

by John Messing

1. USCIS remains on-message for the development of the Transformation E filing system; hopefully, it will also deliver a working system on-schedule and on-target.
2. A number of discussions sessions were held with interested parties. A prototype system was also demonstrated to stakeholders earlier this year, followed by question and answers. A separate session with a committee of immigration attorneys was also held.
3. A fully operational E filing system for completion of a first immigration form I-539 to extend, change or reinstate certain nonimmigrant visa benefits for students, on-the-job trainee students, and visitors is planned for an initial December, 2011 release. Extensions will be limited to B-1, B-2, F-1, M-1 or M-2 visas; changes to B-1, B-2, F-1, F-2, J-1, J-2, M-1 or M-2 visas; and reinstatements of F-1, F-2, M-1 or M-2 visas. In addition to providing the means to request the immigration benefit, the system also provides a delivery mechanism for notices, including approvals, thus integrating operations and eliminating mail time delays. Attorneys as well as their clients, and unrepresented individuals will be granted access to the system; unlicensed "notarios" will not. Payments will be made by attorneys for fees on behalf of clients; payments to USCIS will be accepted electronically through a government payment gateway.
4. A potential complicating factor is a stated requirement that all forms and documentation will require manual signatures of applicants and applicant-clients affixed to paper originals which will then have to be scanned and uploaded as rather large digital files to the system. Descriptions of processes for collaborative attorney-client filings are confusing, potentially awkward, and seem to be primarily provisional descriptions only at this stage.
5. The limited initial release is scheduled to be followed by additional releases for other nonimmigrant visa benefits, then immigrant visa benefits, and finally citizenship benefits, according to a schedule that has not been finalized but is described loosely as six months apart, which could be severely delayed or derailed by upcoming election results and governmental budgets¹.
6. Substantial proposed changes in regulations to enable E filing and processing immigration applications have been published. These are intended to remove both outmoded and soon to be outmoded regulations that have accumulated over the years, somewhat akin to clearing the underbrush of weeds and thickets before planting a new harvest. A detailed analysis of the proposed changes is beyond the scope of this report, but they largely are intended to remove barriers in law to electronic filing, clarify regulations that could otherwise be interpreted as restricting electronic processes in favor of paper, and deleting others that were simply overlooked during other regulatory changes and needed to be removed as housecleaning matters in any event. They do not seem to raise controversial issues and it is not likely that constitutional or statutory authority to enact the new regulations will be questioned.

¹ One potentially complicating factor that does not seem to have caught the attention of USCIS planners is the existence of a patent application, which proposes claims that the "wizard" and other technical aspects of the project might infringe if the patent is granted. See Petrucelli, United States Patent Application Publication No. 20090313200, "Immigration application management apparatus, systems, and methods". While royalty payments from federal government agencies and their contractors do not follow the normal patent rules, there are special rules to seek reasonable royalties through the U.S. Court of Claims. See 28 U.S.C. § 1498.

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7. Interactions between USCIS and stakeholders throughout the Transformation roll-out tend to remain unequal, though USCIS describes them as “extensive engagement” processes. For a summary of sessions, see <http://www.uscis.gov/portal/site/uscis/menuitem.eb1d4c2a3e5b9ac89243c6a7543f6d1a/?vgnextoid=06e12376a3e5e210VgnVCM10000082ca60aRCRD&vgnextchannel=06e12376a3e5e210VgnVCM10000082ca60aRCRD> (last visited 10/03/2011). In the view of the undersigned, the sessions have been closer to interactions between doctors and patients in clinical trials than to providers and recipients in a transfer of information for benefits. Government representatives tend to solicit responses from participants rather than ideas or solutions, much like a medical professional takes the pulse or records the symptoms of the patients rather than engaging in possible differential diagnoses or treatment modalities with them. The engagement process has revealed some unanticipated difficulties with electronic filing, including revealing that extra applicant travel time to and from biometric appointments might be required to cities or states at a considerable distance from the e-filing location itself. Also, objections from advocacy and immigration support groups about the potential disparate impact on ethnicities and socio-economic groups by virtue of the digital divide led USCIS to postpone mandatory e-filing. (Digital e-filing systems with mandatory usage requirements tend to gain far faster and wider acceptance from users than voluntary ones). However, requests from attorney users of commercial case management and document generation software to allow interoperability with the e-filing system have been deferred to later stages of the project, much to the consternation of certain members of the legal profession, though in a recent development, USCIS promised to provide early support for interoperability through XML data exchanges (EDIS).
8. These developments show that there has been some helpful give and take in the exchanges with stakeholders. While this limited interchange approach between the agency and stakeholders satisfies a practical threshold level of the goal of transparency in government, and refusing to discuss potentially sensitive workings publicly even with knowledgeable individuals may reduce security risks, this approach does limit beneficial input from knowledgeable outside sources, which can lead to a form of myopia in the development process. Other federal agencies have used electronic filing for years successfully but the Transformation team seems somewhat disinterested in seeking out what was learned by them in the process. In this regard, the elimination of paper filings in favor of electronic filings by fiat may have overlooked a potentially more useful alternative of the U.S. Patent Office: electronic filings are priced more cheaply than paper ones, which is driving acceptance of electronic filing without mandating elimination of paper ones by regulation .
9. One area that seems questionable, though details are sketchy, is authentication and security in light of the inconvenience occasioned by the described protocols. Most security experts recommend a mixture of authentication and security methods and USCIS has adopted a number of these, but possibly at insufficiently advanced or appropriate level given the potential economic rewards to determined attackers of hacking the system and obtaining immigration credentials for unauthorized individuals fraudulently.

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10. For example, password issuance and maintenance are emphasized in the proposed system which places great reliance upon controversial two factor authentication as used in Internet banking, although successful theft of funds using Internet banking is highly publicized as a grave and continuing public threat. See description of attacks at http://news.cnet.com/8301-27080_3-10390118-245.html (last visited 10/03/2011). Passwords can be captured through the use of keystroke loggers, a form of malware that is easy to procure but more difficult to detect on target machines. (See <http://www.spytech-web.com/keystroke-logger.shtml> for an example of a commercial offering (last visited 10/03/2011)). If usernames and passwords can be easily compromised in this manner, the value of sophisticated username/password requirements is correspondingly diminished.
11. Following the initial publication of this report, a Trojan Horse installed by the German police for legal intercept was discovered and analyzed. It takes regular screenshots of the active window and sends it to the police but apparently is defective in terms of authentication, so it could be commandeered by anyone, even thieves. It enables installation of other software on the target machine, again without adequate authentication, creating a widespread risk to all SSL users.
12. Applied to the electronic filing system of USCIS, without attention to these severe threats to SSL, users may be unnecessarily required to spend time on complex password formulas and repetitive requirements to change them periodically and prevent re-use of prior passwords or portions over again, which can be undermined by attackers in many other ways.
13. These dangers may be be heightened in the case of attorney users, whose services to multiple clients may render them the preferred target of identity thieves, on the theory that multiple filings made through their stolen credentials may escape detection more easily and for greater periods of time than those of individual non-attorneys, allowing for a greater time period of illicit system use and for more bogus case filings by determined hackers. However, there is no indication yet that USCIS will propose more stringent security requirements for attorney users than any other class of users.
14. Proposed reliance on ip addresses, a second line of defense adopted by USCIS, permits agency monitoring of e-filing system usage by reported Internet address of users, but again, with ubiquitous software users can spoof ip addresses, as is well known to security experts. See <http://www.symantec.com/connect/articles/ip-spoofing-introduction> ; <http://news.hitb.org/node/6394> (last visited 10/03/2011). Virtual ip addresses may also have to be mapped to physical geographical addresses to confirm the exact physical location of a machine that has been used in a transaction; but such information ordinarily is only available by way of summons or subpoena directed to a commercial Internet Service Provider, so it will be uncertain at any given time how useful for security purposes knowing the virtual ip addresses will really be.
15. Besides the password and ip monitoring listed above, encryption is provided in the form SSL or TLS for protection of machine to machine Internet transmissions of passwords and e-filings. Here again, USCIS may not have fully appreciated recent vulnerabilities discovered in SSL/TLS technologies. Certificates of some major certification authorities have been compromised at the root level, enabling hackers to generate false but seemingly authentic communications from

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respected institutions or individuals using SSL/TLS. The Electronic Frontier Foundation has recently issued a report on the types of SSL attacks and their frequency. See <https://www.eff.org/deeplinks/2011/10/how-secure-https-today>; <http://www.f-secure.com/weblog/archives/00002269.html> (reporting malware signed by stolen digital certificate from the Government of Malaysia; by signing, the malware penetrates defenses of browsers against malware). See also <http://tusharvartak.com/2011/05/19/ssl-certificates-crl-weakness-and-alternatives/>. For other weaknesses and exploits using SSL, see also <http://www.craigmayhew.com/blog/2011/09/ssl-no-longer-secure/> and <http://www.finextra.com/community/fullblog.aspx?blogid=3089> (all three last visited 10/03/2011). Theft of passwords transmitted over SSL/TLS connections is also well known to experts through the use of keyboard loggers. See ¶10, supra.

16. Other encryption as developed in federal e-court filings, and the Court of Appeals Division Two, Arizona, which have almost a decade of practical experience using server based digital signatures is apparently unknown to the Transformation team as revealed in Q&A sessions. Aloofness from such non-USCIS sources of expertise in the development cycle comes at a potential price.
17. It is too early to predict how successfully Transformation will achieve its initial target. It is an exceedingly ambitious project overall. But by sticking unwaveringly to announced goals, it is projecting confidence. Let us hope it will remain on track through the roll-out phase, when accomplishments will also be expected and judged.

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