

**American Bar Association
Section of Intellectual Property Law**

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**Latest Developments In Electronic Filing
E-filing Demonstration
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I. Ways to file patent applications

Patent practitioners filing US and PCT applications have as many as five possible ways to file patent applications. As of press time (mid-February 2004) the following options were available:

Type of filing	USPTO utility	RO/US	RO/IB	EO/DO/US (entry into US national stage)
pure paper	yes	yes	yes	yes
fax	no	no	yes	no
paper plus diskette	no	yes	yes	no
XML-tagged e-filing	yes	no, but expected toward end of FY	yes	no, but soon in 2004
PDF e-filing	no	no	yes	no

Notably the USPTO has said that in 2004 it plans to make possible the e-filing of Form 1390 (entry into the US national stage) as well as e-filing of PCT applications in the US Receiving Office.

PCT Receiving Office which now accept e-filed PCT applications include EPO, Finland, Spain, South Korea, and (as mentioned above) the International Bureau of WIPO.

II. Deciding whether to learn how to do e-filing

From the intellectual property practitioner's point of view, there is simply no question that it is very important to become comfortable with e-filing, for the simple reason that patent and trademark offices around the world are moving toward e-filing and away from paper filing. It is only a matter of time until a paper-only practitioner would be greatly disadvantaged relative to a practitioner that is able to e-file. The handwriting is on the wall.

Rule 10 might be eliminated some day. For many years the filer of a US Trademark application was able to obtain a same-day filing date by mailing a paper application via Express Mail. Nowadays, however, due to a rules change, a paper application gets a filing date that is at least one day later than the mailing date. To get a same-day filing date (other than by hand-carrying the application to the USPTO) it is necessary to e-file. Filers ought to prepare for the possibility that Rule 10 might eventually be taken away for US patent filings as it has been for US trademark filings.

Filing fee incentives. PCT rules set forth substantial filing-fee reductions for PCT applications (up to 300 Swiss Francs) in which some or all of the application is computer-readable rather than paper-based. It is to be anticipated that in coming years the PCT fee differential will increase to

further discourage paper-based filings. USPTO has considered charging an extra \$75 for the paper-filing of any paper that could have been e-filed. Filers ought to prepare for the possibility that USPTO may also establish filing fee incentives for patent e-filing.

Filing date incentives. USPTO has considered that it might some day deem an e-filed US patent application to have been filed based on the time in Alaska or Hawaii, thereby giving a better filing date to e-filed patent applications than to paper-filed applications. Similarly it is likely that the filer's choice of PCT Receiving Office will permit getting a better filing date due to the time zone adopted by the Receiving Office.

Client directives. One client of the author's law firm, a large US company, requires that its IP counsel file all patent applications electronically.

Paper filing may be eliminated some day. The USPTO has stated that eventually it will require that all Madrid Protocol trademark applications be e-filed, at which time paper filings will no longer be permitted. For some years now there have been certain categories of US patent filings which *cannot be paper-filed* and can only be e-filed. These include:

- * voluntary publication of an application filed before, but pending on November 29, 2000 per 37 CFR § 1.221;

- * republication of a previously published application per 37 CFR § 1.221;

- * publication of the application as it has been amended during prosecution per 37 CFR § 1.215(c);

- * publication of the application in redacted form per 37 CFR § 1.217(b);

Filers should prepare for the possibility that other types of filings may some day not be permitted on paper.

It is important to bear in mind that while the USPTO has considered and is considering several options for incentivising e-filings, nothing specific has been decided.

For all these reasons there is simply no question that intellectual property practitioners need to learn how to file, and to become comfortable filing, electronic patent and trademark applications. Putting this off until the last minute is unwise. It is better to start e-filing now, choosing patent applications where there is little risk or time pressure (e.g. continuation applications and filings that are well within Paris Convention periods), so that if you encounter problems you can get them worked out before the day comes that you must do a critical application under great time pressure.

III. What is XML?

XML is an acronym for Extensible Markup Language, in which “tags” are used to identify the parts of a data file. The term “extensible” connotes that the tags can be “extended,” that is, that it is possible to define new and different tags as needed to accommodate various needs. Trade, professional, and academic groups have gotten together to define tags to be used in particular contexts. Automobile manufacturers and parts makers have defined tags to be used by auto makers when they order parts from parts makers, using XML data files to place the orders. Chemists have defined tags to be used in communicating chemical formulas, while mathematicians have defined tags to be used in depicting mathematical formulas.

As will be discussed in more detail below, a number of patent offices including USPTO, WIPO, EPO, and JPO have gotten together to define XML tags to be used to identify the parts of a patent application. Such a set of tag definitions, together with rules which specify how the tags can be placed within a file, is called a “DTD” or Document Type Definition. The DTD defined by the patent offices is called “application-body.dtd.”

IV. Understanding the patent e-filing process.

The process of e-filing a patent application starts with XML tagging. It is necessary to insert tags into the patent application to denote the various parts of the application — title, background, detailed description, claims, drawings, and so on. Here is an excerpt from a tagged patent application, viewed using Notepad. Some of the tags have been emphasized with bold-face type:

```
<appl i cati on-body dtd-versi on="1.1" lang="en-US" country="US">
<descri pti on>
<i nventi on-ti tle>Method for filing US patent application
</i nventi on-ti tle>
...
</descri pti on>
<cl ai ms>
<cl ai m num="1" id="c21">
<cl ai m-text>1. A method for filing a patent application comprising
the
steps of: </cl ai m-text>
<cl ai m-text>authoring the application in PCT-SAFE
edi tor; </cl ai m-text>
<cl ai m-text>cl osi ng PCT-SAFE; </cl ai m-text>
<cl ai m-text>openi ng the XML file using Notepad; </cl ai m-text>
<cl ai m-text>changi ng the country code to "US"; </cl ai m-text>
<cl ai m-text>cl osi ng Notepad; and</cl ai m-text>
<cl ai m-text>submi tti ng the application using ePave. </cl ai m-text>
</cl ai m>
</cl ai ms>
<abstract>
<p num="1" id="p26">This is the abstract.</p>
</abstract>
...
</appl i cati on-body>
```

Most XML tags come in pairs, rather like matched parentheses in a mathematical formula. See, for example, the “opening” tag above called “invention-title” which is matched with a “closing” tag called “/invention-title”. (The “/” denotes “closing”.)

The application-body DTD contains a large number of rules defining when and where various tags may be used. Some XML tags, for example, are limited as to where they may be placed. The “claim” tag above is permitted only between two “claims” tags. The “claims” tag is only permitted to be used once in the file, and it is not optional, it is required. The “invention-title” tag is required and it must be right after the “description” tag.

For those who have done web design (HTML coding) these concepts will all be quite familiar; there is a lot about HTML tags that is quite similar to XML tags.

While it is possible to do XML tagging manually, for example with Notepad, such tagging is tedious and it is easy to make mistakes. One could easily put a tag in a place where it is not permitted (e.g. a “claim” tag within the “description” portion) or could easily forget to put in a closing tag to match an opening tag.

Fortunately various patent offices provide free-of-charge XML authoring tools which are intended to make it relatively easy to insert the tags in the right places. These authoring tools include:

- *PASAT/Xport*. These two tools are also provide by USPTO. PASAT is an overlay upon Microsoft Word and is used to create an XML-tagged application body. XPort is used to convert the tags to Annex-F tags.

- *PatXML*. PatXML, provided by the EPO, is an overlay upon Microsoft Word.

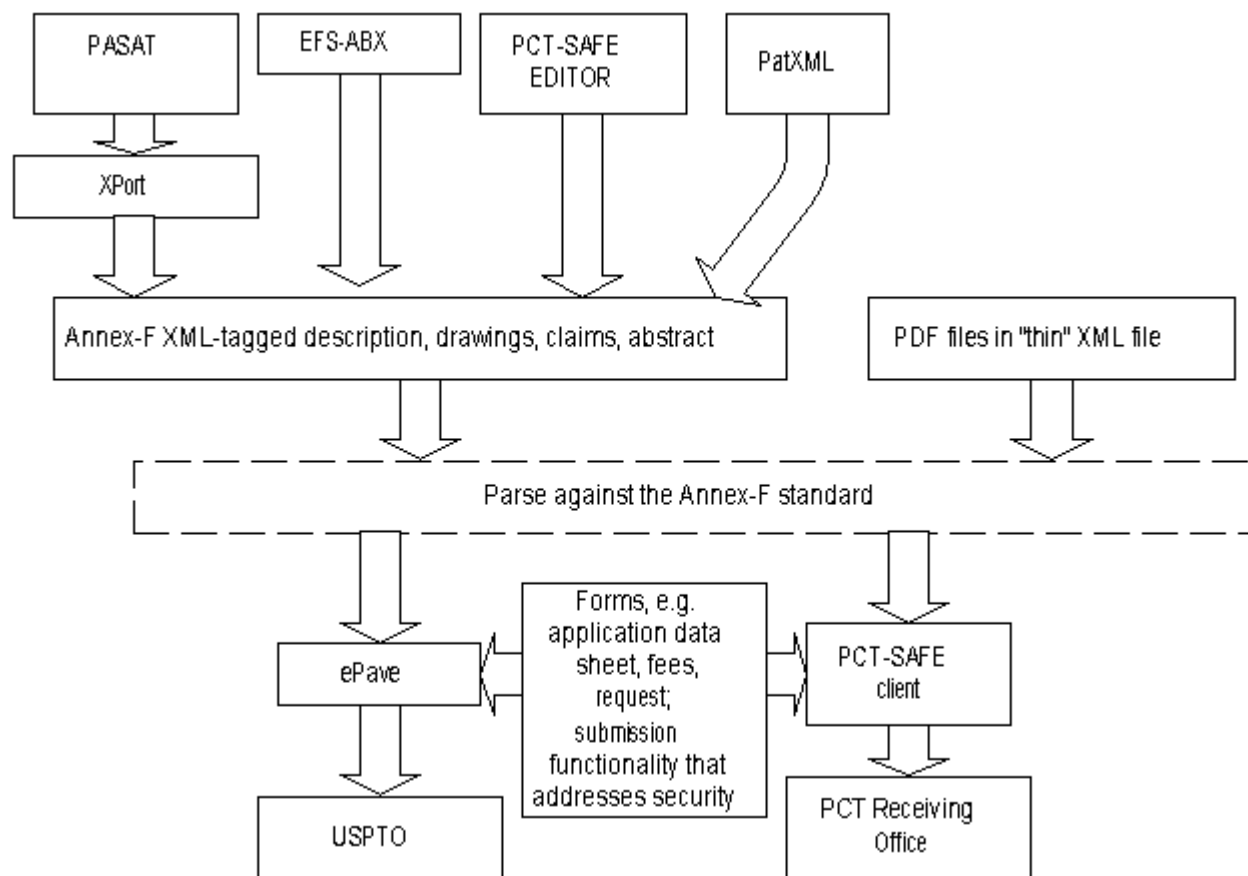
- *PCT-SAFE Editor*. PCT-SAFE Editor is part of the PCT-SAFE package provided by WIPO. It is a general-purpose XML editor with an overlay to make it well suited for authoring of XML-tagged patent applications.

- *EFS-ABX*. EFS-ABX is being developed by USPTO and is presently in beta-test.

Once you have prepared an XML-tagged patent application, it is necessary to submit it to the patent office. This is done by means of a “submission engine,” a piece of software which collects needed files and bibliographic and fee information, and submits them to the patent office. The submission engine for the USPTO is ePave and the submission engine for RO/IB and many other PCT Receiving Offices is PCT-SAFE. The figure illustrates these processes.

V. The importance of Annex F.

From the point of view of patent practitioners, perhaps the most important aspect of patent e-filing is that patent offices around the world, including EPO, JPO, USPTO and WIPO, have invested staggering amounts of time and energy developing Annex F, a standard which is intended to allow a patent application to be authored electronically and then e-filed with minimal or no changes in more than one patent office. Importantly, a goal is that a filer might be able to author an electronic patent application using any of several different authoring tools (from any of



several different patent offices) and then e-file the electronic patent application with any of several patent offices. The ability to perform such "cross-platform" patent filings would allow each filer to employ whichever authoring tool he or she prefers (as a matter of personal preference or workflow style) and then to file in whichever patent office is needed at a particular time.

As a tangible example of the promise offered by Annex F and the progress made by those many patent offices, our law firm recently filed the very first-ever cross-platform patent application. In this case we authored the application using the authoring tool from WIPO (PCT-SAFE Editor) and then e-filed the application with the USPTO (using USPTO's submission engine called ePave). What made this possible is that the WIPO authoring tool (like those from the other patent offices) is intended to create a patent specification that complies with Annex F, and the USPTO submission engine (like those of the other patent offices) is intended to accept any patent specification that is Annex-F compliant.

Shortly thereafter, our law firm successfully filed a cross-platform patent application in the other direction. In this case we authored the application using one of USPTO's authoring tools (PASAT/XPort) and then e-filed the application with WIPO (using PCT-SAFE). Again what made this possible was compliance with Annex F by the patent offices involved.

EPO provides instructions as to how to modify an XML file created with PatXML so that it will be accepted by ePave.

VI. PDF filings.

Annex F contains language that permits each patent office to determine whether it will accept patent applications which are in PDF (portable document format) format. The PCT Receiving Office of the International Bureau of WIPO (RO/IB), for example, has said that it will accept such PDF filings. Other patent offices that have said they will accept PDF filings of PCT applications include EPO, Finland, France, and Spain.

A PCT application e-filed in PDF format will enjoy a fee reduction of 200 Swiss Francs as compared with the fees payable for a paper-only PCT filing.

The European Patent Office receives regional (EPO) patent e-filings in PDF format.

VII. Reasons why it should not be too difficult to learn how to e-file.

Some 45% of all PCT applications filed in 2003 were done using PCT-EASY. This suggests that (a) lots of PCT filers use PCT-EASY and (b) it is not difficult to learn to use PCT-EASY. It turns out that WIPO based its new PCT-SAFE software on the PCT-EASY user interface. This means that filers who already learned how to use PCT-EASY would likely find it quite easy to use the new PCT-SAFE software, with little or no additional training. And it means that a new user of PCT-SAFE is likely to find it to be easy to learn to use.

Turning to US e-filing, there is good reason to think that ePave ought not be too difficult to learn to use. The ePave software is designed to serve several needs in addition to e-filing of patent applications, including e-filing of Information Disclosure Statements and e-filing of patent assignments. Many filers, including persons who do not have any particular advanced training, are able to e-file IDSs and patent assignments without difficulty. This suggests that ePave is pretty well designed and stable and is not difficult to learn to use.

Many of the e-filing functions of ePave require that the user obtain a USPTO cryptographic certificate. Importantly, there are many reasons why it is good to have such a crypto certificate separate and apart from e-filing. For example, the PAIR (Patent Application Information Retrieval) system allows filers to have instant access to patent application status as well as images of filed documents. To use PAIR one must have obtained such a crypto certificate. Likewise the free-of-charge Partridge software (see www.patents.com/partridge) depends upon the crypto certificate for access to the PAIR information. For all these reasons the modern and prudent practitioner ought to obtain a crypto certificate, and once having obtained it, the modern and prudent practitioner might just as well also download and install ePave.

To use PAIR and Partridge it is also necessary to obtain a “customer number” and to get that

number “associated” with one’s patent files in the USPTO’s computer system. There are many important reasons to get a customer number separate and apart from PAIR and Partridge. For example a power of attorney can be granted to a customer number (rather than to a practitioner or to a specified list of practitioners), and this permits updating a firm’s list of registered practitioners without having to obtain a new power of attorney each time the list changes. Another benefit of use of the customer number is that a firm whose mailing address has changed can simply update the address with respect to the customer and there is no need to get addresses changed for each file individually.

To summarize, there are many reasons (other than e-filing of patent applications) why each firm should have a customer number and why each practitioner should have a crypto certificate. Once you get those two things, it is very little additional work to obtain ePave and to start using it and becoming familiar with it.

VIII. Choosing an XML authoring tool.

There are now three XML authoring tools available — PASAT/XPort, PatXML, and PCT-SAFE Editor. USPTO is developing a fourth XML authoring tool, EFS-ABX. In the very near term one may wish to use an XML tool that is from the same patent office that uses a particular submission engine, namely:

If you are filing in:	the submission engine is:	and the corresponding XML authoring tool is:
USPTO for utility applications	ePave	PASAT/XPort, EFS-ABX
RO/US	tbd	tbd, probably PCT-SAFE
RO/IB	PCT-SAFE Forms Manager	PCT-SAFE Editor
EPO	EPOLine	PatXML

As cross-platform filings become easier and more commonplace, however, users will be in a position to choose a single XML authoring tool and to use it for filings through any of several submission engines.

Each of these tools is different from the others in terms of user interface and general programming style. To appreciate some of the differences, consider the distinction that may be drawn between an XML *editor* and an XML *authoring tool*.

An XML *editor* is just that, an editor that creates and edits an XML file. The entire time you are using an XML editor, you are working on an XML file. If you save a partially completed file and return to it later, you are saving an XML file and later reopening an XML file. At any point during the editing process it is possible to choose between various “views” including a view of

the actual XML source (as if viewed in Notepad). PCT-SAFE is an XML editor. The XML file, in Annex F format, exists from the beginning of the process.

An XML *authoring tool* that is not an XML editor is rather different. With an XML authoring tool, you are creating and revising a file that is in some format that is not XML. PASAT, for example, creates and revises a file in a proprietary format called “s4t” and “s4w.” When you have finalized the file you click a button to direct PASAT to create an XML file. Thus in a typical PASAT authoring process the XML file only comes into existence at the last moment, shortly before filing. You then pass the XML file through XPort and only then for the first time is there an Annex-F compliant XML file.

EFS-ABX is also an XML authoring tool rather than an XML editor. EFS-ABX creates and revises a file with an extension of “.doc.” When you have finalized the file you click a button to direct EFS-ABX to create an (XML-compliant) XML file.

The XML authoring tools that are not XML editors (PASAT/XPort, PatXML, and EFS-ABX) are really best thought of as word processors in terms of user interface.

Who is likely to prefer each kind of XML authoring tool? A few general comments may be offered.

First, anyone who has done any HTML coding (web design) would be well advised to consider using PCT-SAFE Editor for the simple reason that it is an XML editor and XML editing is a lot like HTML editing.

Second, anyone who is already familiar with XMetal (a well-known XML editor from Corel) would be well advised to consider using PCT-SAFE Editor because PCT-SAFE is, basically, XMetal with a few things added to customize it for patent applications.

Third, anyone who is already familiar with HoTMetal (a well-known HTML editor from Corel) would be well advised to consider using PCT-SAFE Editor because PCT-SAFE is basically XMetal and XMetal has a user interface patterned closely upon its predecessor product HoTMetal.

PASAT, PatXML, and EFS-ABX are each basically templates that work with Microsoft Word. The user interface is thus chiefly the Microsoft Word user interface. Those who are familiar with Word might consider trying one or another of these tools.

Having said this, the fact is that one’s choice of an XML authoring tool is likely to be very much a matter of personal preference. The types of patent applications you tend to draft (e.g. lots of inline chemical formulas on the one hand or very simple patent specifications on the other hand) and the types of images you use (e.g. TIFs created by the Informatik TIF driver or Wang Imaging) may make one authoring tool or another a better choice for you.

Internet email list server discussion groups (e.g. www.patents.com/efs, www.patents.com/pct) make it easy for a new e-filer to discuss things with experienced e-filers and this may also help a new e-filer choose among the available XML authoring tools.

IX. Figuring out where to e-file a PCT application.

A first concern is figuring out which Receiving Office or Offices are available to you. This is, of course, a function of the country or countries in which your applicant(s) and inventors(s) are located. It is also true, of course, that under PCT rules you can always file in the RO/IB. What's more, you can actually file in any Receiving Office and if the RO you choose determines that it is not competent to handle the application, the RO will forward the file to RO/IB, preserving your filing date.

Export rules. You also must consider the export rules for the country in which the invention was made. For example, the United States rules require a filer having an invention that was made in the US to obtain a foreign filing license prior to filing outside the US. For an invention made in the US, the filer should not make his or her first filing outside of the US without first having obtained a foreign filing license from the USPTO. (A foreign filing license obtained other than by means of filing a US patent application costs \$130; see 37 CFR §§ 5.12 et seq.)

For a proposed PCT filing that is text-identical to a previous US patent application, the filer should check to see if a foreign filing license has already been granted for the invention, for example in the filing receipt for the US application. In most cases a foreign filing license will already have been granted and the filer may freely file outside the US (for example with RO/IB) without having to worry about the export rules.

The filer can avoid having to worry about the export rules by filing in the RO of the country where the invention was made. With such a filing, the RO determines whether there is any export problem before exporting the record copy to the IB.

This disfavors filing in the RO/IB, because anyone who considers filing in RO/IB (or indeed in any country that is not the country where the invention was made) has no choice but to figure out whether such a filing would run afoul of export rules.

Certified copy of priority application. Another important factor has to do with certified copies of priority documents. For a proposed PCT filing that claims priority from one or more previous national applications, it will be necessary to provide a certified copy of each such patent application. Most filers are aware that if they file in the RO of the country where the priority applications were filed, it is possible to request that the RO attend to preparing and forwarding the needed certified copies. This disfavors filing with RO/IB since the priority application was almost surely filed in some patent office that is not the IB. For example, if the priority applications are US applications, it is preferable to file with RO/US so that RO/US will do all the work of preparing and forwarding the certified copies. If the proposed PCT application is filed (whether electronically or on paper) with RO/IB, it will fall to the filer to attempt to obtain the

certified copies and to transmit them to the IB. (Question for the alert reader -- can you think of any circumstance under which you could file with RO/IB and reasonably expect it to make a certified copy of a priority document?)

Filing with RO/IB. Notwithstanding the factors discussed above, you might well choose to file with the RO/IB, for example under any of the following circumstances:

- * the proposed PCT application is identical to a previously filed national application under which a foreign filing license has been granted, and you do not mind having to obtain and forward the certified copies to the IB, or

- * the proposed PCT application is to be the first application for its subject matter, and you have obtained a foreign filing license as needed, or

- * the proposed PCT application is a mere “demo” application containing no subject matter that is subject to export rules.

X. Sequence of steps for e-filing a US patent application.

The sequence of steps is as follows.

First, the patent application needs to be converted to XML. Stated differently, it needs to have XML tags inserted in the right places, along with figures and inline images as needed.

You might choose to do this with PASAT and Xport.

Alternatively, you might choose to do this with PCT-SAFE, following instructions provided at <http://www.patents.com/efs/epave2/safe-epave.htm> .

Submit the application to ePave.

Receive your filing receipt.

XI. Sequence of steps for e-filing a PCT patent application.

At the present time, for reasons discussed above, most US filers have little choice but to file their PCT applications on paper (with diskette) through the US Receiving Office. Nonetheless a filer can gain valuable experience by e-filing a “demo” PCT application with the International Bureau. To do this, follow instructions at <http://www.patents.com/pct/efile1/> .

Where to find out more:

<http://www.patents.com/efs>

<http://www.patents.com/pct>