

ELECTRONIC PATENT FILING: IT'S GOING TO BE BIG . . . REALLY BIG!

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The United States Patent and Trademark Office (PTO) recently announced availability of electronic patent filing over the Internet for all applicants beginning later this Fall. Electronic patent filing has been available on a "pilot" basis to a small number of applicants for some time. The PTO received its first electronic patent filing from a Northern Virginia law firm in December of 1999. The electronic filing system has seen only trial use to date, however, as the PTO worked out the kinks and verified the concept.

The rollout of electronic filing to applicants at large is a significant step toward the PTO's goal of receiving 75% of all applications in electronic form by 2006. It also dovetails with U.S. Commerce Secretary Daley's goal of "going from a paper-based bureaucracy to an all-digital Department by the year 2002." Although electronic filing may not be mandatory for many years, PTO insiders suggest the possibility of either a fee-based incentive for electronic filings or a handling surcharge for paper filings as the electronic filing system matures.

The PTO's efforts to digitize its workflow are consistent with those of the Commerce Department in general, and other U.S. federal agencies, such as the IRS and FCC, that have implemented electronic filing systems. Like electronic tax returns, patent applications filed over the Internet should reduce paper volume and administrative overhead. The PTO system also parallels similar actions by the European and Japanese Patent Offices. In Japan, electronic filing using ISDN dial-up service has been available for several years. Of course, the electronic filing program also tracks the general trend in the private business sector toward digitization of records and workflow.

Patent applicants can enroll in the PTO electronic filing program by applying for a Customer Number, and then obtaining an Authorization Code and Reference Number. Electronic filing involves the use of an extensible markup language (XML) authoring component that guides the practitioner through assembly of an Internet-ready patent application, and an electronic Packaging and Validation Engine (ePAVE) that ensures secure and reliable communication of the application to the PTO, in part via state of the art encryption technology. Details are available at the PTO web site. Interestingly, in the near term, the examiners will rely on printed "hard" copies of the electronic applications for examination despite the Internet-based intake.

Streamlining Pre-Grant Publication

As no coincidence, electronic filing comes at a time when the PTO is designing its process for pre-grant publication of pending applications pursuant to the American Inventors Protection Act of 1999. Acceptance of applications in electronic form should streamline that process, which otherwise would require labor-intensive text entry by PTO clerical contractors, as is presently done for printing of issued patents. In light of the PTO's obligation to provide pre-grant publication of applications filed abroad, the

electronic filing program is a high priority and one of the few PTO initiatives that is speeding ahead with ample funding.

Electronic File Wrapper: The PTO's Killer App?

The ability to transmit a patent application electronically while ensuring confidentiality and reliability is a major advance in U.S. patent practice. What is perhaps more interesting, however, is the potential for electronic filing to revolutionize both the workflow and culture of the PTO and its customers. The “really big” impact of electronic filing should be seen in the way the PTO handles not only intake, but prosecution of electronically filed applications. In particular, the eventual creation of an electronic “file wrapper” for use throughout the entire prosecution phase will radically change the way examiners and patent practitioners push applications through the PTO.

As PTO officials and patent practitioners celebrate the availability of electronic filing, another group within the PTO toils on the design of the electronic file wrapper system. This effort is not as well funded as the electronic filing initiative, and not as well known, but seemingly much more important. The electronic file wrapper is the “follow-through” on the promise of paperless PTO workflow and purely digital interaction with applicants. So, we have electronic patent filing. The electronic file wrapper is the answer to the question of what we do with it.

While electronic applications filed in the near term will be printed for examiners in hard copy form, the electronic file wrapper will provide a single, seamless electronic version of the application and prosecution record. The file wrapper will be accessible at the examiner's workstation, throughout the PTO, and even at the patent practitioner's office, all at the same time. The electronic file wrapper will be the official record throughout prosecution and after issuance. The location of a physical file will cease to be an issue.

The electronic file wrapper concept being implemented by the PTO is based in large part on the PTO's collaboration throughout the mid to late 1990's with the Distributed Object Computation Testbed (DOCT) project of the San Diego Supercomputer Center. A review of the DOCT web site reveals ideas ranging from sophisticated object linking and search methodologies to facilities for online submission of three-dimensional patent drawings. Although that collaboration has ended, the PTO's Chief Information Officer, a handful of PTO staff (including experienced examiners), and private contractors are attempting to bring many of the key concepts to the PTO marketplace.

Digital Prosecution

The PTO envisions an electronic file wrapper in which the application and every substantive communication between the applicant and examiner, including office actions, amendments, information disclosure statements, and the like, are exchanged electronically over the Internet. Prosecution of the application will be in electronic form from intake in the PTO's electronic mail room to payment of the issue fee by the

applicant. The electronic file wrapper will serve as the official legal record, and supplant archival of all paper copies.

To streamline the process, the PTO contemplates a modular authoring tool that builds on the XML tool soon to be available for electronic filing. The authoring tool will include modules devoted to particular prosecution documents such as amendments, information disclosure statements, petitions for extension of time, declarations, assignments, and issue fee transmittals. The modules will provide XML templates that ensure standardized input by applicants and, as a result, automated handling by the PTO electronic file wrapper system, cutting down on administrative overhead.

The well-worn practice of entering amendments to claims using brackets and underlines will go by the wayside. Instead, PTO insiders advise that the XML authoring tools will require replacement of entire claims and entire paragraphs within the patent application. Automated tools available to the examiner will provide a “red-line” mode for identification of changes in the claims and specification. These tools are expected to provide change-tracking utilities that facilitate the examiner’s review of claim amendments over a series of amendments, and even identify incremental differences between different claims in a given application for ease of examination.

Computer-declared Interferences?

As the electronic file wrapper technology advances, the change-tracking utilities should have the capability to identify support in the specification for corresponding language in the claims, and search the record for statements made by the applicant or examiner. Moreover, the PTO expects to add search-and-compare utilities that enable identification of similarities between claims in different applications, bringing to the Examiner’s attention possible grounds for double patenting rejections or even patent interferences. The underlying goal is to automate the examiner’s job as much as possible and thereby free examiner resources for substantive examination in view of the prior art.

No More Lost Files

The paperless workflow envisioned by the PTO will put an end to a number of problems that have frustrated both examiners and applicants over the years. Chiefly, the electronic file wrapper will eliminate the loss of patent application files and attendant prosecution delays, inasmuch as the file will always be available on the examiner’s workstation desktop. The practitioner will never have to hear again that the file is inaccessible to the examiner because it is in the petitions branch, publication branch, or issue branch—take your pick. The Examiner, along with each branch, will have simultaneous access to the file wrapper. Amusing anecdotes about the discovery of lost files stashed in Examiner’s garages or office ceilings will be a thing of the past. In addition, electronic file wrappers will obviously eliminate much of the space crunch associated with storage of voluminous paper files. They will also facilitate efforts to quickly obtain patent file histories for litigation or opinion work.

Cyber-commuting Examiners

Finally, the electronic file history, along with availability of electronic prior art resources and other office technology, promises to decentralize the PTO once and for all.

Examiners will have the ability to cyber-commute like their counterparts in the private sector. This may enhance the appeal of the PTO at a time when examiner retention has become a serious concern. A perk like cyber-commuting could at least slow the rate of the PTO's revolving door. It could also permit the PTO to avail itself of both part-time and full-time assistance from examiners located remotely from the PTO.

Instead of a single patent office located in the D.C. area, electronic file wrappers may promote the establishment of satellite patent offices that will enable the PTO to tap into resources in other locales. If EE examiners are hard to come by in Northern Virginia, the PTO can try Atlanta or Madison or Colorado Springs--or Bombay? Also, one can imagine the establishment of satellite offices dedicated to particular technologies in areas where R&D focused on those technologies is concentrated. For example, a PTO biotech satellite could be launched in the Boston area, while a PTO telecom satellite is brought on line in San Jose or Austin.

Conclusion

As with many PTO initiatives, funding will be the key to success or failure of the electronic file wrapper program. With the PTO already committed to electronic filing at the front end, however, implementation of electronic file wrappers seems inevitable and part of a logical progression. While the PTO continues to be the target of much criticism, e.g., for quality of examination of ecommerce applications, it should be applauded for its efforts to keep pace with the office automation technology it has been examining in recent years. Many practitioners use the PTO web site and search engine on almost a daily basis. With proper funding and follow-through, the electronic file wrapper may become an even more ubiquitous tool of patent practice in the United States.