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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS, INC., et al

Petitioners

v.

STRAIGHT PATH IP GROUP, INC.

(FORMERLY KNOWN AS INNOVATIVE COMMUNICATIONS TECHNOLOGIES, INC.)

Patent Owner

Case IPR2015-00196

Patent 6,131,121

Case IPR2015-00198

Patent 6,009,469

Case IPR2015-00209

Patent 6,108,704

DEPOSITION OF BRUCE M. MAGGS, Ph.D.

Washington, D.C.

August 6, 2015

Reporter: Mary Ann Payonk

Job No. 95058

B. Maggs

August 6, 2015
9:04 a.m.

Deposition of BRUCE M. MAGGS, Ph.D., held at 901 New York Avenue, N.W., Washington, D.C., pursuant to Notice before Mary Ann Payonk, Nationally Certified Realtime Reporter and Notary Public of the District of Columbia, Commonwealth of Virginia, States of Maryland and New York.

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APPEARANCES:

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MR. NEWMAN: For the record, the parties have an agreement with respect to this deposition. The parties have agreed that a single consolidated deposition would be used for three related IPRs. Those IPRs are IPR 2015-00196, IPR 2015-00198, and IPR 2015-00209. The parties agree that this deposition can be used in each of those three separate IPRs.

In exchange, the parties have agreed to attempt to limit depositions in this matter to a single day; however, the parties have agreed to reserve a second day in the unlikely event that more time is reasonably required. That said, the parties will make every effort to complete depositions in a single day.

MR. JACOB: That agreement is a reciprocal arrangement and also applies to any experts that Straight Path furnishes.

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BRUCE M. MAGGS, Ph.D.,
called as a witness, having been duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. NEWMAN:

Q. Good morning, Dr. Maggs.

A. Good morning, Mr. Newman.

Q. Are you aware that this deposition has now begun and that you may not consult with counsel during any break regarding the substance of your testimony --

A. Yes, I do. Thank you.

Q. -- that you have given or you expect to give today?

A. Yes, I am. And thank you for the reminder.

MR. JACOB: And that instruction is not quite right. At the point at which you pass the witness, I'm permitted to consult with him. But before, before he passes the witness, we're not permitted to consult during any breaks.

MR. NEWMAN: That's not my

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understanding of the rules, but we can have a discussion off the record with respect to that.

BY MR. NEWMAN:

Q. Can you please state your name for the record?

A. My name is Bruce MacDowell Maggs.

Q. Your date of birth, please?

A. May 9, 1963.

Q. Have you been deposed before?

A. Yes, I have.

Q. Have you been deposed before with relationship to any of the asserted patents at issue in these IPRs?

A. Yes, I have.

Q. How many times have you been deposed with respect to the patents at issue in these IPRs?

A. Twice prior to this deposition. This will be the third.

Q. When was the first time?

A. The first time was in -- I believe was in 2008. There was litigation by -- I believe it was IDT versus Skype, which was

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owned by eBay, and I was deposed after providing an expert report for a district court.

Q. Do you still have the expert report from the 2008 litigation IDT versus Skype?

A. I don't know.

Q. Do you have the testimony or the transcript from that deposition?

A. I don't know. Whatever I was instructed to do about materials after that case settled, I complied with. And it's been a long time. I would have to go look and see what I was permitted to retain.

Q. But you did not rely on either that expert report or the deposition testimony in the IDT versus Skype case in forming your opinions as expressed in your declaration in these IPRs?

A. No, I did not.

Q. When was the second time you were deposed with respect to these patents?

A. I was deposed last year by Mintz Levin in a -- I don't know what you call it, but a case before ITC that was brought against

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Sony and other respondents.

Q. Was that the 892 investigation at the ITC?

A. I don't remember the number. I'd have to look that up.

Q. And do you still have your expert reports from that ITC investigation?

A. I have a redacted copy of my expert report.

Q. And do you have the deposition transcript from the ITC investigations deposition?

A. No, I don't.

Q. So you didn't rely on the deposition transcript in the ITC to inform your opinions in your declaration --

A. No.

Q. -- submitted here?

A. No.

Q. Did you rely on your expert report submitted in the ITC in forming your opinions in the declaration you've submitted in these IPRs?

A. No, I did not.

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Q. So I just handed you an exhibit that's marked LG Electronics Exhibit 1002. It goes from page 1, ends at page 75. Do you recognize this document?

A. Yes, I do.

Q. And what is it?

A. This is one of the three declarations that I submitted. This one concerns what we call the '704 patent. It was submitted as part of this IPR.

Q. Did you draft this declaration?

A. Yes, I did.

Q. And do you understand that the '704 patent is the parent to the '121 and the '469 patents?

A. Yes, I do.

Q. Are the statements in this declaration true to the best of your knowledge?

A. They are. I noticed one small typographical error. I don't think it's of any import, and I'm happy to point that out to you. But yes, I believe these statements are true.

Q. Is it the WINSWINSWINS?

A. Actually, I didn't even count that

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one, but that was a little exuberance there. May I point it out to you?

Q. Yes, please.

A. There's a figure on page 11, and in paragraph 13 above the figure, it says, near the bottom, it says "LANS 3 and 4." I believe that should say "LANS 2 and 3." It's a minor typo. It's just summarizing a figure from another document.

Q. In paragraph 13, that's summarizing the figure from a reference called Perkins; correct?

A. That's correct. And I think this typographical issue is in all three of my declarations.

Q. Did you rely on the Perkins reference in coming up with your opinion in this declaration?

A. No. Perkins is here as an illustration of the state of the art at the time.

Q. So the Perkins reference is not before PTAB in this matter; correct?

A. Well, I don't know the answer to

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that, but it isn't the basis of my conclusions regarding obviousness.

Q. Do you think the Perkins reference could have been reasonably raised with PTAB?

MR. JACOB: Objection, legal conclusion, foundation.

A. I think the Perkins reference is interesting because it was once before the patent examiner, and the inventors or their counsel explained to the examiner that Perkins did not support point-to-point communications because packets passed through gateways. I think that that's an interesting issue. I think depending on how that's resolved, this reference could very well anticipate the patents, but it's not the basis of my opinions in this declaration.

BY MR. NEWMAN:

Q. So you think that it could have been brought before a PTAB?

MR. JACOB: Legal conclusion, foundation.

A. I don't know all the rules about what can be brought before PTAB. It's a written

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reference, so as far as I know, you can bring written references before PTAB. It's prior art. But otherwise, I can't answer that question.

BY MR. NEWMAN:

Q. So where do you currently work?

A. My full-time position is at Duke University in Durham, North Carolina.

Q. Proud of the Blue Devils this year?

A. That was a nice basketball season. I also hold a part-time position one day a week with Akamai Technologies, a company that I helped create.

Q. And at Duke you teach classes to undergraduates?

A. Yes, I teach classes to both undergraduates and graduate students. I typically teach an undergraduate course in the fall and a graduate course in the spring.

Q. What courses do you teach to the undergraduates?

A. Well, this fall I'm going to teach a course on computer security. I did that also last fall. In the past, I've also taught

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courses on algorithms, discrete math for computer scientists. Before joining Duke at Carnegie Mellon I taught courses on computer networking, computer systems, computer programming. I like to say that one of the advantages of being a professor is that eventually, you get a thorough undergraduate education in your field.

Q. What's a computer system?

A. Well, it's a broad term, but when I say "computer systems," talking about the hardware that -- computer hardware. Also, issues like operating systems. Some people would view computer systems even more broadly to include issues like computer networking, databases. But in the computer systems courses I taught, we began by explaining at a low level how the processor works, what the instruction set for a processor looks like, and then worked our way up explaining, you know, how an operating system would manage multiple tasks running simultaneously, a little bit about how compilers try to optimize the code so that it runs faster. Systems courses are about what

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the platform looks like on which you then build applications.

Q. What are applications?

MR. JACOB: Legal conclusion.

A. On a very high level, applications are computer programs that are designed to help users solve different tasks or provide different capabilities or services for users.

BY MR. NEWMAN:

Q. And what is an operating system?

A. Well, that's a complicated question, but an operating system can be viewed as providing an interface between the hardware and application programs. It -- the operating system helps manage application programs and it provides them, when necessary, with access to the hardware.

Q. An operating system is distinct from an application program; correct?

A. Well, we would normally view those two things separately. You know, there's a technical sense in which an operating system runs with privileges and applications don't, but at the same time, the line is not super

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well defined. In some sense, an operating system is an application. There are many devices where you would say that the only thing running on the device is the operating system, and yet it's providing some application functionality. So, you know, typically, those are separate things, but not always.

Q. In paragraph 4 of your declaration, which is page 6, you mention that you teach courses on basic computer systems and undergraduate courses on operating system design and implementation.

A. Yes, that's correct.

Q. In your course regarding operating system design and implementation, what sort of -- what do you teach during that course?

A. Well, I taught that course four times at Carnegie Mellon, and in this course, we guide the students through the programming of an operating system. So they write a program that acts as an operating system, and it's -- it's not in a simulator. It really runs on a bare PC hardware.

And so, for example, they start out

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by writing some code that can manipulate the computer display. So you can tell it, you know, draw some characters at this location on the screen. They write some code for receiving input from the keyboard. And then they move on to write code to manage tasks that are running. And then they write code for managing threads, and there's a lot of focus on concurrency, how would an operating system support multiple programs running simultaneously on the operating system or multiple threads running within a single program.

Q. The multiple programs that you're referencing there are multiple application programs?

A. They could be, yes.

Q. What are the components of an operating system?

MR. JACOB: Form.

A. So there's no fixed answer to that in the sense that there are different ways that you could write an operating system. I could give an example. In the operating system that the students prepare, one component is or one

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