1 THE COURT: Go ahead.

2

3 DIRECT EXAMINATION

4 BY MS. HARRIS:

5 Q. Mr. Roloff, tell us what your occupation is.

6 A. I'm a digital forensic examiner.

7 Q. What do those guys do?

8 A. A number of things, but typically we analyze digital

9 evidence.

10 Q. And what company do you work for?

11 A. Roloff Digital Forensics.

12 Q. Can you talk a little bit more about, within the rubric of

13 digital forensic analysis, the types of work that you do?

14 A. Yes. So typically I work in state and federal courts,

15 analyzing digital evidence for a range of criminal matters.

16 Q. Do you -- What degrees do you have?

17 A. I have an associate's in the applied science of network

18 engineering and a bachelor's degree as well.

19 Q. And do you have any additional certifications?

20 A. I do. So I have a number of certifications specific to

21 digital forensics. My CV outlines them. I can go into

22 further detail if you'd prefer.

23 Q. That's okay.

24 And in the course of this work, do you work both for

25 prosecutors and defense lawyers?

1 in the field?
2 A. No. I believe there is training given for it, but no, it
3 doesn't. It's really kind of the click of a few buttons and a
4 report that will show up.
5 Q. Have you seen that used in jurisdictions, like either here
6 or neighboring jurisdictions?
7 A. I have, yeah. I don't have specific examples off the top
8 of my head, but I've seen it used all over the place, around
9 the country, in state and federal cases.
10 Q. So as you reviewed the records in this case, what would
11 you say were the main complaints that Mr. Sullivan had with
12 the functionality of the software?
13 A. Really it was causing, it appeared, computer crashes. So
14 we all are pretty familiar, I think, with like the blue screen
15 the death description within Windows, where you have kind of
16 that sudden crash and stopping of being able to use the
17 machine until you reboot it. But then there was just the slow
18 down of the computer as a whole, to the point where it would
19 take a bit of time before, you know, simple things would open
20 or close.
21 Q. And did you see mention of a -- the core processing unit
22 in Mr. Sullivan's computer or the CPU?
23 A. Yes.
24 Q. What is a CPU?
25 A. I mean, it's a -- the long term for it is a central

1 processing unit, and it's going to be essentially kind of the
2 brains of the computer. It works in conjunction with a number
3 of other parts to allow for the processing of information.
4 But it's an important piece, just like it, alongside RAM, or
5 random access memory, or just key components for running
6 processes, allow a user to use a computer the way we think of
7 using it on a daily basis, having multiple applications opened
8 and the speed at which you can maneuver between, you know,
9 applications.
10 Q. Do you recall any specific concerns about the CPU -- about
11 how the CPU was functioning in Mr. Sullivan's computer in this
12 case?
13 A. Yeah. At times the complaint was that it was -- the
14 software driver specifically related to this monitoring
15 software was utilizing a large amount of that resource.
16 Q. And so what happens when you have a program or a piece of
17 software or something that is essentially hogging your CPU?
18 What does that do to the performance of the computer?
19 A. It just makes everything slower. It can slow things down.
20 So it makes the opening and closing and usability of
21 applications challenging or time consuming.
22 Q. Over time, can it cause damage to a -- long-term damage to
23 a computer?
24 A. It could, yeah. I mean, just like anything else, these
25 parts wear out. So, sure, high usage would cause heat. Heat

1 is not a friend to these electronic components. So yeah, that
2 would cause additional wear and tear.
3 Q. As you reviewed the documents in this case, did you find
4 instances where other monitored users seemed to experience
5 some of the same problems?
6 A. Yes.
7 Q. And the documents that you reviewed pertinent to those
8 problems, what form did they take? Were they e-mails? Were
9 they user-assist chat logs?
10 A. They were chat logs, it looked like, from the technical
11 department, trying to troubleshoot the problems with the
12 consumer.
13 Q. And --
14 A. There were also, I believe, an e-mail or two.
15 Q. What -- can you give us some -- just an idea of some of
16 the specific examples that people tended to bring to IPPC's
17 attention?
18 A. The blue screen of death that was referenced or the
19 crashing of their operating system, also the high usage of the
20 CPU.
21 Q. If you could just give me one moment.
22 (Pause) Do you have IPPC document No. 307 in front
23 of you or available to you?
24 A. No, I don't believe I do.
25 Q. Sorry. I thought you had your laptop with you.

1 A. I don't, yes.
2 THE CLERK: I can hand it to him.
3 MS. HARRIS: I am using a laptop as well.
4 BY MS. HARRIS: (continuing)
5 Q. Can I bring your laptop to you, Mr. Roloff?
6 A. Certainly.
7 Q. (Handing) It's a Cadillac model.
8 A. Which document was that?
9 Q. No. 307.
10 A. (Pause) Okay.
11 Q. Do you see the -- what is the primary complaint in this
12 e-mail? You don't have to read it word for word, but can you
13 tell us in general, what is the complaint here?
14 A. A portion of the software taking over 50 to 90 percent of
15 the processor on a consistent basis, or the CPU. Also, that
16 the fan on the processor sounds like a jet airplane when this
17 is happening.
18 Q. And to be clear, this user is not Mr. Sullivan, right?
19 A. Correct.
20 Q. Okay. Why -- why would it be problematic to have a
21 software application using over 50 to 90 percent on one's
22 processor?
23 A. The same reason that we previously discussed, that it's
24 going to slow down the machine as a whole, make it quite
25 inefficient to use. It's also going to add that extra wear

1 and tear that we discussed.
2 Q. And do you see document No. 309?
3 A. Yes.
4 Q. Do you see the reference to blue screens and map errors?
5 A. Yes.
6 Q. Several crashes over the weekend?
7 A. Yes.
8 Q. What are map errors?
9 A. Well, they're just an error code that they're referencing
10 here. But again, these are applications crashing,
11 essentially. And so you're basically just having the user
12 present information related to kind of those error codes that
13 they were experiencing. But what is occurring in the
14 background is certain applications are closing unexpectedly
15 and because of a problem.
16 Q. I'd like to turn your attention to document No. 339. Do
17 you see that one?
18 A. I do. I'm opening it.
19 (Pause) Okay.
20 Q. And do you see here that the user is complaining of
21 continuing issues with blue screens and that the technicians
22 have tried for hours to resolve the problem? Do you see that?
23 A. That is what's being described, yes.
24 Q. And then the user references safe mode. Do you see that?
25 A. Yes.

1 Q. So can you give us some context about safe mode and what
2 the reference here means?
3 A. Well, the user is explaining here that they've had
4 consistent problems that have not been able to be corrected,
5 they're unable to use their computer in anything other than
6 safe mode. And so safe mode is essentially -- it's a Windows
7 troubleshooting environment. So if a user -- if a computer is
8 not functioning correctly, oftentimes if it's not starting up
9 correctly, you can start it in safe mode, which will start the
10 operating system with the most limited set of drivers it can
11 possibly start, actually. And then at that point the user can
12 oftentimes troubleshoot the problem from that interface.
13 Q. And this user also is not -- based on what you see there,
14 this is not Mr. Sullivan's communication, right?
15 A. Correct.
16 Q. Does the use of safe mode require any sort of reverse
17 engineering or hacking or special expertise?
18 A. No, other than you just have to know safe mode exists and
19 how to get there, which would take some bit of knowledge that
20 I would say not every computer user has. But it is not
21 considered reverse engineering, hacking. It is a common
22 troubleshooting step and process.
23 Q. And do you recall a few references in these -- I'll call
24 them complaint e-mails -- to something called a bad pool
25 header?

1 A. Yes.
2 Q. What is that and what are the people in those e-mails
3 describing?
4 A. Again, it's just a -- it's an error message that is
5 supposed to assist with troubleshooting, but it's indicating,
6 again, a crash has occurred within the operating system, and
7 it's going to require a reboot to get it back to a functional
8 state.
9 Q. How did -- Generally speaking, were the problems that were
10 reported in these documents, did the complaining users get a
11 final resolution to them?
12 A. It was unclear. A lot of the -- a lot of the technical
13 logs did not have a conclusion, other than that support would
14 get back to them when a new version of the software was
15 available to them to try.
16 There may have been some conclusions in a few of the
17 conversations I observed, but it seemed like a lot of them
18 relied on the hope that a future version would fix the
19 problem.
20 Q. Now, I mean, to be clear, did you have the benefit of an
21 interview with IPPC to get any more details?
22 A. No, no.
23 Q. And did you get a list or any hard data about the total
24 number of users that IPPC services?
25 A. No.

1 Q. Did you -- In these documents that you reviewed, were
2 there problems reported that were consistent with the problems
3 that Mr. Sullivan reported?
4 A. Yes.
5 Q. Now, based on the documents that you read that were more
6 specific to Mr. Sullivan, generally speaking, what steps, from
7 a technical perspective, did he take to remedy some of these
8 problems?
9 A. Just generally they were troubleshooting steps, so steps I
10 would commonly see computer repair shops utilize to try and
11 determine what a problem -- where the problem actually exists.
12 Q. Did you see any evidence in your review of the documents
13 that Mr. Sullivan had violated the license agreement with the
14 third-party monitoring software provider?
15 A. You know, you'd have to compare his actions with the
16 document that that company generated. And I could see overlap
17 between where they might think that he did, based on just the
18 writing of the agreement.
19 So I think it's open to interpretation. I think
20 depending on how you read that document and how you look at
21 the steps that he took, he accessed areas of the software that
22 they might think he shouldn't have accessed. But as far as it
23 goes, if you look at it from a troubleshooting perspective,
24 there's reasons why a person may have been in areas that he
25 was in.