Electronic Filing of US Patent Applications

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On October 27, 2000, the US Patent Office announced the inauguration of its system for filing patent applications electronically. This article describes some of the things that have been learned about how to use the EFS system.

Who needs EFS? It is probably true that the majority of patent practitioners will encounter EFS one way or the other. Under the American Inventors Protection Act, applications filed after November 29, 2000 that are also foreign-filed will be published for opposition by the US Patent Office. If the foreign application discloses less subject matter than the US application, the applicant will be entitled to ask the US Patent Office to publish only as much disclosure as is in the foreign application. To arrange for the Patent Office to publish this so-called "redacted" application, *you must submit it to the Patent Office using EFS.* As another example, electronic patent filing might prove to be convenient for those patent practitioners who do not have the convenience of a 24-hour post office. EFS offers a way to get today's filing date even after the post office has closed.

It seems a safe prediction that, over time, more incentives will be devised for electronic filing. (The Trademark Office, for example, says that it examines electronic filings sooner than paper filings, which certainly gives an incentive to file trademark applications electronically.) These incentives will doubtless eventually prompt practitioners to learn to use EFS. It is probably advantageous to familiarize oneself with the process of EFS filing well in advance of the day when electronic submissions may become mandatory.

What is EFS not good for? At present, EFS cannot be used for provisional applications, plant patent applications, PCT applications, or reissue or reexamination applications. It cannot presently be used for any post-filing submissions such as amendments or information disclosure statements. It cannot be used in an application which requires a preliminary amendment on the filing day (e.g. to amend or delete claims). It cannot be used if the data to be transmitted exceed ten megabytes. Finally, it cannot be used in cases where the specification is not available in text (computer-readable) form. For any of these types of filings, a traditional paper filing must be used.

How does EFS work? A patent application that is to be submitted to the Patent Office via EFS is required to be (a) formatted according to Patent Office specifications, and (b) transmitted using special Patent Office software. As described below, the figures are required to be in TIFF (tagged interchange file format) format. The specification, as well as everything that will be submitted to the Patent Office with the application including the information necessary to calculate fee amounts, is required to be in XML (extensible markup language) format according to certain DTDs (Data Type Definitions). The XML authoring may be done using (a) special Patent Office software, called PASAT, together with Microsoft Word, or (b) special Patent Office software, called TSA, together with WordPerfect. A third piece of special Patent Office software, called ePave, assembles the entire patent application into a single file, encrypts it, and sends it to the Patent Office. After the filing the filer receives a time stamped "acknowledgment receipt" containing the application serial number and the list of all files received by the PTO.

What is XML authoring? In essence, XML authoring consists of the insertion of "XML tags" into your document. The PASAT and TSA authoring tools are designed to provide the tags automatically and to protect against accidentally inserting a tag in an incorrect location or deleting a tag while leaving its corresponding tag.

How does the Patent Office handle EFS filings? I was rather surprised to learn how the Patent Office handles EFS patent filings. It turns out that each EFS patent filing is manually printed onto paper by Patent Office personnel and is then inserted into the same paper flow that handles paper applications.

Historically one of the most vexing tasks for an Examiner has been keeping track of the current claim language through multiple amendments. Another savings will come as Examiners come to be equipped with software for reading and viewing EFS applications. Text management tools within the Patent Office will make it easy for Patent Office personnel to enter amendments into the specification and claims. With such software, it will be easy for an Examiner to see the current claim text all in one place.

What filing date will you receive with EFS? When you do an EFS filing, it is given a filing date based on the time *at the Patent Office.* This means that to get a filing date of today, you must file before midnight *at the Patent Office.* If you are in a time zone that is west of the Eastern Time Zone, if you are filing to meet a critical date such as a Paris Convention date or a statutory bar date, and if there is a chance that you won't be able to submit the application electronically *by midnight Eastern Time,* then you should not use EFS but should instead do a paper filing via Express Mail.

Choosing an XML authoring tool. Before you can send your patent application to the Patent Office with ePave, you must "author" the patent application using an XML authoring tool. At present, the Patent Office provides two ways to do this: you can use Microsoft Word (97 or 2000) along with a program called PASAT (Patent Application Specification Authoring Tool) or you can use WordPerfect 9 along with a program called TSA (Template for Specification Authoring).

Your decision may be based upon which software you already have. If you already have WordPerfect 9 and don't have Word 97, then TSA is the least expensive way to proceed. If you already have Word 97 or 2000 and don't have WordPerfect 9, then PASAT is the least expensive.

Those who have used both authoring tools say that Word/PASAT is better, because if you insert multiple paragraphs in the PASAT authoring tool, it will tag the paragraphs automatically. In contrast, if you use WordPerfect/TSA, I am told that you must manually tag each paragraph. On the other hand, as described below, Word/PASAT sometimes has problems with TIFF images that require extra processing steps by the user, a problem that has not been reported with WordPerfect/TSA.

It is important to appreciate that the EFS system does not require you to use a single word processor for the entire XML

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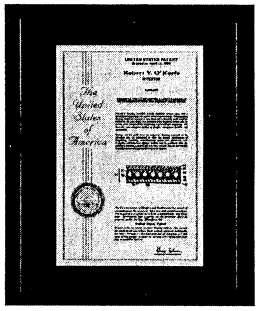
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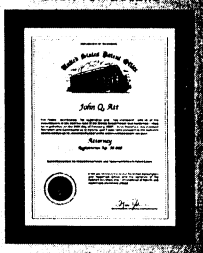
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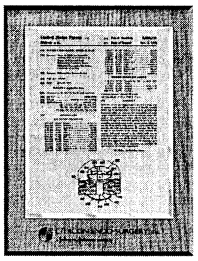
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authoring process. For example, many EFS users will author the patent specification using WordPefect or Word, and then copy and paste the paragraphs of the application from WordPerfect or Word into Word/PASAT.

What preparations must I make to do EFS? First, get a customer number from the US Patent Office if you don't already have one. Once you have a customer number, apply for and obtain a USPTO/Direct cryptographic certificate[2] that is associated with the customer number.

Once your USPTO/Direct cryptographic certificate has arrived, test it to see if it works. The best way to do this is to try using the PAIR (Patent Application Information Retrieval) system at the Patent Office.[3] If you can confirm that PAIR works with your cryptographic certificate, then you can be sure it will work with EFS.

While you wait for your customer number and cryptographic certificate, which may take several weeks, you can work on the other needed preparations.

If you plan to use Word/PASAT, then you will need to download the PASAT software[4] and the Authoring Manual.[5] If your Microsoft Word is not Word 97 or Word 2000, obtain a copy of Word 97 or 2000. In addition, if your Microsoft Word does not have Service Releases 1 and 2, go to the Microsoft Web site, locate the Service Releases and install them in your copy of Microsoft Word.[6]

If you plan to use WordPerfect TSA, download the TSA software[7] and the Authoring Manual.[8] In addition, if your WordPerfect is not version 9.0, obtain a copy of version 9.0. In addition, a document scanner with software that will generate TIFF files will be needed.

You will also need to download the ePave software.[9] The USPTO web site is programmed to check to see if you are in the United States before it will allow you to perform the download. If you are unable to download the software, you may find it possible to obtain ePave by downloading it from an AOL or Compuserve account, because such accounts always "look" as if they are in the US.

Choosing your first EFS application to file. New users of EFS typically find that the first filing takes eight hours or more to do. A preferred approach for your first filing would be to select some application for which the filing date absolutely doesn't matter. An example would be a continuation or divisional application which is being filed months before the issuance or abandonment of the parent case. With such an application, if your EFS filing turnes out to be unsuccessful for any reason, you can simply keep trying again until you get it right. If issue day or abandonment day is drawing near, you can simply give up on EFS and file the continuation or divisional application on paper. You should absolutely not select the one-year anniversary of a provisional filing, or the last day of a Paris Convention period, as the day to try doing an EFS filing for the first time.

Getting your image files to work. The Patent Office requires that figures and other images (such as an inventor's Declaration or Small Entity Form) be in TIFF (Tagged Interchange File Format) format, and in particular be at a resolution of 300 dots per inch. In addition, the Patent Office requirement is that the TIFF files be either uncompressed, or compressed according to a "Group 4" standard.

One of the most common problems for EFS users is that inserting TIFF images compliant with Patent Office requirements into the patent specification in

Word/PASAT causes the software to crash when the user tries to export an XML file or preview it in a browser. By press time the Patent Office may well have released a version of PASAT that is free of this problem. For now, however, the fix that seems to work is as follows.

First, find the image editor that is included with your version of Windows. With Windows NT, for example, it is called "Wang Imaging." After creating TIFF files (typically using the software that came with the scanner), simply open them using the Windows image editor and save them again. Common sense suggests this should not change anything about the TIFF files, but users have found that this procedure changes the TIFF files in a way that makes the crashing problem go away.[10]

Selecting a place to store your EFS files. My suggestion is that you should set up a subdirectory for each EFS filing, and put all the files associated with the EFS filing in that subdirectory. This includes the TIFF images of the figures and other documents (such as the Declaration or Assignment). When you use your authoring tool, store its files (such as the PASAT s4w file and the XML file) in this subdirectory. When you use ePave, tell it to store its files in this subdirectory; do not use the default directory offered by ePave since this would jumble all of your submissions together in a single subdirectory.

Right-clicking. When you are authoring a specification, one of the most frequently performed tasks is inserting something new into the application. This may include inserting a paragraph in the specification, inserting a claim, inserting a figure, or inserting a cross-reference to a related application. The PASAT documentation mentions several ways to do this, but several users have found that it is all too easy to insert a tag or specification element in the wrong place using the documented ways of inserting. Instead, some users have found that an undocumented feature of PASAT, "right-clicking," is more convenient and, importantly, minimizes the risk of inserting something in the wrong place.

To use right-clicking, position the cursor in the place where you are planning to insert something, and right-click there. The right-click will bring up a menu of tasks that you are permitted to do there. If the task you want to do (e.g. insert a figure or a new claim or a dependent-claim reference) doesn't appear on the menu, then you can't do it there. Try positioning the cursor somewhere else and right-click again, and maybe you will be offered the menu choice that you are looking for. In this way you can gradually become accustomed to the places where you can and cannot insert particular parts of the application.

Viewing tags. Users have also found it helpful to keep the XML tags in view while using PASAT. To turn on tags, click "view" and click "view tags". This will allow you to see the XML tags. You can then watch closely to see what happens, for example, when you insert another claim or insert a title. As you gain experience with PASAT, you can anticipate where the right place to insert something new is. For example, you do not insert a new claim between the tags <claim> and </claim>. You insert a new claim after a </claim> tag and before the next <claim> tag.

Dependent claim references. PASAT has a "dependent claim reference" feature that is apparently supposed to handle claim dependencies in a way that updates the references when claims are deleted or new claims inserted. Unfortunately, it doesn't work consistently. In a single application I found that about half of my dependent claims were capable of having "dependent claim references" inserted in them, while the other dependent claims ended up with invalid tags if I attempted to insert a "dependent claim reference". This is a bug in PASAT which has been confirmed to me by Patent Office personnel. I have been advised by Patent Office personnel that the problem is being worked on within the Patent Office, and that until it is fixed, practitioners should not feel obligated to use the "dependent claim reference" feature.

What to do before you save your file as XML. In PASAT, the work is saved with the extension ".s4w," for example. It is helpful to save the work from time to time to minimize the amount of work that would be lost in the event of a crash of the software. When you think the specification is finished, it may also be helpful to print the file to check to see that all of the essential elements of the specification (particularly detailed description, claims, and figures) are visible and that none are missing. In PASAT, if you have inserted or deleted any paragraphs or claims, be sure to renumber the paragraphs and claims before saving the specification as XML.

After you save the file as XML, then close your authoring tool and use Internet Explorer 5.5 to view the XML file. This permits you to check that the XML file is not missing anything -- that all the figures are present, that nothing has gotten lost from the specification, and that there is at least one claim.

What to do before transmitting the application to the PTO in ePave. Before pressing the transmit button, you can freely review and print out drafts of the "application data sheet" (which contains your attorney docket number, your customer number, the continuity data, and the inventor information), the "fee transmittal sheet" (which details the fees paid), and the "transmittal form" (which shows the title, your name, and your attorney or agent registration number). After you press the transmit button, these files disappear and it is too late to print them out within ePave.[11] It is thus prudent to print out these three files before filing the application.

What to do after finishing electronic filing. When you click the "submit" button in ePave, and when your submission is successfully received at the Patent Office, you will receive an Acknowledgment Receipt. Print out this receipt and study it to be sure that nothing essential was omitted from the filing. Check particularly closely for the same things that are essential for a filing date in a paper filing. For example, check to see that each and every drawing sheet is separately listed (as a TIFF file) and that the file size in the receipt is the same as the file size in your actual TIFF image. Check that the XML file containing the specification and claims is listed in the receipt, and that its listed size is the same as the actual file size on your hard disk. Use Internet Explorer 5.5 to view and print the XML specification so that you will have a paper copy for your file of exactly what was sent as a specification.

If your scrutiny of the Acknowledgment Receipt leaves some question as to whether all of the elements necessary to receive a filing date were actually received by the Patent Office, then you may wish to consider either (a) filing the application electronically a second time (assuming that it is not too late to get today's filing date if you need it) or (b) filing the application on paper via Express Mail. In either case you could omit the filing fee in the second filing, and wait to pay it in response to the Notice of Missing Parts in the event that the second filing proves necessary to obtain a filing date.

The ePave software creates a "ZIP" file containing all of the files which were sent to the Patent Office in the electronic filing. Even if all other files were lost or misplaced, the ZIP file and the Acknowledgment Receipt ought to suffice

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to reconstruct the filing in the event the Patent Office raises some question as to what you filed. (The "message digest" is supposedly derived from the ZIP file in a way that can only be done by someone in possession of the Patent Office's cryptographic keys, so it provides nearly undeniable proof that the Patent Office did receive the ZIP file.) Be sure to keep a copy of the ZIP file and the Acknowledgment Receipt. Some practitioners may wish to copy the ZIP file onto a floppy disk and place it in the file as an extra backup.

Dealing with repetitive bibliographic information. Those who have used WIPO's PCT-Easy software for submission of PCT patent applications are accustomed to being able to draw upon a stored directory of inventor and applicant and attorney/agent names. If you are filing a second patent application for a client, you don't have to retype any names or addresses or citizenships; instead you can simply "drag and drop" the information from the stored directory into the new PCT patent application. On the one hand this is convenient, but more importantly it avoids the risk of misspellings that would arise if the information were hand-typed a second time.

Unfortunately, the ePave software forces the user to hand-retype *absolutely everything* each time a new patent application is filed. This includes your name, your PTO deposit account number, your mailing address, your PTO customer number, the inventors' names, the inventors' names and addresses, etc. etc. (The USPTO e-TEAS electronic trademark application filing system likewise forces you to hand-retype everything, each time you file a new application.)

Patent Office people have suggested to me that there is a way to save a little bit of the retyping, by completing part of the application (the part that would be the same every time), then saving it as a file, and then opening it and renaming it each time you start a new patent application. This might help with your name and address etc. but presumably is not much help with reusing old inventors' names and the like.

ENDNOTES

1. The form may be found at http://www.uspto.gov/_web/forms/sb0125.pdf .
2. The form may be found at http://www.uspto.gov/_ebc/documents/certificateactionform.pdf .
3. Information and tips on the use of PAIR may be found at http://www.patents.com/pair/ .
4. The PASAT software may be found at ftp://ftp.uspto.gov/pub/efs/pasat1_1.exe .
5. The PASAT authoring manual may be found at http://www.uspto.gov/ebc/efs/downloads/documents/efspasat.pdf .
6. Links to the files needed for the Service Releases may be found at http://www.patents.com/_efs/#pasat .
7. The TSA software may be found at ftp://ftp.uspto.gov/pub/efs/wp1_2_5.exe .
8. The TSA authoring manual may be found at http://www.uspto.gov/ebc/efs/downloads/documents/efswp.pdf .
9. The ePave software is available at http://pto-ebc.USPTO.gov:443/epave3_0.exe .
10. This and many of the other tips described in this article were shared by participants in an email discussion group for EFS users which as of November had several dozen members. The discussion group is open to all patent practitioners. Instructions for joining the EFS discussion group may be found at http://www.patents.com/efs .
11. There is a way to view these files *after* you have finished the electronic filing, detailed at http://www.patents.com/efs/zipfile.htm .