sites, clients, Foreign Associate firms and Patent and Trade Mark Offices.

More specifically, the aim is to develop an integrated multi-site practice management system conforming to an appropriate software development methodology and using appropriate standards. The project aims to -

a) specify, develop, trial and deliver an improved Document Management workflow;

b) audit the current procedures and specify, develop, trial and deliver an integrated practice management system.

c) audit the current communication channels between our staff, clients and Foreign Associate firms, and develop secure portals;

---

[9] Barton K et al, 'Commerce and Legal Practice in Scotland: a Benchmark Survey,' available at: http://www.bileta.ac.uk/Document%20Library/1/E-Commerce%20and%20Legal%20Practice%20in%20Scotland%20-%20A%20Benchmark%20Survey.pdf

[10] On the application of ICTs to legal practices in general, see for example: Barton K, Duncan P, Maharg P and McKellar P, 'The Paisley pattern: IT and legal practice in Scotland', *Scottish Law and Practice Quarterly*, 2000, 5, 3, July, 217-239; Duncan P, Barton K and McKellar P, 'Extending Richness and Reach: empirical evidence from public access Web sites of UK legal practices' *The Journal of Information, Law and Technology* (JILT), 2001, 2, Accessed online at: http://elj.warwick.ac.uk/jilt/01-2/duncan.html More particularly, regarding the role of ICTs and practice management, see work based on a Teaching Company Scheme (predecessor of KTP) project in the Scottish legal practice Friels (for example): Thomson R, Huntley J, Belton V, Li F and Friel J, 'Decision Making at the Firm Level: The experience of a Criminal Legal Aid Case Management System', *International Review of Law, Computers and Technology*, June 2000, pp. 221-233; Thomson R, Huntley J, Belton V, Li F and Friel J, The Legal Data Refinery, *International Journal of Law and Information Technology*, 2000, 8 (1), 87-97.

[11] One emerging feature of the work carried out with Jim Friel & Co. was that the firm was keen to interact electronically with the agency, but could not. This was graphically illustrated when the firm purchased a digital camera to submit photographs evidence at a fraction of the cost of employing a professional photographer. The Scottish Legal Aid Board, understandably at that time, would only accept the latter.

d) specify, develop, trial and deliver a secure electronic filing at UK, European, US Patent & Trade Mark Offices;

e) assist staff training on embedded systems and wider dissemination and marketing.

The duration of the project is 27 months and the Associate to the project, Allan Gordon began work in August 2005.

2.1 Electronic online filing (eOLF): G2B interface?

In the intervening five or so years, much has changed. At first sight, a key driver for adopting ICTs to develop online services and enhance the management of such relationships appears to be external to the firm, namely the online provision of services by government and its agencies. If experiments with 'e-government' in the United Kingdom[12] or more widely the European Union[13] were to be seen as indicators, the prospect might seem grim; but cynicism is a danger to be avoided and the picture is at worst patchy.[14] Not only have some areas of 'E-government' (the provision of government services online) grown significantly, especially where government provides services for business[15] so that we can now speak of G2B interaction,[16] but it has grown in areas with important implications for the provision of legal services.[17] What has made this possible is the convergence of various technical

---

[12] 'UK Online Centres and E- Government,' DfES Research Report RR362, available at: http://www.sqw.co.uk/pdfs/UKOnlineCentres-FullReport.pdf. For a comment, see "UK citizens shun e-government services": http://news.zdnet.co.uk/internet/0,39020369,39193839,00.htm

[13] 'Top of the Web: User Satisfaction and Usage Survey of eGoverment Services', Report prepared for the eGovernment Unit, DG Information Society, European Commission, December 2004, available at: http://europa.eu.int/information_society/activities/egovernment_research/doc/top_of_the_web_report_2004.pdf. For a comment, see Ann Light, 'Online Government Services offer few Improvements, says EU', Usability News.com, 16/02/05, available at:http://www.usabilitynews.com/news/article2192.asp. See also, on the 'e-GOV' proposal, see Wimmer, M 'A European Perspective Towards Online One-stop Government: The eGOV Project,' Electronic Commerce Research and Applications 1(1): 92-103 (2002), also available at: http://falcon.ifs.uni-linz.ac.at:8080/eGOV/publications/wimmer_icec2001.pdf.

[14] 'UN Global E-government Readiness Report 2005: from E-readiness to E-inclusion', UNPAN/2005/14, available at: http://www.usabilitynews.com/news/article2192.asp. For an example of optimistic predictions, see also Howard, M 'e-Government across the Globe – how will "e" Change Government?' August 2001, *Government and Finance Review*, 6, at: http://www.gfoa.org/services/gfr/archives/2001/08/gfr0801.pdf

[15] The interrelationship between government and business and the provision of government services to business is generally ignored by commentators, even those writing from a business perspective: see e.g. Caldow J, 'The Quest for Electronic Government: a Defining Vision', Institute for Electronic Government, IBM Corporation, 1999, http://verdi.unisg.ch/org/idt/ceegov.nsf/0/bf655ecd47bf30c9c1256c8c0050b1e9/$FILE/egovvision.pdf.

[16] Jaeger P, 'The endless wire: E-government as global phenomenon,' 20 (2003) *Government and Information Quarterly* 323 –331, available at: http://suite.icu.ac.kr/sub/rs/resources/20040226_e-Government-global.pdf.

[17] Thomson R et al, 'Decision Making at the Firm Level: The Creation of a Criminal Legal Aid Case Management System,' (2000) 14 *International Review of Law and Information Technology* 221-233; and see Mitrakas, A 'Soft law constraints in eGovernment', available at: http://www.bileta.ac.uk/Document%20Library/1/Soft%20Law%20Constraints%20in%20eGovernment.pdf

prerequisites, notably the ubiquity (almost) of broadband to make the transmission of complex documentation in lengthy procedures possible; the development of appropriate authoring languages and software; and the provision of secure networks. Most notably, such developments have made electronic online filing (eOLF) attainable.

Two areas in particular show such signs of movement in eOLF.[18] One is e-conveyancing, or at least the online registration of real, or heritable property. Much has happened recently in Scotland[19] in the development and adoption of the Automatic Registration of Title to Land (ARTL).[20] Formal rules and guidelines are scheduled for September 2006[21] and Registers of Scotland are currently seeking an Order under the Electronic Communications Act 2000, section 8.[22] Rollout of ARTL is scheduled for late 2006.[23] Similar plans are now firmly under way in England where the much larger scale of the project and the added complexity of 'chain contracts' in property sales[24] mean that the projected rollout date for the final version is July 2009.[25] The Land Registry has been particularly clear in articulating the issues that need to be resolved in formulating an effective service.[26] Some of these are peculiar to the conveyancing process in England and Wales and need not concern us here: but in addition to the requirements of confidentiality, integrity, authentication and non-repudiation, which might be regarded issues core to the development of e-government services, several other recurring themes emerge. They include compatibility with existing case management systems; unique identification of transactions; and date/time stamping. It is factors such as these that impact more directly on a firm's internal case management systems and provide greater scope for automation and efficiency.

---

[18] There are limited opportunities for the electronic filing of documents for corporations at Companies House. For example it is possible to notify a change of registered address or the appointment/removal of a director. Rather than the model adopted in the world of the patents of producing freely available software, Companies House maintains a list of approved commercial software suppliers who comply with the technical requirements. There are plans to extend the service but this is only "according to demand". Overall there seems a less determined drive towards provision of G2B services here: http://www.companieshouse.gov.uk/toolsToHelp/efilingfaq.shtml

[19] For brief comment on recent developments on econveyancing in Scotland, see McQueen, H, "Scots Law News', [2006] *Edinburgh Law Review*, 181-2.

[20] Ness, J 'Back to the Future', 2006 *Journal of the Law Society of Scotland*, 50. For the latest developments see http://www.ros.gov.uk/artl/index.html; and note comments from Scottish Law Society at: http://www.lawscot.org.uk/Members_Information/convey_essens/artle/ARTLDisc.aspx.

[21] A draft version is available at http://www.ros.gov.uk/pdfs/artl_terms&cond.pdf.

[22] See http://www.ros.gov.uk/pdfs/update16.pdf. Ness, *op cit* suggests Spring 2007. A commentary issued by RoS on the status of electronic conveyancing in Scotland is available at: http://www.ros.gov.uk/pdfs/electronic_deeds_factsheet.pdf.

[23] Ness, *op cit.*

[24] This has necessitated the development of a Chain Matrix that is scheduled for implementation in two trenches. For details, see: http://www.landregistry.gov.uk/kb/Default.asp?ToDo=view&questId=185&catId=28.

[25] An 'E-conveyancing timeline' is available at: http://www.landreg.gov.uk/e-conveyancing.

[26] Locke C 'Defining the Service: E-conveyancing', Land Registry, available at: http://www.landregistry.gov.uk/assets/library/documents/defining_the_servicev1.pdf.

There are similar eOLF trends in court procedures, particularly the development of online court filing,[27] where non-proprietary technical standards are beginning to emerge.[28] In relation to the secure filing of court forms in civil cases, a pilot project is currently underway which enables the filing of twenty different types of form to one of nine selected County Courts participating in the project.[29] Although it is a process in its infancy, the experience of Singapore, which has implemented the most extensive programme of electronic (and indeed online) court filing is that the technical hurdles are not insuperable, but that the benefits are also equally diffuse and difficult to itemise. The real and immediate benefits are network benefits, in the sense that the improved efficient handling of court documentation should benefit all litigants in terms of time and, ultimately costs. It is certainly at least arguable that with such a comprehensive digitisation of court documents and their electronic transmission, the working of every firm with clients involved in litigation will be significantly affected. It will not only speed up court processes; it also means that those firms that are geared up electronically are likely to reap a competitive advantage.

Online filing is beginning to have an impact in the field of intellectual property rights. More particularly, IPR Registries, like the United Kingdom Patent Office[30] (UKPO) and the European Patent Office (EPO),[31] have recognised the benefits of online filing of applications and a standard filing format[32] has been agreed.[33] This, it is suggested, is a powerful driver for change and provides a spur for Patent and Trademark Agents to develop and/or enhance their use of ICTs leading to competitive advantage in what Bunke describes as '*an increasingly competitive marketplace*'.[34] It is also an environment circumscribed by a constantly evolving legal and procedural framework within which identity, security and authentication (particularly non-repudiation) are of paramount importance.

---

[27] http://www.globalcourts.com/text/filing.html. For US federal court electronic court filing, see: http://www.uscourts.gov/cmecf/cmecf_about.html. For US state court materials, see http://www.ncsconline.org/WCDS/Pubs/pubs1.asp?search_value=66. Some very useful articles are available at that web site: for example, Olson, Edwards and Ahalt, 'A Guide to Model Rules for Electronic Filing and Service,' available at: http://www.ncsconline.org/WC/Publications/External_ElFileModelRulesLexisPub.pdf; and Winters, Controversy and Compromise on the Way to Electronic Filing,' 2005, available at: http://www.ncsconline.org/WC/Publications/Trends/2005/ElFilingControversy.html.

[28] The most widely recognised, non-proprietary technical standard is LegalXML: http://www.legalxml.org.

29 https://www.hmcourts-service.gov.uk/countycourtformsonline/Home.go

[30] http://www.patent.gov.uk/patent/howtoapply/olf/index.htm

[31] http://www.european-patent-office.org/filingsoft/index.htm

[32] http://www.wipo.int/pct-safe/en

[33] Brewin et al 'Filing and Processing Patent Data Using XML - A World Standard,' available at: http://www.wipo.int/pct-safe/epct/xml_world_standard.htm

[34] Bunke C, 'The business of IP: Strategic thinking for attorney firms,' *Managing Intellectual Property*, Nov 2005, available at: http://www.managingip.com/?Page=10&PUBID=34&ISS=20870&SID=595209&TYPE=20; and see Hinde A, 'The business of IP: The challenge of the web,' *Managing Intellectual Property*, Jan 2006, available at: http://www.managingip.com/?Page=10&PUBID=34&ISS=21110&SID=604302&TYPE=20

Because patent and trademark agents spend much of their time interacting with government agencies on behalf of their clients,[35] online technology now presents such agents with the ability to increase efficiency and profitability in the management of those relationships. Filing patent applications online offers greater transparency and increases efficiency for users and clients utilizing the online service. Aspects such as 'filing dates' can be issued immediately upon applying online, therefore saving time and paper. The chances of applications being lost or stolen during transit are nullified by the use of this service.

Between the EPO, JPO (Japanese Patent Office), USPTO (United States Patent & Trademark Office) and WIPO (World Intellectual Property Organization) combined, it is said that they process somewhere in the region of 1 million patent applications a year, this works out to be roughly 500,000 pages of text and images handled every week.

In particular, Epoline (the EPO and UKPO online filing platform) offers an application building function that validates form entries, thus minimising errors, inconsistencies or omissions. All information passed to the Patent Offices is encrypted using state-of-the-art smart card technology and users have the reassurance that the application the Patent Office receives is identical to the copy retained on the applicants PC.

Another, perhaps the most important benefit of online registration is that it attracts significant fee reductions, or discounts. Filing international applications and provision of online case management and file inspection services are also available to users of Epoline.

Yet does this herald the dawn of an online age? The figures seem to speak for themselves. It is, however early days, as experience elsewhere has repeatedly shown, there is a significant time lag between the development of the intention to deliver a service and the development of the technology that will facilitate it.[36] How then does a firm manage this driver for change?

3. The patent agent as a change agent

A patent for an invention is granted by government to the inventor, giving the inventor the right for a limited period to stop others from making, using or selling the invention without the permission of the inventor. When a patent is granted, the invention becomes the property of the inventor, which - like any other form of property or business asset - can be bought, sold, rented or hired. Patents are territorial rights; UK Patent will only give the holder rights within the United Kingdom and rights to stop others from importing the patented products into the United Kingdom.[37]

---

[35] Much of their activity on behalf of their clients is interacting with other agents internationally, and with lawyers. Although this is a significant aspect of the KT Project, this aspect is beyond the scope of this paper.

[36] See generally Ferguson, C. H The *Broadband Problem: Anatoly of a market failure and a policy dilemma* (Brookings Institution Press, Washington 2004).

[37] http://www.patent.gov.uk/patent/whatis/definition.htm

This definition is particularly useful in that it highlights the three elements that make online patent registration of special interest: it is commercial property; it is founded on a grant; and it is territorial in scope.

It is this very complexity and combination of skills that puts the process of creating and managing such intellectual property rights beyond the capabilities of most legal professionals. *"[Patents] are at once technical, commercial and legal documents."*[38] The result is the emergence of a highly specialised and skilful profession of patent agents.[39] Although there are few restrictions on who may apply for a patent and who may file an application for a patent, almost all legal systems place restrictions on who may describe themselves as patent agents or patent attorneys. In the United Kingdom, only registered patent agents may do so.[40] After the filing of a European Patent Application and during its prosecution, only a qualified European Patent Attorney may represent the applicant before the European Patent Office. In fact the overall pattern of patent practice, including the drafting and filing of applications, even in the United Kingdom is relatively complex. In practical terms, with few exceptions a branch of the legal profession that numbers around 1,500 in the United Kingdom and whose names appear on the Register of Patent Agents[41] handles the patent filing process in the UK. From a research perspective, there are advantages to studying such a readily definable community. In Scotland about 50 registered patent agents organised in a handful of firms.[42]

At the heart of the filing process and therefore playing a pivotal role in this management process is the specialist practitioner. It is tempting for lawyers to think of intellectual property rights as legal rights and nothing more. From a business perspective, they are of course much more. *Intellectual property* forms a key element of what is variously described as intellectual capital,[43] intangible assets,[44] or intellectual assets.[45] Intellectual property such as patents and trademarks can be, and

---

[38] Bentley M and Sherman B, *Intellectual Property Law* (2nd ed Oxford 2004), 351.

[39] Kittel, F 'Register of Patent Agents: a Historical Review' (1989-7) 16 *Journal of the Chartered Institute of Patent Agents* 195; van Zyl Smit D, 'Professional Patent Agents and the Development of the English Patent System' (1985) 13 *International Journal of Society and the Law* 79.

[40] Copyright, Design and Patents Act 1988 s. 276. The relevant provisions relating to European Patents are to be found in Articles 133-4 of the European Patents Convention.

[41] The Register can be inspected n the web site of the Chartered Institute of Patent Agents (CIPA): http://www.cipa.org.uk/members/directory/default.asp?m=f&dir=2. Note that any lawyer can call himself a patent attorney, and also that it is not compulsory to use either an agent or an attorney.

[42] Some operate as partnerships, some as limited companies and there are some sole practitioners**.** The Chartered Institute of Patent Agents maintains the Register of Patent Agents. It also maintains a Directory of Patent Attorneys and, generally speaking, for Scottish practitioners at least the names are more or less those who are also registered patent agents. The same persons are also, by and large, qualified European Patent Attorneys. The terms 'patent agent' and 'patent attorney' are interchangeable expressions in the United Kingdom and a far larger number of practitioners describe themselves as such. References throughout the paper will be restricted to patent agents.

[43] Stewart T A, *Intellectual Capital: the new wealth of organizations*; 1997, Nicholas Brealey Publishing, London, UK.

[44] Daum J H, *Intangible Assets and Value Creation*; 2003, John Wiley and Sons, Chichester, UK. Sveiby K-E, *The New Organizational Wealth: managing and measuring knowledge-based assets*, 1997, Berrett-Koehler, San Francisco, USA.

[45] Intellectual Assets Centre, 'What is intellectual asset management', 2005, [Online resource] Available at http://www.ia-centre.org.uk/iam_explained/ Last accessed: 30/1/06.

should be, managed strategically for creating and sustaining competitive advantage.[46] The process for the creation of such intellectual property rights should therefore be seen as part of that management process. That ultimately is the true driver behind the recent development of internationally standardised electronic filing of intellectual property rights, notably patents.

4. The Patent Process

For those with an interest in Cyberlaw, the preoccupation has inevitably been with intellectual property rights as they apply to computer software. There is less interest in the process of acquiring such rights. The online filing process provides an opportunity to understand better the interrelationship between intellectual property and ICTs.

4.1 Jurisdiction over the patent process: a driver for change?

The picture we have just painted is only partial – so much so that it verges on inaccuracy. For most practical purposes today, filing for patent protection in the United Kingdom for a United Kingdom patent only would be impractical. Trade is global and the IT solutions must also be global. This is not the place for a discussion of TRIPS[47] and the legislation and litigation that it has spawned, but it would be a serious omission if we considered the work of the Patent Office in a jurisdictional vacuum.

Even beyond that, to ensure protection for an invention from major potential competitors, it may be necessary to seek the protection of a US patent or a Japanese patent. The process may therefore involve registration in not one or even three locations, but in a multiplicity of locations, involving work carried out by patent agents in several jurisdictions.

If an application for a patent is filed in the United Kingdom, under the Patent Co-operation Treaty it is possible to file a patent application in almost any country of the world and, provided this is done within 12 months of that first filing, each of the countries for which a patent application is filed will treat that application as if it had been filed in that country on the same filing date as that of the first application in the United Kingdom. Within Europe, it is possible to apply for patent protection in two or more signatory states of the European Patent Convention by filing an application with the European Patent Office designating those states, rather than making individual applications to each of those states.

There is therefore potentially a three-tiered application process to a patent application in the United Kingdom. This is a consequence of the territoriality of patent protection

---

[46] Davis J L and Harrison S S, *Edison in the Boardroom: how leading companies realize value from their intellectual assets*, 2001, John Wiley and Sons, Wiley/Andersen Intellectual Capital Series, New York, USA. Hemphill T A, 'The strategic management of trade secrets in technology-based firms', *Technology Analysis and Strategic Management*, 2004, Vol 6, No 4, December, pp 479-494. Thumm N, 'Strategic patenting in biotechnology', 2004, *Technology Analysis and Strategic Management*, Vol 6, No 4, December, pp529-538.

[47] Trade-related aspects of intellectual property rights: http://www.wto.org/english/tratop_e/trips_e/trips_e.htm

and makes jurisdiction a significant factor in the filing process. If a patent is a device for the protection of property rights, then those property rights must be bestowed in accordance with the law of the jurisdiction in question. Whatever the pressures within any particular jurisdiction for the adoption of online filing, they will inevitably translate into pressures for international co-ordination of such a process. It is for this reason that the contrast with conveyancing is so important. Whereas rights over land or similar property are generally rights *in rem* and territorial jurisdiction generally dictates how those rights must be ascertained and enforced, the property rights inherent in a patent arise form a juridical act of a particular state and are similarly enforced territorially. It is true that associated principles of property law have developed that circumscribe the enforcement of that right – particularly the rules of competition law and rights of free movement – but the fundamental truth is that the right is of no effect unless it is either granted within the jurisdiction or otherwise recognised within that jurisdiction. There is therefore a fundamental difference between the registration of intellectual property rights such as patents and the registration of land. All are established within the territorial jurisdiction and all are enforceable within that jurisdiction; but whereas the former are generally created and governed exclusively by the law of their location, the former are created and governed by the law of each state within which they are established.

The costs attached to such a multiple registration process are of course potentially great – and indeed usually are. The wider the territorial protection needed for a patent, the more multifarious the registration process.

The actual process is still very similar no matter which country you file your patent in, all be it there are some small differences, such as the US renewal date is taken from the patent grant date as opposed to the filing date in most other countries.

4.2 The patent registration process in the United Kingdom

It is another advantage for this project that despite the fact that each invention is by definition unique, the registration process itself is generally standardised. What follows is a brief description of a typical process by which a legal entity,[48] which chooses to act through an agent applies for a patent in the United Kingdom.[49] The purpose of this necessarily cursory summary is to indicate the issues that it raises particularly for electronic filing of patent applications.[50]

---

[48] Any may file a United Kingdom patent application (Patents Act 1977 s. 7(1); Munich Convention 1973 Art. 58 and Patents Co-operation Treaty 1970 Art. 9); but the application form requires that all inventors and the applicant's agent also be identified.

[49] Bentley M and Sherman B, *Intellectual Property Law* (2nd ed Oxford 2004) 376-383; Bainbridge D, *Intellectual Property* (5th ed Longman 2002) 318-337.

[50] For the sake of simplicity and for the purposes of this paper we will assume that the application is made to the UK Patent Office, even although the application might be for a European Patent Convention (EPC) or Patent Co-operation Treaty (PCT) patent.

4.2.1 Stage 1: Filing an Application for Registration

The process begins with the filing of an application to the Patent Office.[51] Although the ultimate end of the process is to ensure the grant of a patent and therefore a temporary monopoly in favour of the applicant in return for publication of the invention, at this initial stage confidentiality and security for such documentation is of paramount importance. In an electronic filing process documentation and communications would need to be equally secure and confidential. Unlike the online filing processes involved in the online filing process for land registration or dour procedures, a point is reached when what begins as a strictly confidential process becomes predominantly public.[52]

The matter is not, of course simply one of confidentiality; it is also one of authentication, not simply of the form itself, but also of the documentation that must accompany it. That verification is in the simple form of a signature, either of the applicant or of the applicant's agent.[53] More particularly, all the documents accompanying the application must also be kept equally secure and equally verified. Those documents will vary depending on whether an 'early filing' application or a 'full application' is made. In an early filing, or 'provisional' application, Form 1/77 need only be accompanied by a description of the invention, or its specification.[54] As an alternative to a provisional filing followed by a complete filing, all these documents and forms may be submitted at the time of filing Form 1/77. Further documents that need to be filed include a statement of inventorship, which declares the relationship of the applicant to the inventor. A complete application may claim priority under the Paris Convention over any other application filed in the United Kingdom, or in many other signatory states, up to twelve months before the filing date of the complete application. If the UK Patent Office does not hold this earlier priority application, a copy must be filed of that application, signed by the patent authority in that other state. The effect of this twelve-month priority period is to provide a 'breathing space' of up to one year before the applicant needs to take any more active steps in the patenting process, and to provide an opportunity to amend the application.

A complete application is typically made within 12 months of the filing date of the provisional application (although it may have been made in the United Kingdom up to 14 months from that date). If made within twelve months, the complete application may claim priority from the provisional application.

---

[51] The pre-printed two-page application form, Form 1/77 is available electronically at http://www.patent.gov.uk/patent/forms/pf0177.pdf. A two-page leaflet with information on filling in the form is also available electronically at http://www.patent.gov.uk/patent/info/fact05.pdf.

[52] It is interesting to note that form 1/77 specifically includes a warning referring to ss. 22 and 23 of the 1977 Act. Rather famously, Clifford Cocks, a mathematician working for GCHQ developed a public key encryption algorithm for which he did not seek patent protection in 1973, four years before Rivest, Shamir and Adleman published their RSA algorithm (in 1977, the same year that the Act was passed) and ten years before they patented it in the US.

[53] The rule in Scotland has been that only the signature of the applicant is necessary. Until recently, the rule in England had been that the signature of all persons named on the form was needed.

[54] This must be 'a technical description which is clear and complete enough for the invention to be reproducible by a person skilled in the technology of the invention.

If a full application is made, the request for a grant must be accompanied by an abstract,[55] a statement of one or more claims[56] and the search fee.[57] If a request for a grant was not made with the initial application (and that generally means where an early filing was made), then the applicant must make a request for a preliminary investigation and novelty search within twelve months from the filing date[58].

The making of an application therefore introduces a third element, or more accurately a variable into the process, that of time. Although registration is effectively an initial, preliminary stage in the patent process, it places the Patent Office under an obligation to consider the form and, when requested to do so, to initiate the next stage. With so much depending on that filing date, great care must be taken to ensure it is as speedy as possible by ensuring that the application documentation fully meets the formal requirements. More importantly, the 'filing date' for the patent applied for is the date at which the application is received by the Patent Office. In a 'first-to-file' system such as that for UK and European patents,[59] the significance of the date – or indeed the time – at which the application is received is of paramount significance to any patent and is of paramount importance to any patent that might eventually be granted: it is on the anniversary of this date that the patent will be renewed, thereby allowing continuity of protection without dangerous time gaps through which competitors might enter. The advantages of electronic submission of the forms are immediately apparent, bearing in mind the clear provisions of the European Electronic Commerce Directive on the meaning of receipt in electronic communications. The 'filing date' of the original application will also pre-empt any subsequent, competing applications, no matter how original.

4.2.2 Stage 2: Formalities Examination

On receipt of an application, the Patent Office will carry out a "formalities examination," an initial investigation based entirely on the form and its attachments.[60] Only when it has satisfied itself that the formal requirements for the application have been met will the Patent Office give the application a date and number and issue a "filing receipt," typically within a few days of receipt. The filing receipt furnishes the applicant with evidence that the form has been correctly lodged and that the process

---

[55] This is a concise summary of the invention, preferably not more than 150 words.

[56] The claims define, in words, the matter for which protection is sought and thus will define the area of effectiveness of the patent once it has been granted.

[57] Patents Act 1977, s. 17. In terms of the case management process, the billing of fees for drafting the application is also significant (there is currently no fee for requesting a grant, followed by a nominal application fee of £30, a fee of £100 for requesting a search and a fee of £70 for requesting substantive examination).

[58] The only exception is where the applicant is claiming priority from a previous application, in which case it is 2 months from the 'filing date' or 12 months from the 'priority date'.

[59] The US registration system, on the other hand is a 'first-to-invent' system, in which the filing date is not the determining factor in establishing priority between applications, but it is by no means insignificant. The best-known example of such pre-emption is the filing of Alexander Graham Bell's application, "Improvement in Telegraphy" with the US Patent Office, which preceded that of Elisha Gray, founder of Western Electric by a matter of hours. More recently, Apple's delay in filing applications for patents governing the 'I-pod' allowed Microsoft to file patent applications before Apple: http://wired-vig.wired.com/news/mac/0,2125,68544,00.html?tw=wn_story_top5

[60] Patents Act 1977, s 17(2).

has begun. The application number is needed when querying the application and it is also the identifying number for the patent application from then on.[61]

4.2.3 Stage 3: Preliminary Examination, Search and Search Report

After a preliminary examination to determine that the filed documents are in order, a Patent Office Examiner[62] will be appointed to make a documentary search through the Office's extensive database for published material against which they can assess whether the invention is 'new' and 'inventive'. [63] This outcome is a search report is issued to the applicant together with copies of any documents cited in the report, usually within 6 months of receiving the 'request for search' application. This report provides the chance to assess the patentability of the invention and again to amend the application if necessary. Generally, inventive matter can be added by amendment of the application during the priority year and thereafter further amendments are made primarily to the claims to limit their scope. The applicant is also permitted, for example following an unfavourable search report to withdraw the application before publication, thus maintaining its secrecy. An important factor at this stage of the process remains the need to maintain all communication and documentation secret and secure.

4.2.4 Stage 4: Initial, or 'A' Publication

The following stage in the application is the publication of the patent application. This stage will only happen if the application has met all of the formal requirements and all fees have been paid. This is the stage from which all correspondence between the applicant and the Patent Office will enter the public domain.

The Office will publish both the application and the search report, usually at the same time. The documents are made available for public inspection after the expiry of 18 months from the date of initial filing or as soon as possible thereafter.[64] The actual date of publication is important because it is from this date that any damages for infringement of patent will be calculated, unless the infringer has been made aware of the claims of the unpublished application earlier.

'A' Publication enables anyone to see the details of the invention for which a patent is sought. The purpose of this publication is to bring the invention into the 'state of the art' and to provide third parties to comment on whether the patent should be granted.[65] The effect is that confidentiality is no longer available as a means of protection for the intellectual asset.

---

[61] An EP or PCT application that follows from, and claims priority from, a GB application will receive its own unique application number.

[62] Rather famously, Albert Einstein was of course a patent examiner in the Patent Office in Bern, Switzerland.

[63] Patents Act 1977, s 17(1), (2). For further details, see Bentley M and Sherman B, *Intellectual Property Law* (2nd ed Oxford 2004) 373, Bainbridge D, *Intellectual Property* (5th ed Longman 2002) 322-3.

[64] Patents Act 1977, s 16. The documents are available for inspection online through the Patent Office's 'esp@cenet' database: http://www.patent.gov.uk/patent/dbase/espcheck.htm

[65] Patents Act 1977, s 21. This is not the same as the opposition procedure available at a later stage in the patenting process.

From an electronic filing perspective, the process is transformed by publication. A process within which security and secrecy were of paramount importance becomes one where publication and general access is the norm.

4.2.5 Stage 5: Substantive Examination

Within 6 months of the publication date, the applicant must file for a substantive examination – another form and another fee.[66] At this stage the Patent Office is no longer concerned only with the compliance of the documentation; it will investigate the validity of the invention under the requirements of the patents legislation. The key elements are well known, but worth repeating. For the Patent Office to grant a patent to an inventor, the inventor must be able to prove that it is not otherwise excluded[67] and contains three elements[68]:

- **Novelty** – the invention must never have been made public in any way, anywhere in the world before the date that the application was filed.
- **Inventive Step** - the invention must not be obvious to someone with a good understanding, knowledge and experience of the subject.
- **Industrial Application** - the invention must take the practical form of an apparatus or device, a product such as some new material or substance or an industrial process or method of operation so that it is capable of industrial application.

In the normal course of events, to increase the probability that these requirement for novelty is met the applicant, or rather the agent working on their behalf, may have carried out an initial search of Patent databases, which contain data on all published patent applications.

The substantive examination is a dialogue between the examiner and the applicant, the outcome of which is another Report that will contain whatever objections have been raised to the granting of the patent and to which the applicant is given the opportunity to respond, whether by comment or by amendment. This cycle of Examination Report and response may be repeated until agreement is reached, typically with the scope of the claims being reduced to comply with at least some of the Examiner's objections. Ultimately, a hearing may be arranged before a senior examiner.

4.2.6 Stage 6: Grant of Patent

If the application is not rejected following substantive examination, the patent will be granted[69] and will take effect from the date of filing of the complete application.[70]

---

[66] The application will lapse unless both are submitted in time (although there is the possibility of an extension of up to 1 month).

[67] The Patents Act 19777 s. 1(2) provides a non-exhaustive list of things that cannot be regarded as inventions and therefore are not patentable. They are: "(a) a discovery, scientific theory or mathematical method; (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever; (c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer; (d) the presentation of information."

[68] Patents Act 19777 s. 1(1)

[69] Patents Act 1977 s. 18(4)

5. Online filing of Patents

It is clear from this description that the filing process for patents is essentially a documentary process that raises issues similar to those raised by e-conveyancing and online court filing: confidentiality, integrity, authentication and non-repudiation. The solution to those issues ultimately adopted was inspired by Europe- and indeed worldwide considerations; but their implementation was essentially a matter of domestic law. As with the changes necessitated by the introduction of e-conveyancing, both the substantive law and the law relating to electronic communications had to be amended in accordance with the provisions of the Electronic Communications Act 2000 and the procedures laid down in section 8 of that Act. The first of was achieved by the insertion of a new section, section 24A into the Patents Act 1977.[71] This confers power on the comptroller to make directions as to the form and manner in which documents are to be delivered in electronic form or using electronic communications[72] and particularly specifies when delivery of such documents is deemed to have occurred.[73] In implementation of these provisions, the Patent Rules were amended in 2003.[74]

5.1 Online Filing - Development of Standards

Due to the overwhelming use and growth of the internet it became apparent to Patent Offices across the globe that certain aspects of their core business could, and should, be conducted across the internet.

The Japanese Patent Office has, since 1990, accepted patent applications in an electronic form and by 1999 the EPO was also offering clients the ability to file online. Such early commitment to electronic filing was supported by the JPO through the development of bespoke hardware and software. This has proved to be popular amongst applicants to the extent that Brewin and Ankyu [75] reported in 2001 that paper filing had reduced by 96%.

---

[70] Protection is initially for 4 years, with renewals every year after that on payment of renewal fees starting from the fourth anniversary from the filing date and subject to a maximum term of 20 years: Patents Act 1977 s. 25(1).

[71] Clause 2, The Patents Act 1977 (Electronic Communications) Order 2003, SI 2003 No. 512, http://www.opsi.gov.uk/si/si2003/20030512.htm.

[72] Patents Act 1977, section 24A(1)(a) and (b).

[73] Section 24A(3) provides: 'If a document to which a direction under subsection (1) applies is delivered to the comptroller in a form or manner which does not comply with the direction the comptroller may treat the document as not having been delivered.' Section 24A(13) adds: 'Where the comptroller delivers a document using electronic communications then, unless the contrary intention has been specified by the comptroller, the delivery is deemed to be effected by the comptroller properly addressing and transmitting the electronic communication.'

[74] The Patents (Electronic Communications) (Amendment) Rules 2003, Statutory Instrument 2003 No. 513, available at: http://www.opsi.gov.uk/si/si2003/20030513.htm.

[75] P Brewin and S Ankyu Filing and Processing Patent Data Using XML - A World Standard: http://www.idealliance.org/papers/xmle02/dx_xmle02/papers/03-04-05/03-04-05.pdf.

Outside Japan, the vast majority of filings to date persist in paper form. The USPTO reported in 2005 that just 2.2% of filings were electronic.[76] Elsewhere, the EPO has seen electronic filings nearly double from 7.7% in 2003 to 14% in 2004. [77] The difference, however, might be partially explained by software. Both the USPTO and the EPO independently developed software to coincide with the commencement of online filing at the beginning of the decade[78]. The experience in the United States with the USPTO's EFS-Web[79] Based on its own original TEAM[80] system had been chequered[81] and the USPTO has since chosen to enter into a development agreement to adopt the European based system EPOline,[82] which is based on the EPO's own system, ePHOENIX.[83] There is an intended launch date for web filing of March 2006.[84]

Cooperation between these patent offices through the Trilateral Co-operation[85] has been ongoing since the 1983 in the field of electronic filing. Whilst clearly there was much to be gained from sharing best practice in terms of IT infrastructure and development, it was also necessary to consider standardisation and interoperability questions in the Trilateral Co-operation forum. In the context of international applications, the benefits of an electronically filed application at domestic level would be lost if international data exchanges proved to be problematic. The need for an international standard was most pressing in the context of international applications filed under the Patent Cooperation Treaty. To this end, WIPO, building on the work of the Trilateral group[86] developed the E-PCT standard[87]. The standard has undergone a number of revisions, most recently 1st October 2005.[88] Naturally, the standard

---

[76] Patent Public Advisory System Annual Report, Nov 30th 2005, http://www.uspto.gov/web/offices/com/advisory/acrobat/ppac_annual_rpt_05.pdf.

[77] 'Rising demand for *epoline*® services ,' http://annual-report.european-patent-office.org/2004/developments/index.en.php.

[78] See for example Decision of the President of the EPO dated 7 December 2000 on the electronic filing of European patent applications and subsequent document Supplement to Official Journal No. 4/2001 p23.

[79] http://www.uspto.gov/ebc/efs_help.html

[80] Tools for Electronic Application Management.

[81] See, for example the discussion on the 'Patently' patent law blog on the matter: http://patentlaw.typepad.com/patent/2005/02/filing_electron.html; and see: http://journals.iucr.org/iucr-top/lists/epc-l/msg00539.html.

[82] The UK Patent Office has also adopted a version of EPOline.

[83] The system is available as open source software from http://sourceforge.net/projects/eolf/.

[84] For details on the proposal, see the USPTO's action paper, 'Patent E-Government': http://www.uspto.gov/ebc/efs_help.html. See also Broache A, 'Patent Office plans new e-filing system,' *News.com*, August 12 2005: http://news.com.com/Patent+Office+plans+new+e-filing+system/2100-1028_3-5830864.html.

[85] See http://www.trilateral.net/. Not to be confused with the Trilateral Commission: http://www.trilateral.org. The Trilateral Co-operation site is a particularly useful source of statistical information: http://www.trilateral.net/tsr/ .

[86] Trilateral Technical Standard for the On-Line Exchange of IP Documents in a PKI environment

[87] Patent Cooperation Treaty, Annex F, Standard For The Filing and processing in Electronic Form of International Applications – PCT Gazette Special Issue S-04/2001 27/12/01.

[88] PCT Gazette Special Issue S-02/2005 20/10/05.

governs all aspects of document creation and exchange throughout the PCT process (e.g. format, structure, transmission). In addition to governing international applications, there is an aspiration contained in the introduction to Annex F that "it is also expected that the standard will become a de facto standard applied to non-PCT applications by national and regional offices."[89] If the trend for national offices to adopt software designed to meet these standards continues, it is likely that this expectation will become true.

In parallel with such technical considerations, WIPO ensured that the necessary legal framework was in place to implement electronic processing of international applications under the PCT with effect from 7th January 2002[90]. Fundamentally, international applications filed in electronic form "shall not be denied legal effect merely because it is in electronic form."[91] Under Section 703, formal notification of the intention to commence electronic filing by each patent office is required[92]. According to the WIPO website, several offices have given notification as of 16th March 2006. In the same section, there is a requirement that the receiving office will specify the acceptable software to be used in the process. In addition to the EPOline software, which is gaining common currency, WIPO has developed PCT-SAFE software, which also complies with the technical requirements of Annex F.[93] If the application does not conform to this basic common standard[94], the receiving office is under no obligation to receive it, although it may, according to the provisions decide to receive it.[95] This could be of particular importance in the context of a virus infected or corrupted application. Although there is an obligation placed upon the receiving office to scan applications for viruses, there is no obligation to disinfect.[96] The office may, however, exercise its discretion to receive, prompting the need for the storage of a back up copy of the corrupted file for evidentiary purposes before disinfection is attempted.

Interestingly, a recurrent theme contained in the framework envisages a situation of less than full confidence in the electronic process it seeks to underpin. For example, the inclusion in Section 706 of the opportunity of an applicant to file an identical paper copy within sixteen months of the electronic filing is mirrored by the opportunity for the receiving office to require an electronic applicant to do the same. Its inclusion was to meet the concerns of those receiving offices where electronic applications are novel. Section 709 outlines procedures to be undertaken when receiving offices are forced to go offline.

---

[89] Page 4, Annex F (see footnote 87).

[90] Administrative Instructions Under The Patent Cooperation Treaty, Part 7 Instructions Relating to the Filing and Processing in Electronic Form of International Applications: http://www.wipo.int/pct/en/texts/pdf/ai_3.pdf.

[91] ibid Section 702 (a)

[92] See for example EPO Notice PCT Gazette Section 4 21st November 2002. With the addition of Poland from 1st March 2006, 74 offices have notified: http://www.wipo.int/pct-safe/en/

[93] Annex F is the technical standard under PCT – see above, Footnote 87.

[94] Appendix III Annex F

[95] Section 703 (e)

[96] Section 708(b)

In terms of security, it is no surprise that Annex F clearly articulates its standard around the four basic criteria of authentication, integrity, non-repudiation and confidentiality. The solution adopted is based on a public key infrastructure with each receiving office specifying the certification authorities that will be recognised[97]. Low-level digital certificates (envisaged mainly for use by applicants and their representatives) require minimal registration requirements such as name and verifiable email address. High-level certificates in order to facilitate office-to-office exchanges will be administered by the International Bureau. Although the receiving office may specify a particular form for the signature, according to Section 703(c), if the applicant meets the basic common standard contained in Annex F then it is valid (notwithstanding that the office can require that subsequent signatures be in the prescribed format[98]).

Where the application is in electronic form where the text of the description, claims and abstract is in character-coded format (XML, prepared e.g. with the PCT-SAFE Editor), the reduction is 300 CHF (or equivalent).

5.2 Online Filing in Action

The United Kingdom Patents Office's drive to facilitate eOLF in the patenting process[99] is therefore part of a much wider phenomenon. Filing patents online is a fairly straightforward procedure introduced in September 2004 and as a template uses *epoLine*, the European Patent Offices online filing software solution.[100]

The basic *epoLine* package provides the user with the ability to file the following:

- A request for grant of a European patent using form EP (1001E)
- Any documents subsequent to a request using form EP (1038E)
- A request for entry into the regional phase before the EPO using form EP (1200E)
- A request for a PCT patent using form PCT/RO/101

It is also now possible to file for UK patents using the *epoLine* software, and the user of the system can carry out the following actions:

- File a request for grant of a UK patent using form 1/77
- File late additions and declarations of priority using form 3/77
- File a Statement of Inventorship using form 7/77
- File a request for search using form 9A/77

---

[97] Annex F p.70

[98] Section 704 (g)

[99] http://www.patent.gov.uk/patent/howtoapply/olf/definitions.htm . For a general statement of eOLF in the context of the UKPO's general IT strategy, see http://www.dti.gov.uk/patent_office/inform2.pdf. The Patent Office received over 1,000 online applications within a year of introducing the system: http://www.nomensa.com/news/industry-news/2005/8/patent-office-celebrates-online-service-anniversary-in-style.html.

[100] http://www.epoline.org/portal/public

- File a request for substantive examination using form 10/77

Other forms that the applicant can file electronically include form 8A/77 and 23/77 relating to UK patent applications and additional forms relevant to PCT filings from the UK.

The software is fairly simple to use and validates all user entries along the process. The validation section of the software not only flags up warnings of significant errors but also provides the user with visibility of any inconsistencies and omissions.

To be able to file applications online users of the software must be registered with the UK Patent Office and the European Patent Office. Once registered, the users of *epoLine* will receive a smart card reader and smart card (both supplied free of charge). These pieces of hardware are required for the authentication of the applicant and an application cannot be 'signed' electronically without them.

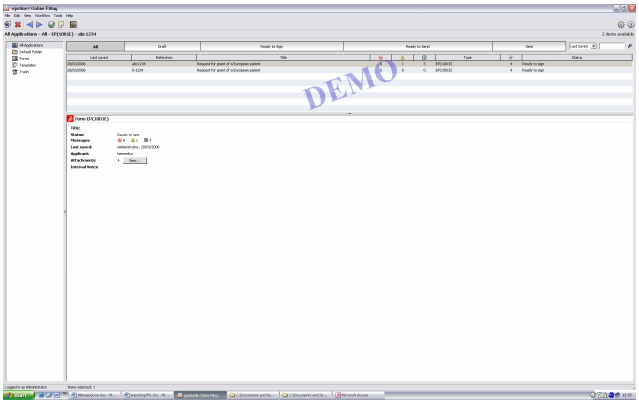
The benefits offered by filing applications online are the elimination of any delays, loss or damage to documents during the delivery process; receipt of the 'filing receipt' as soon as the application was received; reduction in clerical work, paper handling and delivery costs. Further benefits such as reduced fees are also offered for European Patent (EP) and international (PCT) applications, and the ability to file directly with EPO or WIPO. Furthermore, upon enrolling with EPO and WIPO, users of the system are provided with a more functional online case management and file inspection service.

The underlying technology of *epoLine* was developed using the Java programming language. However, the important aspect of the software is the documentation produced by the process is delivered in XML format. They are designed to conform with international standards that must be followed when producing electronic documents suitable for online filing. These standards define the XML tags, or elements to be used when producing the XML document. By using these, software programmers and developers can produce software that is able to extract information from most categories and types of Practice Management System (PMS) and insert the required information into an XML file that is capable of being verified by the *epoLine* validation module.

The process of online filing using *epoLine* is as follows:

Firstly the user is presented with the user interface of epoLine, as in Illustration 1:

Illustration 1

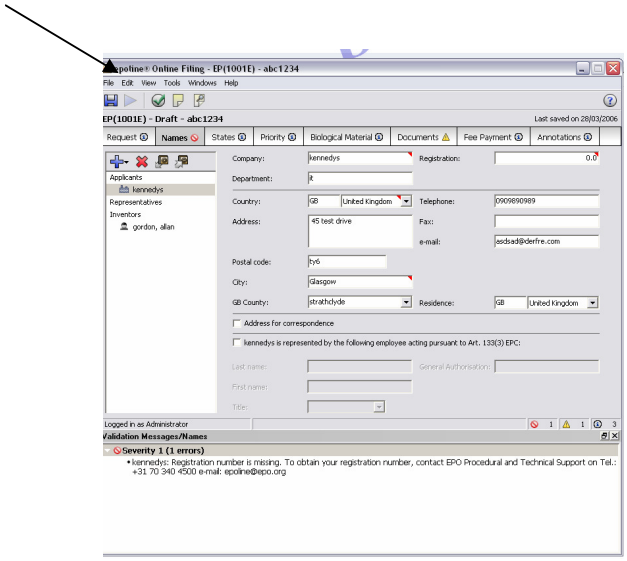


From this interface the user is able to create a new draft application. The system has a workflow process embedded to ensure that all stages of the application are followed correctly. This workflow will take the user from the drafting of an initial application through to a ready to sign form (signing is permitted only once all validation checks have been approved) and finally to a form that is ready to send. The validation module of the software will ensure that the user cannot proceed to the next stage of the workflow without the document being correct and consistent.

Illustration 2 is a screenshot of the validation module:

Illustration 2

Workflow Disabled

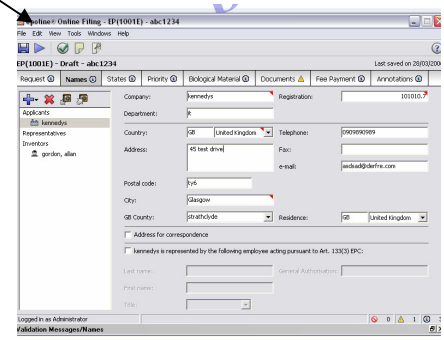


As can be seen from the interface above, because the Registration number has not been inserted, the software shows that there is a severe error and blanks out the workflow arrow, thus ensuring that the user of the system cannot proceed to the 'signing' stage of the application process.

However, once the application number has been filled in correctly, the validation module recognises this and allows the workflow to proceed.

Illustration 3

Workflow Enabled



As the above diagram shows, the error message on the validation window is now cleared and the workflow arrow is enabled to allow the application to proceed.

Once all errors have been dealt with, the workflow will enable the applicant/user to proceed to signing. During the initial phase of signing, the system will prompt the user for the appropriate form of signing. The user is offered several options, including 'smart card', 'Soft Certificate', 'Alphabetical' and 'facsimile'. When the option of 'smart card' is chosen the system will prompt the user for the PIN number and the 'Place of Signing'.

With this type of validation and ease of use it therefore remains unclear as to why the number of online applications is not increasing at a greater rate.

5.3 Online Publications

The development of eOLF raises serious implications for the storage of patent records and, in particular hard copy records. The acres of shelf space demanded by patent libraries generate financial pressures, not merely incentives to move to electronic storage. Coupled with online searching, these pressures are hard to resist and the digitisation of patent records now seems inexorable. The dangers in doing so quickly are both real and alarming.[101]

As has been previously mentioned, 18 months from the filing date the patent application is published. This means that any member of the public is able to view all aspects of the patent application from the abstract through to the claims. Access to these publications has been made available online through *esp@cenet*, a searching service provided by the European Patent Office.[102] There are three databases within *esp@cenet* that can be searched, the European database, the WIPO database and the Worldwide database.

---

[101] Paul Marks, 'Electronic patent databases invent difficulties', *NewScientist.com news service*, 10:30 03 April 2005, http://www.dti.gov.uk/patent_office/inform2.pdf.

[102] In September 2005, esp@cenet held data on 59 million patents from 72 countries: (http://ep.espacenet.com/espacenet/ep/EN/helpv3/coverageww.html).

The EP database gives users the ability to search for patent applications published by the European Patent Office over the last 24 months. The same timescale is offered to users for access to the WIPO database to search patent applications published by WIPO.

The worldwide database will provide information on published patent applications outwith the 24-month timescale from both the EPO and WIPO along with published patent applications from over 72 different countries and regions.

WIPO have defined the minimum documentation requirements for publication[103] used to search for prior-art documents for the purpose of assessing novelty and inventiveness. The EPO have expanded the minimum requirements to include data from other countries and other time periods. Examiners now also provide additional information such as references to cited documents in the course of their work.

Most applications are now available almost immediately on the day of publication, with the exception of Japanese applications. The lengthy translation process means that Japanese abstracts can take up to 6 months from date of publication to the time when they appear on *esp@cenet.*

Another service offered by the European Patent Office is the 'Online Public File Inspection' service. This service implements Article 128 of the European Patent Convention, [104] thus enabling public access to the complete contents of all files relating to European Patent applications after publication. All that is required to inspect these documents online is a valid application number or publication number. Once this number is entered a list of all documentation relating to the patent application is made available for viewing or for downloading.

6. Tentative conclusions

This brief survey reveals that electronic online filing is a global phenomenon that is here to stay.[105] In the field of patent online filing at least, the global implications are tacit, and the story is, relatively speaking, one of success. Most significantly jurisdictional divergence, so often a stumbling block to global development and applications has not been a hindrance – indeed, if anything it has been a driver for change.

This reinforces the point that, as so often is true with technological development in legal practice, drivers for change can be external. It also reinforces the view that we have formed that such drivers are not purely financial, although fee reductions cannot be ignored as an incentive to the firm.

The reality is that the incentive for change is often the benefits it brings to the agency. The numbers of applications for patents and their associated documentation within the United Kingdom are huge – worldwide they are mind-boggling. It goes without

---

[103] For PCT minimum documentation, see http://www.wipo.int/scit/en/standards/pdf/04-01-01.pdf

[104] http://www.european-patent-office.org/legal/epc/e/ar128.html

[105] Jaeger P, 'The Endless Wire: E-government as Global Phenomenon,' 20 (2003) *Government and Information Quarterly* 323 –331, available at: http://suite.icu.ac.kr/sub/rs/resources/20040226_e-Government-global.pdf.

saying that the quantity and complexity of the work involved has serious manpower and financial implications.

The survey also shows how much can be achieved in so short a time where there is a background of co-operation. Technical problems appear to be a limited hindrance. Much seems to depend on the existence of international forums.

Of more interest to us is the impact of the development of electronic online filing on the management of the firm – albeit a patent agency rather than a firm of legal practitioners *stricto sensu*. Our view and the lesson we take back to the firm is that the impact will be fundamental. There is clear evidence that software houses are already modelling their case management solutions with electronic online filing functionality. The firm that takes advantage of eOLF and the associated benefits that it provides will be in a position to pass on the resultant cost and efficiency savings to their clients and associates. This may involve the need to accommodate existing case management systems or *vice versa*. Even more importantly, the development offers an opportunity for streamlining, or even deprofessionalising some of the administrative aspects of the patent agent's work, thereby allowing the fee earner to concentrate on professional tasks.