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Acting Director Michelle Lee
USPTO

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Dear Ms. Lee:

Wednesday, May 14 did not go well for the USPTO, but that day went even less well for USPTO's customers. As you may know, five of USPTO's patent-related e-commerce systems crashed that day, namely Private PAIR, Public PAIR, EFS-Web for registered Users, EFS-Web for unregistered users, and EFS-Web Contingency. Only after midnight came and went, in the wee hours of the morning of Thursday, May 15, did USPTO get any of these five systems working again.

This was a disaster for inventors and registered practitioners who needed to file new US patent applications and who needed to enter the US national phase from PCT applications. This was also a big problem for inventors and registered practitioners who needed to carry out time-sensitive activities such as responding to Office Actions, filing Requests for Continued Examination, and paying Issue Fees.

It is a bit of a disappointment that even today, three days later, there is nothing on the USPTO web site recognizing this disaster or apologizing for it.

In this letter I will try to explore the many ways in which USPTO failed its customers on May 14, and I will repeat suggestions that I have made in the past to the USPTO about ways to mitigate such problems. I hope I will hear back from you about this.

EFS-Web Contingency. USPTO's stated reason for existence of the EFS-Web Contingency server is to provide a backup system to permit inventors and registered practitioners to file new US patent applications and to enter the US national phase from PCT applications even in the face of crashes of the EFS-Web-registered server and the EFS-Web-unregistered server.

Principles of responsible system design require that a backup server such as EFS-Web Contingency be set up without any common-mode failure points. For example such a server must be in a separate building from the main servers so that no physical disaster such as fire or building collapse can knock out that server at the same time as the main servers. The server must also be powered by a completely separate power source, so that no single loss of a power transmission or distribution line can knock out that server at the same time as the main servers. The server must be connected to the Internet in a completely different way so that no single backhoe cut of a fiber optic line can knock out internet connectivity to that server at the same time as loss of connectivity to the main servers.

More subtly, perhaps, the server must not be on any of the same local-area networks or management systems as the main servers, because otherwise a stuxnet-type attack might knock out the backup server at the same time as the main servers.

Preferably the operating system and application language and software design for the backup system will be different in all respects from that of the main servers, to minimize the risk that a design mistake by a contractor or programmer could make the backup system vulnerable to some WAN-side attack to which the main servers are also vulnerable, and to minimize the risk that some unplanned-for boundary condition (think of the Y2K problem) might crash all three systems.

The EFS-Web Contingency server, however, crashed at the same time as the EFS-Web-registered server and the EFS-Web-unregistered server. It is very difficult to think of a way that this simultaneous crash could have happened other than as a consequence of USPTO failing to observe the just-mentioned principles of responsible system design.

A. Please explain what design flaw and sequence of related events made it possible for all five systems to crash at the same time.

How to keep this disaster from happening again? A year ago, after USPTO opened its Detroit office, I suggested to USPTO that USPTO relocate the EFS-Web Contingency server to the Detroit office. I made this suggestion to a number of people at USPTO including people responsible for USPTO's PAIR and EFS-Web systems.

As of today, USPTO has not done this.

If the EFS-Web Contingency server had been moved to Detroit as I suggested, it is very likely that the Wednesday disaster would have been much less severe. Perhaps the EFS-Web Contingency server would not have crashed at all.

B. Please commit to moving the EFS-Web Contingency server to the Detroit office.

Is the EFS-Web Contingency server good enough for the job? By about 8:00 PM Eastern Time on Wednesday, the EFS-Web Contingency server limped back into action, to the point that some customers were able to initiate an e-filing session and were able to attempt to upload PDF files. But the server tended to grind to a halt part way through the e-filing session. In our office, for example, we were able to upload files but were unable to reach the fee-payment screen. The system would sometimes offer a "submit" button but clicking the "submit" button never actually led to a successful submission. During this disaster time on Wednesday evening, at our firm we tried several EFS-Web Contingency filings using two different web browsers, and none of the e-filing sessions succeeded.

Many USPTO customers who belong to the EFS-Web listserv reported such failed submission efforts with EFS-Web Contingency during the last few hours of Wednesday. Not one of them reported a successful submission. The EFS-Web Contingency system was dysfunctional.

This naturally raises the question of why the EFS-Web Contingency system was dysfunctional, that is, why a customer who initiated an e-filing session was able to upload PDF files but was unable to pay fees and was unable to click "submit". Was this due to a failure of the system to be able to keep up with all of the users? That is, does this system have inadequate bandwidth to handle all of the users

who might otherwise have used EFS-Web-registered or EFS-Web-unregistered? Or is it simply that the event causing the five-server crash was an event that continued to cripple the EFS-Web Contingency server during these last few hours of Wednesday?

C. Has USPTO ever actually tested the EFS-Web Contingency server with a suitable set of simultaneous test e-filings to see whether it has adequate bandwidth to handle the traffic that would normally flow to the main EFS-Web servers?

Inadequate bandwidth at the Central Fax Number. As you know, although the USPTO rules do not permit fax filing of new patent applications, and do not permit the fax filing of national-phase entries, the USPTO rules do permit fax filing of some time-sensitive submissions including responses to Office Actions, Requests for Continued Examination, and payment of Issue Fees. Because all three EFS-Web systems were broken on Wednesday, this led to a large number of attempts by customers to send faxes to the Central Fax Number (+1 571-273-8300). USPTO's fax system was, however, unable to keep up with all of the faxes that customers were trying to send. Some would-be filers reached busy signals and others encountered failed fax sessions part way through the fax.

Years ago it was commonplace for an entity such as the USPTO to receive faxes by means of some number of landline telephone lines, with each land line connected to a respective physical fax machine or to a modem-equipped physical computer running suitable software for receiving faxes over the modem. With such an approach, of course, the number of land lines imposes a cap on the number of faxes that can be received at the same time.

Many businesses have discontinued the use of conventional in-house equipment to receive faxes, choosing instead to outsource this function to a vendor providing fax-to-email service. The vendor uses “DID” (Direct Inward Dialing) lines, each of which is shared across all customers of the vendor. A typical vendor may have hundreds or even thousands of DID lines, and the vendor can keep track of how often it happens that nearly all of the DID lines are in use; this permits the vendor to get more DID lines if needed to reduce to a minimum the risk that any would-be fax sender would ever encounter a busy signal.

One great advantage to this approach is that only the count of DID lines imposes any cap on the number of faxes that may be received simultaneously by any one customer of the vendor. Saying the same thing in a different way, the customer of any of the well-known fax-to-email server vendors can be quite confident that no would-be sender would ever encounter a busy signal.

I speculate that USPTO uses such a vendor for the fax numbers that are assigned to patent examiners in the USPTO.

I further speculate that USPTO does not use such a vendor for the Central Fax Number, but instead that USPTO follows legacy practice and uses conventional land lines and in-house equipment to receive faxes for that telephone number. This would explain why our firm had such bad luck on Wednesday, trying to send faxes to the Central Fax Number. Only one of our faxes ever went through. The rest of the faxes that we tried to send on Wednesday evening never did go through. Other USPTO customers reported similar failures of the Central Fax Number on that day.

I can imagine that one excuse for following legacy practice may be 37 CFR § 1.14 which requires USPTO to maintain certain (unpublished) patent files in secrecy. If so, then perhaps USPTO could establish one Central Fax Number for use with published cases and another Central Fax Number for

other cases. The Central Fax Number for use with published cases could be connected to a well-known fax-to-email service provider with a large number of DID lines. This would reduce the burden on USPTO's legacy system for receiving faxes as the legacy system would only need to receive the faxes for non-published cases.

D. What will USPTO do to reduce the risk in future that its Central Fax Number system will be inadequate to handle the influx of faxes that would follow from another crash of EFS-Web?

Out-of-date rules for Express Mail procedures. USPTO's rules and MPEP sections for the filing of new patent applications and national-phase entries are woefully out of date. A first problem is that the terminology employed by the USPTO is out of date. A year ago USPS rebranded its overnight courier service as "Priority Mail Express" while USPTO continues to use the legacy term "Express Mail". (Although USPTO has not brought its rules or the MPEP up to date on this point, there is one place on the USPTO web site where USPTO states that it considers the two terms to be interchangeable.)

But more importantly the USPTO's rules and MPEP sections rely upon things that no longer exist. For example, if USPTO refuses to give a filer the filing date to which the filer is entitled, the way that the filer will overcome this refusal is by making use of 37 CFR § 1.10 which calls for the filer to proffer "a true copy of the 'Express Mail' mailing label showing the 'date-in'" as written on the label by the USPS employee. In other words the filer would present the Express Mail package to a USPS employee who would write a "date in" on the customer receipt. The filer would then carefully preserve the customer receipt with its all-important "date in" which has been handwritten on it by the USPS employee. The problem with this is that the mailing labels (at least the labels generated by USPS's "Click-n-ship" system) no longer have a customer receipt with any place where a USPS employee could write a "date in".

As a second example, the rule says that the USPTO mail room employee will assign a filing date to the patent application based on the handwritten "date in" that is visible to the employee when the employee looks at the Express Mail label. If the "date in" is illegible or missing, the employee will assign a filing date based on the date that the USPTO actually received the package from the USPS. The problem with this is that the mailing labels (at least the labels generated by USPS's "Click-n-ship" system) no longer have any place where a USPS employee could write a "date in".

E. Please tell me that USPTO will bring its rules and MPEP up to date to recognize the modern-day reality that there is no "date in" field in the customer receipts or in the package labels.

Recognizing the reality that in most geographic areas, there is no post office open in the evening when an outage of USPTO's EFS-Web systems is most disruptive.

USPTO's public position regarding e-filing has always been that e-filing is a privilege, not a right, and that anyone who can't or won't e-file can simply take the filing to the Post Office. This position must be scrapped.

The vast majority of patent filings in the USPTO are carried out on the last possible day. By this I mean the day that is one year after a provisional application, or the day that is one year after a foreign application, or the day that is one day before a planned public divulgation of the invention.

What this means is that in the vast majority of cases, there is the risk of an irrevocable loss of some or all of the inventor's patent rights if a filing is not completed prior to midnight.

When I was admitted to practice before the USPTO in 1987, most cities had at least one post office that was open 24 hours a day. This post office, typically located nearby to an intercity train station or an airport, was the place to file patent applications by Express Mail.

In the years that have passed since then, USPTO rolled out its ePave system for e-filing of patent applications, followed by its EFS-Web system for e-filing of patent applications. The natural consequence is that most patent filings are carried out electronically toward the end of a business day and many are carried out in the last few hours prior to midnight.

An EFS-Web crash of twelve hours that happens at, say, 1:00 AM is not very disruptive. The filer can simply wait until after 1:00 PM to carry out the e-filing and can accomplish a same-day filing, thus avoiding loss of substantive rights.

In contrast, an EFS-Web crash of ten hours that happens at 2:00 PM (which is how it went on May 14) is extremely disruptive. The filer cannot simply wait for USPTO to repair the broken system, because the repair will happen only after midnight has come and gone. The result will be an irrevocable loss of some or all substantive patent rights.

Denver used to have two 24-hour post offices. But about eight years ago, the USPS drastically cut back its hours of service so that the latest that any post office in Denver was open was 10:00 PM. About a year ago USPTO cut back its hours of service again, so that only one post office is open late in Denver and it closes at 9:30 PM. USPS has recently announced that because of staggering financial problems, it will close many post offices across the US and cut back hours of service at many more post offices across the US.

USPTO's present policy, namely that anyone who can't or won't e-file can simply take the filing to the Post Office instead, is an anachronism and must be brought up to date.

Perhaps the most glaring aspect of this anachronistic policy is the way that USPTO handles outages. When Hurricane Katrina closed post offices in some geographic areas, USPTO announced that anyone who could not get to the Post Office to file a patent application would get a free pass to to to the Post Office some days later and would still receive the earlier filing date. The uninterrupted availability of EFS-Web during that hurricane did not prompt USPTO to hold back from handing out this free pass.

In contrast, when USPTO's e-filing system crashed for some twelve hours on May 14, USPTO did not hand out any free pass to do the filing later. The (imagined) alternative filing approach by Express Mail (that is, Priority Mail Express) was apparently deemed by USPTO to be an adequate substitute for the broken EFS-Web systems. The problem with this is that with years of service cutbacks by the USPS, it is simply no longer the case that the filing approach of running to the Post Office can be considered an adequate substitute for a broken EFS-Web system.

F. Please tell me that you will bring USPTO's anachronistic policy up to date, with some meaningful provision for relief in the event of a disastrous crash in USPTO's systems such as happened on May 14.

Waiving the $400 penalty.

Some years ago USPTO chose to impose a $400 penalty on each patent filer that uses non-electronic means to file the patent application. (The penalty is reduced for small or micro entities and does not

apply to certain application types such as provisional applications.) This punishes those who use Express Mail (that is, Priority Mail Express) to file a patent application, and it punishes those who hand-carry a patent application to the USPTO.

On May 14, due to the crash of all three of USPTO's EFS-Web systems, at least several hundred patent filers (probably well over a thousand patent filers) were forced to use non-electronic means to file their patent applications. Some used Express Mail, others hand-carried their applications to the USPTO. This was by no choice of their own; nearly all of such patent filers would have preferred to e-file if only it had been possible to do so. Our firm was forced to use Express Mail, for example.

As things now stand, the Office of Patent Application Processing (OPAP) will methodically attempt to impose the $400 penalty on each of those filers (including our firm).

I call upon you to direct OPAP not to impose the $400 penalty on any non-electronic filing carried out on May 14. Your direction to OPAP should apply to hand-carried filings received by USPTO on that day, and should apply to Express Mail filings deposited with the USPS on that day.

G. Please tell me that you will do this.

Establishing hand-carry windows at the satellite patent offices.

As of today the only office of the USPTO that receives hand-carried patent applications is the office in Alexandria, Virginia. The Alexandria patent office accepts such patent applications 24 hours a day. In contrast, the Detroit office does not accept hand-carried patent applications at any time of day.

Until such time as USPTO carries out the needed measures for proper redundancy in EFS-Web (such as moving one of the servers to Detroit), USPTO needs to permit hand-carried filing of patent applications at each of its patent offices. This service needs to be available until midnight every day.

H. Please tell me that you will do this.

Very truly yours,

/s/

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