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Transcript of Dr. Nader Bagherzadeh

Date: January 16, 2025

Case: Qualcomm Incorporated -v- Network System Technologies, LLC (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

Transcript of Dr. Nader Bagherzadeh
Conducted on January 16, 2025

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1 2 UNITED STATES PATENT AND TRADEMARK OFFICE 3 BEFORE THE PATENT TRIAL AND APPEAL BOARD 4 5 QUALCOMM INCORPORATED,) 6 Petitioner,) 7 v.) CASE NO. IPR2024-00338 8 NETWORK SYSTEM TECHNOLOGIES,) 9 LLC,) PAGES 1 - 107 10 Patent Owner.) 11 -----) 12 13 14 15 DEPOSITION OF DR. NADER BAGHERZADEH 16 Thursday, January 16, 2025 17 IRVINE, CALIFORNIA 18 19 20 21 22 23 STENOGRAPHICALLY REPORTED BY: 24 LINDSAY A. STOKER, RDR, RMR, CRR, CRC 25 CA CSR No. 14373 Job No.: 567819	3 1 A P P E A R A N C E S 2 --oOo-- 3 APPEARING ON BEHALF OF THE PETITIONER QUALCOMM 4 INCORPORATED: 5 6 CARLSON CASPERS VANDENBURGH & LINDQUIST, PA 7 BY: NATE D. LOUWAGIE, ESQ 8 225 South 6th Street, Suite 4200 9 Minneapolis, MN 55402 10 Telephone: 612.716.3924 11 Email: NLouwagie@carlsoncaspers.com 12 13 14 15 APPEARING ON BEHALF OF THE PATENT OWNER NETWORK SYSTEM 16 TECHNOLOGIES, LLC: 17 18 NIXON PEABODY LLP 19 BY: ANGELO CHRISTOPHER, ESQ. 20 70 West Madison St., Suite 5200 21 Chicago, IL 60602 22 Telephone: 312.977.4391 23 Email: Achristopher@nixonpeabody.com 24 25
2 1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 4 QUALCOMM INCORPORATED,) 5 Petitioner,) CASE NO. IPR2024-00338 6 v.) 7 NETWORK SYSTEM TECHNOLOGIES,) 8 LLC,) PAGES 1 - 107 9 Patent Owner.) 10 -----) 11 12 13 14 Deposition of Dr. Nader Bagherzadeh, taken on behalf 15 of the Petitioner Pursuant to Notice at the offices of 16 Jones Day, 3161 Michelson Dr, Suite 800, Irvine, 17 California, commencing at 9:03 a.m., on Thursday, 18 January 16, 2025, before Lindsay Anne Stoker, an NCRA 19 Registered Diplomat Reporter, Registered Merit 20 Reporter, Certified Realtime Reporter, Certified 21 Realtime Captioner, and Certified Shorthand Reporter No. 22 14373 in and for the State of California. 23 24 25	4 1 NIXON PEABODY LLP 2 BY: BENJAMIN R. HOLT, ESQ. 3 799 9th Street NW, Suite 500 4 Washington, DC 20001-5327 5 Telephone: 202.585.8048 6 Email: Bholt@nixonpeabody.com 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

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5			7		
1	INDEX		1	A. Probably about a dozen times.	
2	WITNESS: DR. NADER BAGHERZADEH		2	Q. What were the context for those depositions?	
3	PAGE		3	A. Probably mix of IPRs and other types.	
4	EXAMINATION BY MR. LOUWAGIE	6	4	Q. Were they all in patent cases?	
5	EXAMINATION BY MR. CHRISTOPHER	101	5	A. Almost all, yes.	
6	EXAMINATION BY MR. LOUWAGIE	105	6	Q. What is the exception?	
7			7	A. Probably had to do with some other cases. I	
8			8	don't remember right now, but it was probably to do with	
9	EXHIBITS		9	ITC, probably. Again, patent cases, you are right,	
10	NUMBER	DESCRIPTION	10	yeah.	
11	EXHIBIT 1036	Drake, Jr., John E., et al. Quality of Service Management for Source Routing Multimedia Packet Networks. U.S. Patent No. 5,461,611. Filed June 7, 1994, and issued October 24, 1995.	11	Q. Okay.	
12			12	A. So I think they were all patent cases, yes.	
13			13	Q. Okay. And were you an expert witness in all of	
14			14	those cases?	
15			15	A. Yes.	
16	PREVIOUSLY MARKED EXHIBITS		16	Q. Have you ever been -- testified as a fact	
17	NUMBER	PAGE	17	witness in any case?	
18	EXHIBIT 1005	66	18	A. No. I was a special master for a federal	
19	EXHIBIT 1006	42	19	judge, but I think that's not a fact witness, from what	
20	EXHIBIT 1007	92	20	I understand.	
21	EXHIBIT 2070	100	21	Q. Is every case that you were deposed in	
22	EXHIBIT 2071	30	22	identified in your CV that was provided in this case?	
23			23	A. No.	
24			24	Q. What was not included?	
25			25	A. Beyond seven years. I kept it to seven years.	
6			8		
1	IRVINE, CALIFORNIA		1	Q. And what -- can you name -- tell me what -- the	
2	Thursday, January 16, 2025, 9:03 a.m.		2	cases that happened before seven years ago that was not	
3	DR. NADER BAGHERZADEH,		3	on that list.	
4	called as a witness, having been first duly		4	A. Oh. That -- there are a lot of cases. I mean,	
5	sworn, was examined and testified as follows:		5	I can say that one case had to do with the Delaware	
6	MR. LOUWAGIE: This is Nate Louwagie for		6	District Court. One case had to do with ITC. And	
7	petitioner, Qualcomm.		7	another case was a tribunal in Japan. And a whole bunch	
8	MR. CHRISTOPHER: Angelo Christopher from Nixon		8	of other IPRs.	
9	Peabody on behalf of patent owner Network System		9	Q. So you said -- I think earlier you said that	
10	Technologies, LLC, and the witness. And we also have		10	you testified in about a dozen depositions?	
11	Benjamin Holt, also from Nixon Peabody.		11	A. Yeah.	
12	EXAMINATION		12	Q. But now you are saying that there's a whole	
13	BY MR. LOUWAGIE:		13	bunch more that -- beyond that?	
14	Q. Good morning, Dr. Bagherzadeh.		14	A. Yeah, if I go back, it would be a little more.	
15	A. Good morning.		15	I don't know how many, but I can tell you dozen is a	
16	Q. Did I pronounce that correctly?		16	good lower bound, yeah.	
17	A. Perfect.		17	Q. A dozen is the lower bound?	
18	Q. Could you please start by stating your full		18	A. Yes.	
19	name and address for the record.		19	Q. Okay. Could you tell me the name of the	
20	A. My full name is Nader Bagherzadeh, or Nader		20	case -- tell me the name of the party that you were --	
21	Bagherzadeh. And my address is 415 Hilledge Drive,		21	represented in the Delaware District Court case?	
22	Laguna Beach, California.		22	A. It has been a while, but I think it had to do	
23	Q. Have you ever had your deposition taken before?		23	with the -- the tire valve, TS -- it is a pressure	
24	A. Yes.		24	temperature valve sensor, and the parties were Goodyear,	
25	Q. About how many times?		25	I think, and the -- the manufacturer of that device. I	

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9 1 don't remember the names, exactly. But it was 2 testifying in court. 3 Q. In trial? 4 A. Yeah. 5 Q. And were you testifying on behalf of Goodyear? 6 A. I think so. It may not be Goodyear. It was 7 some other tire manufacturer, but I am guessing it 8 was -- it was an American manufacturer. 9 Q. Okay. Do you know what law firm was involved 10 in that one? 11 A. Wilmer Hale. Wilmer Hale. I was with 12 Wilmer Hale, yeah. 13 Q. And roughly how many years ago was that? 14 A. At least ten years. 15 Q. Is there anything else you can tell me about 16 that case? 17 A. I represented them for infringement and 18 validity, both. I think three hours each. I had 19 reports on all those cases and -- yeah. 20 Q. Anything else? 21 A. No. That's it. That's all I remember. 22 Q. Were there IPRs involved in that case? 23 A. No, it was just district court. 24 Q. You mentioned an ITC case that was not on your 25 list.	11 1 somewhere near Minnesota, I think. 2 Q. Is that right? 3 A. I don't know. But I think it is up north, 4 yeah. 5 Q. And you said you visited Japan to look at the 6 product? 7 A. No. No -- no. We don't do that. We -- if it 8 is a memory, after you look at the patent, what else can 9 you do? You have to look at the layout of the chip, 10 which is really complicated for us to analyze this 11 circuitry by looking at the layout. 12 So we went to a room, and they told us, here 13 are the files for the memory. And the layout is the 14 details of the chip. So it was very complicated to look 15 at that and figure out what is going on with the 16 circuitry. 17 Q. So were you looking at source code or 18 schematics? 19 A. Layout schematics. 20 Q. Layout schematics? 21 A. Yeah, it was very complicated. 22 Q. And then you mentioned a case involving a 23 tribunal in Japan? 24 A. Yes. 25 Q. What can you tell me about that case?
10 1 A. That's right. 2 Q. What -- tell me about that case. 3 A. That had to do with memory, and specifically 4 DRAM design. And that was done also 10, 12 years ago. 5 These are rough estimates, Counsel. I don't remember 6 the details. Even the name of the tire company might be 7 different than Goodyear. But I can check that for you 8 later and let you know. 9 Q. Okay. And what were the names of the parties 10 in the memory DRAM ITC case? 11 A. So I would say -- let's see. I am drawing a 12 blank on the exact name of the parties. There was one 13 in Japan. It was a Japanese -- a Japanese company that 14 owned the patent. 15 Q. And were you testifying on behalf of that 16 Japanese company? 17 A. No. The company -- the other side. 18 Q. Okay. 19 A. They were trying to get the patent benefits 20 from their design, so I actually visited Japan to look 21 at their design. 22 Q. So you don't remember the -- 23 A. No. I don't remember the names. I think the 24 Japanese company was acquired by one of the American 25 companies -- Micron, I think. I think. Which is	12 1 A. So that one was an interesting case. A 2 three-judge panel, basically, reviewed. It had to do 3 with power modes of a Sony PlayStation. 4 I think there was a portable Sony device at 5 that time. There was a portable gaming device made by 6 Sony. And the company in the United States had an idea 7 for the patent regarding power modes. By "power modes," 8 I mean how you can reduce power consumption for a 9 platform like that Sony games device. And so I was 10 representing the company here. 11 Q. And what was that company's name? 12 A. It was, like, a startup and then they kind of 13 disappeared, but the other side was Sony. I am sure 14 about that. 15 Q. Was there a U.S. case related to that issue in 16 Japan? 17 A. I don't know. Yeah, I have no idea. 18 Q. Okay. So not to your knowledge? 19 A. All I know that we won. 20 Q. Okay. 21 A. We got the results in our favor. 22 Q. But you don't know whether there was a U.S. 23 litigation involved? 24 A. Yeah, no idea. 25 Q. Okay. Other than those three cases we just

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13 1 discussed, are there any cases that come to mind that 2 would not be on your list that you testified on? 3 A. As I said, there were other IPRs. But these 4 are the ones that I testified. These three, I did 5 testify. There were other cases, and I think I 6 mentioned I was a special master for a judge here, Judge 7 Carter, which is a very well-known person in the 8 District Court, for a memory case. I was also dealing 9 with a class action regarding Prius. 10 Q. When you say you were dealing with a class 11 action regarding Prius, what do you mean by that? 12 A. The class -- this particular lawyer was -- his 13 focus was on dealing with a -- dealing with those cases 14 where, particularly for Prius, had a problem with its 15 ABS system when it goes over a bump and it is wet. So 16 he was pursuing a class against Prius to pursue -- that 17 was his specialty, those cases. 18 Q. And were you being -- were you working with him 19 as an expert witness? 20 A. Yes. 21 Q. And did you testify in that case? 22 A. Yes. 23 Q. What was your opinion in that case? 24 A. I don't remember what my opinion was, but there 25 were some problems with that.	15 1 Q. And, second, we would like our court reporter, 2 Lindsay, to have a clean record. And so to make sure 3 that happens, we need to make sure we are not talking 4 over each other. Is that fair? 5 A. That's fair. 6 Q. So I will do my best not to interrupt you. 7 A. I think that is appreciated. 8 Q. And I would ask that you do the same for me. 9 A. I will do my best, yes. 10 Q. Understood. And then, similarly, there's no 11 videographer here, there is no -- nothing that will 12 record nods or head shakes or anything like that. So 13 you need to answer my questions verbally. Does that 14 make sense? 15 A. Yes. 16 Q. And when you say -- with words, "yes," not 17 "uh-huh" or "uh-uh." Does that make sense? 18 A. It makes sense. 19 Q. Okay. And you are doing great with that so 20 far. 21 So we will take breaks roughly every hour. If 22 you need a break before that, let me know. I would just 23 ask that -- a couple things. Number one, if we are in 24 the middle of a line of questions, I might finish that 25 line of questions before we go to break. And, number
14 1 Q. And so that was not a patent case? 2 A. No. That was not a patent case, yeah. 3 Q. Any other cases that you can remember you 4 testified in? 5 A. That was not -- that was a deposition. It was 6 not -- I didn't testify. I mean, there are others, but 7 I don't remember. It's beyond seven years. 8 Q. Okay. So you've had your deposition taken 9 multiple times, and so you understand that you just took 10 an oath to tell the truth and the whole truth; right? 11 A. Yes. 12 Q. Okay. Do you have any reason to think that you 13 won't be able to answer questions truthfully today? 14 A. No. 15 Q. Okay. I will touch on a few ground rules. I 16 know you've done this before, so I don't need to belabor 17 it. But let me know if you don't understand any of the 18 questions I ask today. 19 A. Okay. 20 Q. Is that fair? 21 A. Sure. 22 Q. If you answer my question and you don't ask for 23 a clarification, I am going to assume you understood my 24 question. Is that fair? 25 A. That's fair.	16 1 two, I would ask that you don't discuss the substance of 2 your testimony with your attorneys during your breaks. 3 Is that fair? 4 A. That is fair. 5 Q. You have a laptop in front of you. 6 A. I do. 7 Q. Can you tell me what you intend to use that 8 laptop for? 9 A. To read -- for reading the electronic copies of 10 the documents. 11 Q. Okay. Can you confirm that nothing is on the 12 screen of your laptop right now? 13 A. Oh, I just have those documents -- yeah. Now I 14 don't have it, yeah. 15 Q. Okay. Throughout the day today, can you -- 16 please let us know, if you are looking at your computer, 17 what you are specifically looking at, which document you 18 are looking at. Is that fair? 19 A. Yep. 20 Q. So we want to make sure we have a clean record. 21 A. Yep. 22 Q. So I ask that you don't look at any documents 23 without saying out loud, "I'm going to look at this 24 document." Is that fair? 25 A. That is fair.

17 1 Q. I would also ask that you don't communicate 2 with anybody using that computer. 3 A. Yes. 4 Q. Okay. So there is no chat function up on your 5 computer right now? 6 A. No. 7 Q. And there won't be throughout the day today? 8 A. Absolutely not. 9 Q. No emails either? 10 A. No. 11 Q. Okay. And then, you know, I might -- I might 12 occasionally -- I am okay with you having that and using 13 it. But I may occasionally ask to look at what you are 14 looking at. Is that fair? 15 A. To look at what I'm looking at? 16 Q. Yes. 17 A. I can tell you what I'm looking at. That's 18 what you want me to do? 19 Q. And my point is, if I need to come around to 20 see -- 21 A. Oh. 22 Q. -- is that okay? 23 A. Sure, yeah. I didn't understand. 24 Q. Yeah, no, understood. 25 Okay. How would you describe your job,	19 1 A. Yes. 2 Q. Have you ever been involved in designing a 3 network on a chip that was used in a commercial product? 4 A. That, I don't know, because we have done a lot 5 of work on network on chip, and some of our ideas may 6 have been used by others because we publish it. 7 Q. So the ideas from your publications may have 8 been used? 9 A. That is correct. 10 Q. But you are not aware that you -- that you 11 designed in NoC that was taken and put on a chip, is 12 that fair to say? 13 A. I don't know that we willfully designed a NoC 14 to commercialize. That is not what we do. 15 Q. And so you are not aware of anyone taking code 16 you had written and putting it on a chip or anything 17 like that? 18 A. I'm not aware of that, but it could have 19 happened. I have no idea. 20 Q. Do you publish your code? 21 A. For some cases, we do. 22 Q. Okay. So, to your knowledge, you never 23 designed a NoC that went into a commercial product? 24 MR. CHRISTOPHER: Objection to form. 25 THE WITNESS: No. We never planned to
18 1 overall? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: Which job? 4 BY MR. LOUWAGIE: 5 Q. How many jobs do you have? 6 A. I teach at the university. Is that the one you 7 want me to answer? 8 Q. Sure. Let's start there. 9 A. I teach, I do research, and I write papers, and 10 I write proposals, graduate students. 11 Q. Is that all related to electrical engineering? 12 A. Computer engineering mostly. 13 Q. Okay. What are your other jobs? 14 A. I work as an expert witness. I also -- jobs 15 that I get paid for, or just jobs that -- as part of my 16 work -- as a member of the family. I think those are 17 the things, yeah. 18 Q. Okay. Can you describe what your role is as an 19 expert witness? 20 A. My role is to look at the documents that are 21 given to me, find out what exactly they want me to do, 22 and prepare the reports and do all -- all the things 23 that are related to that. 24 Q. Have you ever been involved in designing a 25 network on a chip?	20 1 commercialize anything with a NoC. I was asked to 2 pursue this area, and we just didn't have the time, 3 because we had some great ideas. 4 BY MR. LOUWAGIE: 5 Q. You said you were asked to pursue this area. 6 What do you mean by that? 7 A. By my former students to say what I'm going to 8 start up, do a start-up. 9 Q. So you went to a start-up involved with NoCs? 10 A. No, they were telling me, they were telling 11 their professor that, hey, we have these great ideas; 12 why don't we turn it into a start-up. They were 13 encouraging me to do it. I just did not have the time. 14 Q. So you did not do that? 15 A. No, I did not. 16 Q. Did your students do that? 17 A. I don't know. 18 Q. So you are not aware that your students 19 started -- made a start-up that sold NoCs? 20 A. No. 21 Q. Have you ever been involved in designing any 22 commercial products? 23 MR. CHRISTOPHER: Objection to form. 24 THE WITNESS: Yes. 25 ///

21 1 BY MR. LOUWAGIE: 2 Q. Tell me about that. 3 A. I -- I worked for Bell Laboratories in New 4 Jersey, and we were working on commercial products. 5 Q. When was that? 6 A. In the early '80s. 7 Q. What kind of commercial products were you 8 working on? 9 A. Digital switching systems or electronic 10 switching systems, ESS. At that time, it was a novel 11 idea, and we were just the pioneers in that area. 12 Q. So since you left Bell Labs, have you ever 13 worked on any commercial products? 14 A. Yes. 15 Q. Tell me about that. 16 A. I had a start-up in the late '90s, early -- 17 late '90s that was working on a -- on a chip. 18 Q. Did that chip get sold? 19 A. Some of the technologies were sold, yes. 20 Q. What do you mean by that? 21 A. You know, the IPs and so on were purchased, 22 from what I remember. We did not put it into a product, 23 so to speak. 24 Q. What are you looking at now? 25 A. This is dinging me with the emails. I am just	23 1 BY MR. LOUWAGIE: 2 Q. Well, so let me back up a little bit. 3 What was the name of that start-up? 4 A. MorphoSys. 5 Q. Were you involved in selling any -- or have you 6 ever designed any other commercial products outside of 7 Bell Labs and MorphoSys? 8 A. I am not in the business of selling products. 9 That's not what I do. It was -- but we come up with 10 ideas that ultimately sells. 11 Q. My question is, have you ever been involved in 12 designing commercial products outside of your time with 13 Bell Labs and MorphoSys? 14 MR. CHRISTOPHER: Objection to form. 15 THE WITNESS: I can't think of anything right 16 now on that. 17 BY MR. LOUWAGIE: 18 Q. Okay. So I asked what kind of interconnects 19 you used in your MorphoSys chips. Do you recall that? 20 A. Yes. 21 Q. And you asked: What do you mean by an 22 interconnect? 23 A. Yeah. 24 Q. Can you tell me what was ambiguous about that 25 part of my question?
22 1 trying to block that. 2 Q. Okay. So you didn't create a product, but some 3 of the IPs from your startup were purchased. Is that 4 what you testified? 5 A. I believe so. I am not 100 percent sure, but 6 we did have a chip. I know we designed chips. 7 Q. You did design chips? 8 A. Absolutely, yes. 9 Q. But you didn't sell them? 10 A. We sold them as a prototype to companies to see 11 if they like it. 12 Q. And did any company buy it? 13 A. They invested in the company. 14 Q. Okay. 15 A. I don't know what happened after that. 16 Q. So you are not aware that the chips were ever 17 sold? 18 A. I don't know. 19 Q. Okay. 20 A. But we did design chips. 21 Q. Okay. What kind of interconnects did those 22 chips use? 23 MR. CHRISTOPHER: Objection to form. 24 THE WITNESS: They used -- what do you mean by 25 "interconnect"?	24 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: Because you did not explain what 3 interconnect -- what part of the chip. The chip has 4 millions of transistors. What exactly are you talking 5 about? 6 BY MR. LOUWAGIE: 7 Q. Were there multiple IP blocks on the chips you 8 were designing? 9 MR. CHRISTOPHER: Objection to form. 10 THE WITNESS: We were using our own designs. 11 We were not incorporating IP blocks. Everything was our 12 own. You can call them IP blocks if you want, but they 13 were all our own. 14 BY MR. LOUWAGIE: 15 Q. So I understand that they were your own IP 16 blocks. Were there, kind of, subsystems within that 17 chip? 18 MR. CHRISTOPHER: Objection to form. 19 THE WITNESS: I don't understand what you mean 20 by the subsystems within that chip. 21 BY MR. LOUWAGIE: 22 Q. Okay, tell me -- describe the chip that you 23 developed at MorphoSys. 24 A. This chip was a parallel processing chip. It 25 is called Single-Instruction Multiple Data, SIMD. And

25 1 it's -- it does things in parallel, it does the 2 computations in parallel, and the applications were for 3 software-defined radio. 4 Q. Was there a CPU on this chip? 5 A. Yes. 6 Q. Was there a GPU on this chip? 7 A. Which one? 8 Q. A GPU? 9 A. No. 10 Q. Was there a memory on this chip? 11 A. Yes. 12 Q. Okay. What connected the CPU and the memory on 13 the chip? 14 A. Wires. 15 Q. Point-to-point wires? 16 A. We had all kinds. 17 Q. What do you mean by "all kinds"? 18 A. Point-to-point, buses, all kinds of stuff. 19 Q. What other kinds of stuff, other than 20 point-to-point and buses? 21 A. We had some buses for the CPU, we had some 22 buses for the RA processor, and so there were all kinds 23 of multiple connections. 24 Q. Okay. So you said buses and point-to-point. 25 Was there anything else, other than buses and	27 1 A. Do I remember -- 2 Q. No -- 3 A. I am a member. Yes. Sorry, I didn't 4 understand. Yes. 5 Q. Is it okay if I call that IEEE? 6 A. It is the right way to call it. We don't spell 7 it out. It takes a long time to explain it. 8 Q. Okay. Are you aware of something called IEEE 9 Xplore? 10 MR. CHRISTOPHER: Objection; scope. 11 THE WITNESS: IEEE Xplore, I think, is their 12 website. 13 BY MR. LOUWAGIE: 14 Q. Are you aware that there are publications that 15 are published on that website? 16 MR. CHRISTOPHER: Same objection; scope. 17 THE WITNESS: IEEE Xplore is used for accessing 18 information. I mean, it could be anything related to 19 memberships and stuff. 20 BY MR. LOUWAGIE: 21 Q. Including publications? 22 MR. CHRISTOPHER: Same objection. 23 THE WITNESS: It is one where you find 24 publications. 25 ///
26 1 point-to-point, the connections? 2 A. I don't remember the details of the design at 3 this time. It is like 25 years ago, but there might 4 have been other connections. 5 Q. Did you -- were there NoCs on this chip? 6 MR. CHRISTOPHER: Objection to form. 7 THE WITNESS: This is 1999, so we did not have 8 NoCs on that. 9 BY MR. LOUWAGIE: 10 Q. Why did you leave MorphoSys? 11 A. It is -- it was a start-up. My day job was the 12 university. So basically I was collaborating, and 13 that's it. I never left. It was just -- the company 14 was just acquired or -- the investors basically took the 15 company away. 16 Q. Did MorphoSys still exist? 17 A. No. 18 Q. Do the products that you were working on there 19 still exist? 20 A. I have no idea. 21 Q. When you say the investors took the company 22 away, what did they do with it? 23 A. I don't know. 24 Q. Okay. You are a member of the Institute of 25 Electrical and Electronics Engineers, right?	28 1 BY MR. LOUWAGIE: 2 Q. Do you go on IEEE Xplore to look for 3 publications occasionally? 4 MR. CHRISTOPHER: Objection to scope. 5 THE WITNESS: I would rather use Google. It is 6 a little better. 7 BY MR. LOUWAGIE: 8 Q. Does Google pull up articles that are on IEEE 9 Xplore? 10 MR. CHRISTOPHER: Objection; scope. 11 THE WITNESS: Google pulls up everything, 12 including any sites that you can think of. 13 BY MR. LOUWAGIE: 14 Q. Including those that are published on IEEE 15 Xplore? 16 MR. CHRISTOPHER: Objection; scope. 17 THE WITNESS: I mean, I haven't checked to see 18 how many of those are IEEE Xplore. But you could. It 19 is not limiting to anything else, is my opinion. 20 BY MR. LOUWAGIE: 21 Q. Okay. Are you aware that IEEE publishes 22 conference proceedings on IEEE Xplore? 23 MR. CHRISTOPHER: Objection; scope. 24 THE WITNESS: I have not checked to see if they 25 do conferences, but I would be surprised if they don't

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29 1 publish -- they don't present other venues, journals, 2 conferences, magazines. 3 BY MR. LOUWAGIE: 4 Q. So you do think that they do publish conference 5 proceedings on IEEE Xplore? 6 MR. CHRISTOPHER: Same objection. 7 THE WITNESS: I think they do, yeah. 8 BY MR. LOUWAGIE: 9 Q. And have you looked on IEEE Xplore for 10 conference proceedings? 11 MR. CHRISTOPHER: Objection to form and scope. 12 THE WITNESS: I usually look at Google. 13 BY MR. LOUWAGIE: 14 Q. Okay. Are you aware of the Design Automation 15 and Test in Europe conference? 16 MR. CHRISTOPHER: Objection; scope. 17 THE WITNESS: I've heard of it. 18 BY MR. LOUWAGIE: 19 Q. Is it okay if I call it the DATE conference? 20 A. That is perfect. 21 Q. Have you attended the DATE conference? 22 MR. CHRISTOPHER: Objection; scope. 23 THE WITNESS: I think I have attended it once. 24 BY MR. LOUWAGIE: 25 Q. And do you recall what year that might have	31 1 A. Students presented it. I wasn't there. I 2 believe so. That's my recollection. 3 Q. Okay. Let's look at C84. 4 A. Yes. 5 Q. That's another thing that was presented at the 6 DATE 2002 conference. Do you see that? 7 A. Yes. 8 Q. Did you attend that conference? 9 MR. CHRISTOPHER: Objection to scope. 10 THE WITNESS: I don't recall. I don't think 11 so. 12 BY MR. LOUWAGIE: 13 Q. Okay. So do you recall what year you attended 14 DATE? 15 A. No. 16 Q. When you attended DATE, do you recall the 17 conference proceedings being handed out at the 18 registration table? 19 MR. CHRISTOPHER: Objection to form and scope. 20 THE WITNESS: I don't recall that. 21 BY MR. LOUWAGIE: 22 Q. Have you heard of a Professor Luca Benini? 23 A. I have heard of him. 24 Q. What do you know about him? 25 A. I mean, I have seen his publications. That's
30 1 been? 2 A. No. 3 MR. LOUWAGIE: Okay. Let's go ahead and I will 4 hand you Exhibit 2071. 5 (Exhibit No. 2071 identified.) 6 BY MR. LOUWAGIE: 7 Q. Do you recognize Exhibit 2071 as your CV that 8 you submitted in this case? 9 A. Yes. 10 Q. We can go to -- and towards the back, there's a 11 list of publications. Do you see that? 12 A. Yes. 13 Q. If we can go to C86. 14 A. C86. Yes. 15 Q. And C87. 16 A. Yes. 17 Q. And C88. 18 A. Yep. Yes. 19 Q. Those are all publications at the DATE 20 conference in 2003; right? 21 A. It says 2003 DATE conference, yes. 22 Q. And so do you believe you attended that DATE 23 conference? 24 A. No. 25 Q. Why not?	32 1 all. 2 Q. What -- when did you see -- do you recall 3 seeing his publications? 4 A. Oh, I don't remember. It has been a long time. 5 Q. Do you recall that he was publishing about NoCs 6 in the past? 7 MR. CHRISTOPHER: Objection to scope and form. 8 THE WITNESS: I have not checked to see what he 9 was publishing, but I have seen his publications. 10 BY MR. LOUWAGIE: 11 Q. Is he a fairly well-known professor? 12 MR. CHRISTOPHER: Same objections. 13 THE WITNESS: I don't know. 14 BY MR. LOUWAGIE: 15 Q. Okay. Do you recall whether -- so we talked 16 earlier about the fact that you have been retained as an 17 expert witness multiple times. Do you recall that? 18 A. Yes. 19 Q. Has a court ever criticized your opinion? 20 A. No. 21 MR. CHRISTOPHER: Objection to form. 22 BY MR. LOUWAGIE: 23 Q. No? Okay. And has a court ever said it is 24 going to disregard your opinion? 25 A. No.

Transcript of Dr. Nader Bagherzadeh
Conducted on January 16, 2025

9 (33 to 36)

33 1 Q. Has a court ever called your opinion 2 conclusory? 3 MR. CHRISTOPHER: Objection to form. 4 THE WITNESS: Define "conclusory." 5 BY MR. LOUWAGIE: 6 Q. Has -- has the court or board ever used the 7 word "conclusory" -- 8 A. No. 9 Q. -- related to your opinions? 10 A. No. 11 Q. Okay. When did you first hear of Network 12 System Technologies? 13 MR. CHRISTOPHER: Objection to scope. And I 14 will caution the witness not to reveal any privileged 15 communications. You can reveal the date that you may or 16 may not have been first contacted, but don't reveal the 17 substance of any communications. 18 THE WITNESS: Counsel, honestly, I don't 19 remember. I don't remember when. I mean, I would be 20 guesstimating what year. I don't know. I mean, I can 21 look at the paperwork and so on and give you an answer 22 later. 23 BY MR. LOUWAGIE: 24 Q. Do you think it was in the last two years? 25 A. It was within two years, yes.	35 1 interested and able to look at this particular case. 2 That's the gist of what I remember. 3 BY MR. LOUWAGIE: 4 Q. Have you ever met Dan Springfield? 5 MR. CHRISTOPHER: Objection to form and scope. 6 THE WITNESS: No, I have not. 7 BY MR. LOUWAGIE: 8 Q. And I'm -- I'm including telephone and Zoom and 9 that sort of thing in the -- in the phrase "meeting." 10 Have you ever met him electronically? 11 A. No. 12 Q. Have you ever met Thomas Lorero? 13 MR. CHRISTOPHER: Objection; scope. 14 THE WITNESS: No. I don't recall that name at 15 all. 16 BY MR. LOUWAGIE: 17 Q. Have you ever met Warren Horowitz? 18 MR. CHRISTOPHER: Objection to scope. 19 THE WITNESS: No. 20 BY MR. LOUWAGIE: 21 Q. Before this case, had you ever worked with the 22 Nixon Peabody law firm? 23 A. No. I don't think so. 24 Q. Before this case, have you ever worked with 25 Steptoe and Johnson?
34 1 Q. Was it within the last year? 2 A. I don't know. 3 Q. And do you recall how you first heard of 4 Network System Technologies? 5 MR. CHRISTOPHER: I will give you the same 6 caution: Don't reveal the substance of any privileged 7 communications in your answer. Go ahead. 8 THE WITNESS: I don't remember. I really don't 9 remember. 10 BY MR. LOUWAGIE: 11 Q. Do you remember who reached out to you? 12 MR. CHRISTOPHER: Same caution. You can reveal 13 the name of any attorneys that may or may not have 14 reached out to you, but don't reveal the substance of 15 any communications. 16 THE WITNESS: Again, I don't remember. There 17 were multiple attorneys. I don't know which one 18 contacted me first. 19 BY MR. LOUWAGIE: 20 Q. What was the context of the first time you 21 heard about Network System Technologies? 22 MR. CHRISTOPHER: Same caution with respect to 23 revealing the substance of any privileged 24 communications. 25 THE WITNESS: I think it was asking me if I'm	36 1 A. I don't remember. I may have. I'm not sure. 2 Q. When was the first time you looked at the 3 patents that were involved in these proceedings? 4 MR. CHRISTOPHER: Objection to form. 5 THE WITNESS: I really don't remember, Counsel. 6 I don't. 7 BY MR. LOUWAGIE: 8 Q. Within the last two years, though? 9 A. Yes. 10 Q. In 2003 or later; right? 11 MR. CHRISTOPHER: Objection to form. 12 THE WITNESS: If it is the last two years, it 13 has to be 2000 -- '23 or later. 14 BY MR. LOUWAGIE: 15 Q. Not -- not 2003, 2023. I assume it was later 16 than 2003? 17 A. You said that too. 18 Q. I -- I made the mistake? 19 A. Well, I -- yeah. Thanks for correcting me 20 because that is a different ball game. 21 Q. Yeah. Okay. So -- so it was later than -- it 22 was 2023 or later? 23 A. Yes. 24 Q. Okay. Have you ever seen a teardown of a 25 Qualcomm chip?

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37 1 MR. CHRISTOPHER: Objection to form and scope. 2 THE WITNESS: What is your definition of a 3 "teardown of a Qualcomm chip"? I don't know what that 4 means. 5 BY MR. LOUWAGIE: 6 Q. You don't know what the phrase "teardown" 7 means? 8 A. No. 9 Q. Okay. Can you describe the process of writing 10 your report in this matter? 11 A. I looked at the documents, the patents, and I 12 wrote the report. 13 Q. And you wrote it yourself? 14 A. Yes. 15 Q. Did -- and so you typed out every word in this 16 report? 17 A. It was a collaborative effort with the lawyers. 18 They helped with the pagination and putting the law, the 19 format in there, and all of that stuff; but it is all my 20 word. 21 Q. But every technical word in there is a word you 22 wrote? 23 A. I did. 24 Q. And so the first time a draft was prepared, did 25 you send it to Nixon Peabody? Or did Nixon Peabody send	39 1 Q. Okay. 2 A. I included, yes. 3 Q. And which documents did you focus on in 4 preparing for today's deposition? 5 MR. CHRISTOPHER: Objection to form. 6 THE WITNESS: My report. 7 BY MR. LOUWAGIE: 8 Q. Any other documents? 9 A. Relevant documents to the report. 10 Q. Which ones? 11 A. The patent and then some of the other relevance 12 -- relevant documents like -- 13 (Reporter Clarification.) 14 THE WITNESS: Exhibits that are related to the 15 declaration. 16 BY MR. LOUWAGIE: 17 Q. I think -- I think you said like -- I call it 18 Goossens. Is it Goossens? 19 A. I don't know. I don't know that -- it is a 20 French name. I call it "Gosen," so Goossens, whatever 21 you want. But anyway, those are the documents. 22 Q. So -- but -- but which ones. So -- so the 23 Goossens 2002 and Goossens 2003? 24 A. Yes. 25 Q. And any other documents that you focused on?
38 1 it to you? 2 A. I don't remember. 3 Q. Okay. Did you talk with anyone other than 4 Nixon Peabody attorneys in the process of preparing your 5 expert report for your expert declaration? 6 A. I don't -- I did not. 7 Q. Okay. How about preparing for deposition 8 today? What did you do to prepare for today's 9 deposition? 10 A. I reviewed the relevant documents, and I met 11 with the lawyers. 12 Q. We will start with the documents. Which 13 documents did you review in preparation for today's 14 deposition? 15 A. I reviewed all the ones that are cited, and I 16 emphasized -- I glanced over some, and then I focused on 17 some key documents that are relevant to my report. 18 Q. When you say all the documents that were cited, 19 what do you mean by that? 20 A. All the documents that are cited in my report. 21 Q. Okay. 22 A. I think the term is different than "cited." It 23 is reviewed or whatever it is the legal term. 24 Q. All of the materials considered list? 25 A. Yes.	40 1 A. Drake. 2 Q. Okay. Any other documents? 3 A. As I stated, I looked at all of them, but I 4 focused on these. 5 Q. Did you look at any documents that were not in 6 your materials considered list in preparation for 7 today's deposition? 8 A. No. 9 Q. Okay. You said you met with the lawyers. 10 A. Yes. 11 Q. How many times? 12 A. Two -- two days. 13 Q. Two full days? 14 A. Well, kind of, yeah. 15 Q. And was that -- would that have been yesterday 16 and Monday? 17 A. That is correct. 18 Q. And were those meetings in person? 19 A. Yes. 20 Q. And was it the two gentlemen who are here 21 today -- was -- were at those meetings? 22 A. Yes. 23 Q. Was anyone else at those meetings? 24 A. No. 25 Q. Okay. Did you talk about this deposition with

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41 1 anyone else? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: Anyone else like outside the 4 firm? 5 BY MR. LOUWAGIE: 6 Q. Outside of these two gentlemen? 7 A. No. 8 Q. How much is NST paying you for your work on 9 this matter? 10 A. Hourly rate? 11 Q. Yeah. 12 A. It is on the declaration. \$700 an hour. 13 Q. Okay. And about how many hours do you think 14 you put into these cases so far? 15 A. I would give you a lower bound, but I don't 16 know the exact, at least 50 hours. 17 Q. Do you have an estimate as to how much NST has 18 paid you related to this matter? 19 A. No. 20 Q. Do you have an estimate as to how much you 21 expect them to based on the work that you've done so 22 far? 23 A. No. I have not looked at the invoices. 24 Q. Okay. 25 MR. LOUWAGIE: We will go ahead and use what	43 1 why you qualified? 2 A. Packet based, I don't know what "packet based" 3 means, but it uses packets for communication, yes. 4 Q. Okay. 5 A. Because "packet based" may mean something 6 different than just sending packets. I don't know. 7 Q. What else could "packet based" mean? 8 A. I don't know. But it could be -- better to say 9 sending packets, basically. 10 Q. Okay. So it is a network that sends packets? 11 A. That's right. 12 Q. Okay. And you agree that this is discussing 13 quality of service management for a network that sends 14 packets; right? 15 MR. CHRISTOPHER: Objection to form. 16 THE WITNESS: If the title says, that is what 17 it is trying to do. 18 BY MR. LOUWAGIE: 19 Q. And you agree that this reference discusses 20 quality of service management for networks to send 21 packets; right? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: I agree that's the title, and 24 that's what they are doing, yeah. 25 I mean, if the title says so, so then that's
42 1 was previously marked as Exhibit 1006. 2 (Exhibit No. 1006 identified.) 3 BY MR. LOUWAGIE: 4 Q. Dr. Bagherzadeh, do you recognize this 5 document? 6 A. I do. 7 Q. And do you recognize this as the prior art 8 reference Drake that is discussed in the IPR? 9 MR. CHRISTOPHER: Objection to form. 10 THE WITNESS: This is Drake prior art, yeah. 11 BY MR. LOUWAGIE: 12 Q. Okay. Let's start with the title. The title 13 of this patent states, "Quality of Service Management 14 for Source Routing Multimedia Packing Networks." 15 Did I read that correctly? 16 A. You read that correctly. 17 Q. So you agree that Drake is describing a 18 packet-based network? 19 A. It is describing the packet network, yeah. It 20 uses packets for communication, that's what you are 21 asking, yes. 22 Q. So I said -- I asked if it is using a 23 packet-based network? 24 A. Yes. 25 Q. And you qualified your answer. Can you explain	44 1 what they are trying to do. 2 BY MR. LOUWAGIE: 3 Q. So the answer to my question then is yes? 4 MR. CHRISTOPHER: Objection to form. 5 BY MR. LOUWAGIE: 6 Q. You agree that this reference discusses quality 7 service -- 8 (Reporter clarification.) 9 BY MR. LOUWAGIE: 10 Q. So -- so the answer to my question then is, 11 yes, you agree that this reference discusses quality of 12 service management for networks to send packets; right? 13 MR. CHRISTOPHER: Objection to form. 14 THE WITNESS: Allegedly -- allegedly, yes. 15 BY MR. LOUWAGIE: 16 Q. What do you mean "allegedly"? 17 A. Because the title says. 18 Q. You read the article; right? 19 A. Yes, I read the article. 20 Q. Okay. And you agree that the reference 21 discusses quality of service management for networks to 22 send -- that send packets; right? 23 MR. CHRISTOPHER: Objection to form. 24 THE WITNESS: That -- that is what they are 25 saying they are doing, yes, but have I checked that is

45 1 working? I haven't done that. I know that is what they 2 are saying that they are doing, yes. It is a document 3 saying that's what we do, yes. 4 BY MR. LOUWAGIE: 5 Q. Okay. My question was does the reference 6 discuss quality of service management for networks to 7 send packets? 8 MR. CHRISTOPHER: Objection to form. Sorry. 9 BY MR. LOUWAGIE: 10 Q. And -- and I understand that you -- you are 11 trying to say, "Well, I don't know if I" -- "if they 12 actually made this thing or whatever." My question is 13 does this reference discuss quality of service 14 management for networks to send packets? 15 MR. CHRISTOPHER: Objection to form. 16 THE WITNESS: Based on the title, they are 17 doing that. Have I verified to check that works? I 18 haven't done that. But that is what the patent talks 19 about. So I -- yeah. If you write a paper and you say 20 you do this, you are going to read it and say, "Oh, you 21 are doing that." But have I checked to see if your 22 paper is correct or not? I haven't done that. 23 BY MR. LOUWAGIE: 24 Q. I -- but my question is not have you checked to 25 see whether it is correct or not? My question is, is	47 1 where that is, I have not checked that. 2 BY MR. LOUWAGIE: 3 Q. So the answer is, yes, LANs have interfaces? 4 MR. CHRISTOPHER: Same objections. 5 THE WITNESS: They probably do. 6 BY MR. LOUWAGIE: 7 Q. Well, you just said any -- you -- sorry. 8 You said they have to have some sort of 9 interface? 10 A. Yes. 11 Q. So LANs have interfaces? 12 A. They have to have an interface, yes. 13 Q. Okay. And so you agree that a POSA would 14 understand that Drake has a network interface; right? 15 MR. CHRISTOPHER: Objection to form. 16 THE WITNESS: So one more time, please. There 17 was too much going on here. I -- I lost -- and also I 18 call "POSA" POSITA. So please don't get confused. It 19 is the same thing. 20 BY MR. LOUWAGIE: 21 Q. I -- POSA is easier for me to say, but it is 22 fine if you say POSITA? 23 A. For her sake, I wanted to mention that. 24 Q. Understood. Okay. So you agree that Drake has 25 a network interface; right?
46 1 that what this discussed? 2 A. The title says, yes. 3 Q. Okay. And not just the title. That is what 4 this patent in general discusses; right? 5 MR. CHRISTOPHER: Object to form. 6 THE WITNESS: In general, that's what it talks 7 about, yes. 8 BY MR. LOUWAGIE: 9 Q. Thank you. And this reference discusses Local 10 Area Networks; right? 11 A. Yes. That's the focus of this patent, LAN, 12 Local Area Network. 13 Q. And to use the word -- use the phrase "LAN," is 14 it okay if I use LAN to talk about Local Area Networks? 15 A. Sure, yeah. 16 Q. Okay. Do you agree that LANs include network 17 interfaces? 18 MR. CHRISTOPHER: Objection to form and scope. 19 THE WITNESS: I have not checked that. 20 BY MR. LOUWAGIE: 21 Q. You don't know whether LANs include network 22 interfaces? 23 MR. CHRISTOPHER: Same objections. 24 THE WITNESS: They have to have some sort of 25 interface, but any particular LAN has an interface and	48 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: I have not checked that. 3 BY MR. LOUWAGIE: 4 Q. But you testified a moment ago that LANs need 5 network interfaces; right? 6 A. Yes. 7 MR. CHRISTOPHER: Objection to form. 8 THE WITNESS: I have -- I believe so, but I 9 cannot make a comment about Drake because I have not 10 checked that. 11 BY MR. LOUWAGIE: 12 Q. So you think it is likely that Drake does not 13 have any sort of network interface? 14 MR. CHRISTOPHER: Objection to form. 15 THE WITNESS: I don't know. LANs should have a 16 network interface, but I don't know what it is in 17 this -- in this case. 18 BY MR. LOUWAGIE: 19 Q. Okay. So you agree that Lake -- Drake has a 20 network interface, but you just -- can't -- don't know 21 where it is. Is that what your testimony is? 22 A. That is my testimony. 23 Q. Okay. Let's go to Figure 1. You reviewed 24 Figure 1; right? 25 A. I am reviewing Figure 1, yes.

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49 1 Q. And you have reviewed it previous to this -- to 2 this deposition? 3 A. Yes. As I testified, I have reviewed this 4 document. 5 Q. Okay. Let's start out by talking about a few 6 of these components that are shown in Figure 1. Let's 7 start with the application requesting QoS. 8 Do you see that? 9 A. Yes. 10 Q. Do you agree that this is the component that 11 initially sends the multimedia message that is 12 transported across the network? 13 MR. CHRISTOPHER: Objection to form. 14 THE WITNESS: Let's look at the relevant 15 section for that. 16 BY MR. LOUWAGIE: 17 Q. So sitting here today, you don't know if the 18 application requesting QoS is the thing that sends the 19 multimedia network? 20 A. Sitting here today, I do but I want to confirm 21 it. 22 Q. What -- what -- so let's start with what is 23 your impression. Then we can go ahead and confirm? 24 MR. CHRISTOPHER: Objection to form. 25 THE WITNESS: My impression is that there's an	51 1 so go ahead. 2 Q. If you go to Column 4, line 30. 3 A. Yes. 4 Q. It says, "Application 11 also is responsible 5 for causing the transmission of multimedia data stream, 6 via the LAN network transfer protocol stack." 7 Do you see that? 8 A. That is correct, yes. 9 Q. And so you agree, then, that the application is 10 the component that initially sends the multimedia 11 message that is transported across the network? 12 MR. CHRISTOPHER: Objection to form. 13 THE WITNESS: It is "responsible for causing 14 the transmission of the multimedia data stream." That's 15 what it says. 16 BY MR. LOUWAGIE: 17 Q. Okay. 18 A. So "responsible for" means it is -- it is part 19 of the transmission, part of the request for 20 transmission. 21 Q. It is the first thing that sends it? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: It could be there's an operating 24 system here that we're not seeing. I -- I am just 25 saying it is in the path of requesting.
50 1 application requesting. 2 BY MR. LOUWAGIE: 3 Q. And that's the thing that sends the multimedia 4 message; right? 5 MR. CHRISTOPHER: Objection to form. 6 THE WITNESS: We have to see what Drake says, 7 but it -- it clearly says an application is requesting 8 something. 9 BY MR. LOUWAGIE: 10 Q. And so you -- sitting here today, you don't 11 recall whether the application requesting QoS is the 12 component that initially sends the multimedia message 13 that is transported across the network? 14 MR. CHRISTOPHER: Objection to form. 15 THE WITNESS: I am -- I am concerned that we 16 are not looking at the exact wording what Drake says, 17 but application would be requesting something, yes, 18 that's true. 19 BY MR. LOUWAGIE: 20 Q. Okay. Let's go ahead to Column 4, then. 21 A. Yeah, I recall. Can I look at the electronic 22 version. 23 Q. Sure. 24 A. Okay. So I am opening up Drake's electronic 25 version of the patent. So you are asking application --	52 1 BY MR. LOUWAGIE: 2 Q. Okay. 3 A. Okay? 4 Q. And that's where the multimedia request comes 5 from. Do you agree with that? 6 MR. CHRISTOPHER: Objection to form. 7 THE WITNESS: It is in the path of requesting 8 the multimedia, yes. 9 BY MR. LOUWAGIE: 10 Q. It is in the path. 11 A. It is in the path because there could be 12 something else that is higher than this. 13 Q. What do you mean by that? 14 A. You have an operating system. You type in what 15 you want to do. You read a file. So there's an 16 operating system that is controlling that application. 17 It is possible that there's another piece above this. 18 Q. Okay. 19 A. It is -- it is completely obvious. 20 Q. But the multimedia message comes from the 21 application? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: It is in the path of requesting. 24 BY MR. LOUWAGIE: 25 Q. It is in the path of requesting.

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53 1 It is in the path of sending the transmission? 2 A. Yes, sending the transmission. That's what it 3 says, yes. 4 Q. Okay. So do you agree that this application -- 5 that this application is also the thing that requests a 6 QoS connection? 7 A. So can you refer me to what Drake says about 8 the QS connection and this application. 9 Q. Go up two lines? 10 A. Two lines. 11 Q. "An Application 11 which requests a QoS 12 connection to the destination target station 29." 13 Do you see that? 14 A. Can you tell me the line again, please, 15 Counsel. 16 Q. 28. 17 A. 28. "Application which requests a QoS 18 connection," yes. 19 Q. Okay. Let's go back to Figure 1. 20 A. Okay. 21 Q. I am passing you a red marker? 22 A. Okay. 23 Q. Can you please draw a line on Figure 1 for the 24 path that Drake discloses for request for a QoS 25 connection that is sent from the application to the QoS	55 1 BY MR. LOUWAGIE: 2 Q. I don't want you to read it. I want you to 3 draw the path? 4 A. I am trying to help myself to draw the path. 5 Q. Understood. 6 A. I have not memorized this, Counsel. 7 Q. Understood. Go ahead. 8 A. So if you could bear with me. "Together, 9 components 12 and 13 assemble the request to reserve a 10 QoS connection for multimedia data stream." 11 So there is a path from application requesting 12 QoS or Box 11 to 12 and 13 collectively. So I am going 13 to do this. Is that okay? 14 Q. That's not the path. You used -- 15 A. I want to show you where the path is going. 16 Q. Okay. 17 A. You're going to help me, and this is the path 18 right here. 19 Q. Okay. 20 A. Are you okay with that? 21 Q. Yeah, that's fine. 22 A. And then the next step is that it is going 23 to -- okay. In order for us to reserve a QoS connection 24 for a multimedia data stream on the path through the LAN 25 17 between source stations 10 and 29.
54 1 allocator? 2 MR. CHRISTOPHER: Objection to form and scope. 3 Counsel, is this going to be a new exhibit you are going 4 to mark? 5 MR. LOUWAGIE: Yes. 6 (Exhibit 1036 was marked for 7 identification.) 8 THE WITNESS: Okay. Let's take a look at -- so 9 we are going to have to read the text, and I will mark 10 the figure. Is that okay? 11 BY MR. LOUWAGIE: 12 Q. Sure. And -- and what I'm asking is can you 13 draw the line of the path that Drake discloses for 14 request for a QoS connection that is sent from the 15 application to the QoS allocator. 16 MR. CHRISTOPHER: Same objections. 17 THE WITNESS: Okay. So I am going to read it 18 and I will mark it. Is that okay? Because I'm not -- I 19 haven't memorized this. So it says -- I am reading the 20 same column, line -- let's see, where did we start? 21 Line 32, "source station 10 is also include" -- "also 22 includes a QoS requestor manager 12 and 13." I am going 23 to skip some of those, if it is okay with you. I think 24 it's -- is that okay? Or do you want me to read it 25 verbatim?	56 1 So after the -- after going through 12 and 13, 2 it goes through this transport protocol stack and the 3 Mac box, ultimately it goes to LAN 17, Box 17. And the 4 receiver of that should be -- so I -- I have it all the 5 way to LAN this way. 6 Q. And the question is: The path of the request 7 from the application to the QoS allocator. 8 MR. CHRISTOPHER: Same objections. 9 THE WITNESS: Right. The QoS allocator is 10 number 20. So, let's see what it says. So after the 11 LAN, I would expect it to go to the reverse of this 12 point, this point, and then to the QoS manager like 13 that. 14 BY MR. LOUWAGIE: 15 Q. Okay. And so you recall that the QoS 16 allocator, then, sends a message to the application 17 telling it whether a QoS is available or not; right? 18 MR. CHRISTOPHER: Objection to form. 19 THE WITNESS: Can you refer me to the columns? 20 BY MR. LOUWAGIE: 21 Q. Yeah. If we go towards -- at column 4, 22 line 50. It says, "The overall function of allocator 20 23 is to receive the QoS request from station 10, examine 24 the resources of LAN 17, and determine if a path exists 25 in LAN 17 between station 10 and station 29 which

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57 1 satisfies the requested level of QoS. If the QoS 2 exists, it is assigned to this QoS data stream. If the 3 QoS is not available, station 10 is notified of the lack 4 of an adequate QoS path to the intended destination." 5 A. You read it correctly. 6 Q. Okay. So my next question is, I will hand you 7 a blue marker and ask you to draw the path of the 8 message that goes from the QoS allocator to the 9 application, explaining that the QoS is not available. 10 MR. CHRISTOPHER: Objection to form and scope. 11 THE WITNESS: So it is really going from a 12 station 20 to a station 10, because that's what the 13 statement says. There is no reference to anything else 14 other than that. 15 BY MR. LOUWAGIE: 16 Q. So the application requesting QoS is -- we 17 agreed is the one that sends the multimedia message; 18 right? 19 MR. CHRISTOPHER: Objection to form. 20 THE WITNESS: On behalf of the station 10, 21 station 10 is the one that is received. As you can see 22 from that statement, there's no application 11 mentioned 23 anywhere here. I mean, you just read it, and I agreed 24 with it. 20 is sending it to 10. 25 ///	59 1 communications between 20 and 10, application requesting 2 Box 11 is involved in this. 3 Q. But -- and my question is -- strike that. 4 You've studied Drake; right? 5 A. To the point of reading the document, not the 6 details of how they designed it, because it is not clear 7 in the document. 8 Q. Okay. So -- but you have studied the 9 disclosure in the document? 10 A. Yes. As it is stated, yes. 11 Q. And so do you believe that the message coming 12 from the QoS allocator is ultimately sent to the 13 application requesting QoS? 14 MR. CHRISTOPHER: Objection to form. 15 THE WITNESS: It clearly doesn't say in the 16 statement you read. It says it is ultimately -- the 17 consumer of that information is application 11 in the 18 path to the station 10. There could be some other 19 entity that is actually above application, and I don't 20 know that. 21 BY MR. LOUWAGIE: 22 Q. So the message does go from QoS allocator 20 to 23 the application 11. Whether it ultimately goes past 24 that is something else -- is another question. But it 25 does go from QoS allocator 20 to application requesting
58 1 BY MR. LOUWAGIE: 2 Q. So you are testifying that application 11 never 3 becomes aware of the message that is going back from the 4 QoS allocator? 5 MR. CHRISTOPHER: Objection to form. 6 THE WITNESS: I don't know. It doesn't say 7 that. But it is very clear that it says that it goes 8 from station 20 to station 10. You just read it. 9 BY MR. LOUWAGIE: 10 Q. But we discussed earlier that the application 11 requesting QoS is in the path of sending the multimedia 12 message; right? 13 A. I agreed that it is in the path. There are 14 other entities that were not shown here, but it possibly 15 could be there. 16 So the consumer of the final destination of 17 this is collectively set to station 10. So it is really 18 clearly saying between -- between, sorry, 20 and 10, the 19 communication is. 20 Q. Okay. So your testimony today is that you 21 don't know whether the message coming from the QoS 22 allocator ever gets to application requesting QoS. Is 23 that right? 24 A. No. That's not my testimony. I -- all I'm 25 saying is that statement is saying between --	60 1 QoS? 2 A. Yes. 3 Q. Okay. What is the path that is disclosed by 4 Drake for that message going to application requesting 5 QoS? 6 MR. CHRISTOPHER: Objection to form. 7 THE WITNESS: It is the reverse of this path 8 that we have. 9 BY MR. LOUWAGIE: 10 Q. So it is the same as the red path? 11 A. It is -- potentially. I mean, there is not 12 enough information to say for sure, but -- 13 Q. But it doesn't -- Drake does not disclose any 14 other path that you are aware of? 15 A. No. But one could conceivably see some other 16 path. 17 Q. But that other path that you are saying that 18 you could conceivably see is not disclosed by Drake? 19 A. Not explicitly. 20 Q. Okay. And it is not disclosed implicitly 21 either; right? 22 A. Implicitly, a POSITA could find a different 23 path. 24 Q. But not -- Drake does not disclose that 25 different path, either explicitly or implicitly?

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61 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: Implicitly, a POSITA could look 3 at this and say, I am going to bypass some of these 4 blocks. 5 BY MR. LOUWAGIE: 6 Q. I'm not asking what a POSITA could do. I'm 7 asking what Drake discloses. 8 A. Discloses explicitly as you have pointed out. 9 Q. The path going from the QoS allocator back to 10 the application requesting QS is the same as the red 11 path that you just drew, just in reverse; right? 12 A. Explicitly, that would be the path to return, 13 yes. 14 MR. LOUWAGIE: Should we take a break? 15 MR. CHRISTOPHER: Sounds good. 16 (Recess) 17 BY MR. LOUWAGIE: 18 Q. Dr. Bagherzadeh, did you discuss the substance 19 of your testimony with counsel during the break? 20 A. No. 21 Q. Did you look at any documents during the break? 22 A. No. 23 Q. Okay. Does your declaration take a position on 24 what the module is in Drake? 25 MR. CHRISTOPHER: Objection to form.	63 1 token ring networks? 2 A. I have not opined on that. I don't know. 3 Q. Would a POSA reading Drake believe that its 4 disclosure is limited to token ring networks? 5 MR. CHRISTOPHER: Objection to form. 6 THE WITNESS: I couldn't tell you that because 7 it is not what I looked into. 8 BY MR. LOUWAGIE: 9 Q. So your opinion is not -- you do not have an 10 affirmative opinion that a POSA would believe that Drake 11 was limited to token ring networks? 12 MR. CHRISTOPHER: Objection to form. 13 THE WITNESS: We can read Drake to see what 14 else is he talking about in this report -- in this 15 patent, if anything other than a token ring is possible 16 or not. 17 BY MR. LOUWAGIE: 18 Q. We can go back to -- 19 A. I have not formed an opinion on that. 20 Q. Okay. Let's go to column 4, then, again. 21 A. Column 4. Okay. 22 Q. Are you just looking at Drake on your computer 23 right now? 24 A. Yes. Almost there. Yes. 25 Q. And if we go to line 22, it says, "LAN 17 may,
62 1 THE WITNESS: Module meaning -- can you clarify 2 that a little bit more? 3 BY MR. LOUWAGIE: 4 Q. Yeah. The module as is referred to in the '449 5 patent. You are aware of that claim limitation; right? 6 MR. CHRISTOPHER: Objection to form. 7 THE WITNESS: I can check the declaration. 8 BY MR. LOUWAGIE: 9 Q. Sitting here today, do you recall? Do you have 10 a position about what is the module in Drake? 11 MR. CHRISTOPHER: Same objection. 12 THE WITNESS: I believe the modules would be 13 stations 10. 14 BY MR. LOUWAGIE: 15 Q. So your opinion is that the source station 10 16 is a module? 17 A. Yes. 18 Q. Okay. 19 What is the basis for that opinion? 20 A. It would be obvious to a POSITA that's the 21 module because it is the source of requesting and 22 receiving the replies and so on. Those are my 23 indications. I can read the details in my declaration, 24 if you want. 25 Q. Do you believe Drake's disclosure is limited to	64 1 for example, be a token ring network." Do you see that? 2 A. Yes. 3 Q. Does that indicate to you that Drake's 4 disclosure is limited to a token ring network? 5 MR. CHRISTOPHER: Objection to form. 6 THE WITNESS: The word "may" is used, but I 7 don't know; there are all kinds of different networks. 8 What else could it be, I don't know. 9 BY MR. LOUWAGIE: 10 Q. So there are other Local Area Networks other 11 than token ring networks that exist? 12 MR. CHRISTOPHER: Objection to form. 13 THE WITNESS: I am sure there are other LAN 14 networks, but I don't think he is referring to all of 15 them. I don't know what he is talking about. He is not 16 explaining what other networks he has in mind. I mean, 17 that is obvious from the "may." 18 BY MR. LOUWAGIE: 19 Q. Okay. So -- 20 A. But -- 21 Q. So it could be a different kind of Local Area 22 Network, would you agree? 23 MR. CHRISTOPHER: Objection to form. 24 THE WITNESS: That's what he says. I have not 25 checked into that. It is not part of my report.

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65 1 BY MR. LOUWAGIE: 2 Q. Okay. So Drake says that this can apply to 3 other Local Area Networks; right? 4 MR. CHRISTOPHER: Objection to form. 5 THE WITNESS: I have not checked it. That's 6 what he says. 7 BY MR. LOUWAGIE: 8 Q. But -- 9 A. That's what he says, yes. 10 Q. So, yes, that is what he says? 11 A. Of course that's what he says. You are reading 12 it correctly. But I have not checked it. 13 Q. Sorry, I think the transcript is just not 14 perfectly clear on this. You agree that this statement 15 in Drake is saying that Drake is not limited to token 16 ring networks; right? 17 MR. CHRISTOPHER: Objection to form. 18 THE WITNESS: That's what the statement says. 19 I have not checked it in my report or anywhere. I have 20 not opined on that. 21 BY MR. LOUWAGIE: 22 Q. So, yes, that is what the statement says? 23 Setting aside the fact that you haven't looked at 24 whether it applies to other things, this statement says 25 that this can apply to other Local Area Networks other	67 1 Q. Okay. Let's go to the first -- halfway down 2 the first page, beginning of the second paragraph says, 3 "We believe in the intellectual property block IP reuse 4 model. This means that a SOS contains hundreds of IPs 5 that are bought or pre-made." Did I read that 6 correctly? 7 A. Yes. 8 Q. Okay. What does that statement mean to you? 9 MR. CHRISTOPHER: Objection to form. 10 THE WITNESS: Say that again, Counsel. 11 BY MR. LOUWAGIE: 12 Q. What do those two sentences mean to you? 13 MR. CHRISTOPHER: Same objection. 14 THE WITNESS: It means that -- exactly what it 15 says. It is actually stated properly. IP blocks have 16 to be reused because you put a lot of time and effort 17 into it, and you don't want to modify when you use it 18 for different platforms. 19 BY MR. LOUWAGIE: 20 Q. And they can be bought as well; right? 21 A. Yes. Of course, it can be bought. That's what 22 it says. 23 Q. And does that suggest that it can be created by 24 different designers? 25 A. That's my understanding, yes.
66 1 than token networks; right? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: LAN 17 may, for example, be a -- 4 yes, that's what it says. That's the statement. 5 MR. LOUWAGIE: Okay. We will look at what was 6 previously marked as Exhibit 1005. 7 (Exhibit No. 1005 identified.) 8 MR. CHRISTOPHER: Thank you. 9 MR. LOUWAGIE: Mr. Christopher, do you know if 10 it is Goossens or Goossens? 11 MR. CHRISTOPHER: I have been told it is 12 Goossens, but I haven't met him, so I can't confirm 13 that's his pronunciation. 14 MR. LOUWAGIE: That is going to be very hard to 15 change in my head. I will give it my best. 16 BY MR. LOUWAGIE: 17 Q. Do you recognize this as the prior art 18 reference Goossens 2002 that is discussed in the IPR 19 petition? 20 MR. CHRISTOPHER: Objection to form. 21 THE WITNESS: I recognize this being one of the 22 prior arts. 23 BY MR. LOUWAGIE: 24 Q. Do you not recognize that it is Goossens 2002? 25 A. This is Goossens 2002, yes.	68 1 Q. And do you agree that that means that these IPs 2 might define the types of quality of service that they 3 need differently? 4 MR. CHRISTOPHER: Objection to form. 5 THE WITNESS: I have not checked that. 6 BY MR. LOUWAGIE: 7 Q. Do you think that all IPs describe the quality 8 of service they are requesting identically? 9 MR. CHRISTOPHER: Objection to form and scope. 10 THE WITNESS: It depends on the case. I have 11 not checked that. It is not in my report. 12 BY MR. LOUWAGIE: 13 Q. So you think it is possible that they all 14 describe the quality of service that they are requesting 15 identically? 16 A. I could not -- 17 MR. CHRISTOPHER: Same objections. 18 THE WITNESS: I could not be certain on that. 19 No. It is very difficult to quantify and generalize 20 that. No. 21 BY MR. LOUWAGIE: 22 Q. I guess I am -- 23 A. These IPs are different, different boxes. 24 Q. Okay. 25 A. They do different things. You cannot quantify

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69 1 saying all of them have the same QoS, no. 2 Q. Oh, so they do it differently? 3 A. I don't know. Probably. But you cannot say 4 they all have the same -- or they may not even have a 5 QoS, so it varies. That's why it is a very complicated 6 answer to your question -- sorry, a complicated question 7 to be answered. Sorry. 8 Q. Do you agree that the different IPs using 9 Goossens might communicate using different protocols? 10 A. I believe Goossens' idea is to be able to take 11 care of that issue when they are -- if I use the word 12 interfacing differently, they want to accommodate that, 13 yes. They want to be able to do that. 14 So the IPs from different kind of connections 15 will work with their ideas -- protocols, I should say. 16 Standard protocols. 17 Q. So you could have one IP attached to the 18 Goossens network that uses one standard protocol and 19 another IP attached to the Goossens network that is a 20 different protocol. Is that right? 21 A. That is one of their main issues, yes. 22 Q. Okay. Let's go down a little bit further on 23 this document. The beginning of the next paragraph 24 says, "Guaranteed services are the focus of this paper. 25 They serve as the basis for the programming model and as	71 1 BY MR. LOUWAGIE: 2 Q. It is a network that transfers packets; right? 3 A. On an NOC. On a network on chip, yes. 4 Q. And so it is a network that transfers packets; 5 right? 6 A. Yes, but to distinguish that it is a network on 7 chip packets, yes, not the same packets as we were 8 talking about earlier for Drake. This is a different 9 platform. 10 So -- no. Packet is packet. You cannot say if 11 this is a packet-based network is the same as another 12 network. It is not the case. 13 Q. So I understand you have opinions about 14 differences between Drake and Goossens. My question is: 15 Goossens is a network that transfers packets; right? 16 MR. CHRISTOPHER: Objection to form. 17 THE WITNESS: For the network on chip, yes. I 18 have to qualify it with that. 19 BY MR. LOUWAGIE: 20 Q. Why do you have to qualify? 21 A. Because it is different. 22 Q. I understand that you have opinions about 23 whether it is different or not. 24 A. Yeah. 25 Q. But my question is not asking you about whether
70 1 a requirement for the NOS hardware architecture." Do 2 you see that? 3 A. Yes. I am looking at the document on my 4 electronic version, by the way. 5 Q. Okay. And I read that correctly? 6 A. Yes, I think you read it correctly. Yes. 7 Q. Okay. And so allowing for guaranteed service 8 is an important aspect to the Goossens disclosure; 9 right? 10 MR. CHRISTOPHER: Objection to form. 11 THE WITNESS: It is one of the important issues 12 that they have in mind, yeah. They have others, but 13 this is one. 14 BY MR. LOUWAGIE: 15 Q. Let's go to the second column. And then the 16 kind of first full paragraph on the second column says, 17 "A router network based on packet switching helps on 18 these accounts." Do you see that? 19 A. You read it correctly. 20 Q. Okay. And so you agree that Goossens discloses 21 a packet-based network; right? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: Goossens is a multi-hop packet 24 network, yes. 25 ///	72 1 it is different or the same. My question is: Is it a 2 network that transfers packets? 3 A. For the NoC, yes. That's my answer to you. 4 Q. Let's move on to the second page. 5 A. Sure. 6 Q. Are you still just looking at Goossens 2002 on 7 your -- 8 A. Sorry, I lost it. Something happened here. 9 Bear with me. 10 Q. You have a hard copy. 11 A. It is fine. I'm good. I turned it on. I am 12 back on. 13 So what column are you saying now? 14 Q. The second page. 15 A. The second page. 16 Q. Column on the right? 17 A. Column on the right. Which paragraph? 18 Q. The first paragraph. 19 A. Okay. 20 Q. It says, "In a reuse model, IPs that are bought 21 or reused cannot be adapted to each SOS they are used 22 in. They will interact in many different ways, 23 event-driven, data streaming, message passing, shared 24 memory, etc." Did I read that correctly? 25 A. Yes.

73 1 Q. What does that mean to you? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: It says -- I'm just paraphrasing 4 what it says -- if these IPs that are being 5 incorporated, they may have different interactions in 6 terms of those parameters, event-driven, data streaming, 7 they could have different kind of expectations for their 8 output, their input. That's what it says. 9 BY MR. LOUWAGIE: 10 Q. Okay. And so let's focus on the first sentence 11 for a moment. It says they are bought or reused and 12 cannot be adapted to each SOS they are used in. Do you 13 see that? 14 A. Yes, I see this statement, yes. 15 Q. So that is saying that the IPs are not going to 16 change based on the type of interconnect that they are 17 attached to. Is that right? 18 A. That's the essence of this particular paper is 19 that IPs will be kept the same and they will try to find 20 a way -- a wrapper, so to speak, around them to make 21 them work. 22 Q. Okay. And now moving on to the second 23 sentence, which I think you started talking about 24 before. 25 What does it mean for something to be	75 1 IPs? 2 A. Yes. 3 Q. But not all of them? 4 A. That's right. 5 Q. How about shared memory, what does that mean? 6 A. They communicate with each other by reading and 7 writing the shared location in the memory. And this is, 8 again, not something I opined on, but I am very familiar 9 with it. 10 Q. So different IPs will communicate by reading 11 and writing on one memory? 12 A. One -- I would call one memory, but a shared 13 memory. 14 Q. A shared memory. 15 A. Think of it as a mailbox. That's all I can -- 16 so if I write something in the mailbox and you go read 17 it, that's the shared memory. 18 Q. So we are sharing a PO box? 19 A. That's right. 20 Q. Okay. Let's go on the third page, about 21 halfway down the column on the left. There's a 22 statement that, quote, "At run time, an application or a 23 quality of service manager reconfigures the SOS." Do 24 you see that? 25 A. I have to search for it.
74 1 event-driven in this context? 2 A. I have not opined on that, just event-driven, 3 meaning it is triggered by an event. That's -- 4 Q. What is triggered by an event? 5 A. The operation of the IP. That is why I am 6 hesitant to say exactly what it says. But a POSITA 7 reading this would say an IP activating its 8 functionality is based on an event. I have to look into 9 this more carefully, but that is my gut feeling, and a 10 POSITA would understand it that way. 11 Q. Okay. How about data streaming? 12 A. Data streaming, I think we referred to it in 13 Drake as well. This is multimedia data streaming, you 14 know, things like that. That's the gist of what I can 15 say based on that. There's a lot more to that. 16 Q. And so event-driven IPs are different than data 17 streaming IPs. Is that what they are saying here? 18 A. I could not tell you that. It requires further 19 study. 20 Q. How about message passing, what does that mean? 21 A. I am very familiar with that. It is not 22 something that I opined on this. Just a short sentence 23 is that IPs communicate with each other with messages, 24 just like you would send an email to someone. Yeah. 25 Q. So this is saying some IPs are message-passing	76 1 Q. That is fine. 2 A. I am glad I have an electronic version. 3 So all I see is this -- "at run time," I see 4 it, yes. Go ahead. Please read it. 5 Q. "At run time, an application or quality of 6 service manager reconfigures the SOS." Did I read that 7 correctly? 8 A. Yes. You read it correctly. 9 Q. Where is the quality of service manager in 10 Goossens 2002 located? 11 A. It doesn't say specifically a quality of 12 service manager, where it is located. We can search for 13 it. I can search for that. 14 Q. Sitting here today, do you know? 15 A. It is not very clear on this. 16 Q. Okay. And I guess feel free to search. 17 A. Yes. I will. 18 Q. And you are still just looking at -- 19 A. Yes, you have to give me some time, Counsel. 20 Yes. I am searching -- I searched for the services. 21 That's not a good keyword to look for. 22 So we have one nice hit here. It says, 23 "Quality of service manager can effectively observe and 24 steer an NOS because it behaves predictably in terms of 25 performance and cost."

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77 1 So it is kind of watching all of this. But 2 I – I would say that most likely, the IPs will not 3 include that because you want to have the flexibility to 4 have the IP to use for different designs. 5 Q. So the quality of service manager in Goossens 6 2002 is not located in the IP? 7 A. Let me double-check my report, please. I would 8 like to do that to make sure that what I said there is 9 correct or not. 10 Q. And so you are pulling up your report? 11 A. That's right. Sorry about that. 12 Q. It is a clean version of your report? 13 A. It is a clean version. I made sure that 14 everything is clean on this one. 15 So let me just see, to check that, to make 16 sure. Okay. I am reading paragraph 107, Counsel. If 17 you allow me to read it, Goossens describes a network on 18 silicon that implements – do you want me to read it out 19 loud or to myself? 20 Q. I want you to answer my question. 21 A. Sure. Then I will read quiet, then. 22 Q. Yeah. 23 A. So I have the same citation that I just said, 24 that it monitors and manages the quality of service 25 manager. It is not part of the IP.	79 1 you know, it is not very clear from the documentation 2 where it is. But certainly, given the IP reuse, you 3 would think that you would not want to put it in the IP. 4 But that is also possible. 5 BY MR. LOUWAGIE: 6 Q. So you have studied Goossens 2002; right? 7 A. I did. 8 Q. And so your testimony after studying it is that 9 a POSITA would understand that a quality of service 10 manager is not an IP block; is that right? 11 A. That's my understanding. 12 Q. Okay. But beyond that, you do not have an 13 opinion about where the -- the POSITA would believe that 14 the quality of service manager is located; right? 15 A. I have not opined on that. That's right. 16 Q. Okay. Let's go down a little bit. 17 A. Okay. What -- 18 Q. Same column, the -- the last full paragraph in 19 that column, about halfway through that column. It 20 starts with "A connection combines"? 21 A. Can you -- "connection combines." Let me 22 search for that. 23 Q. Yeah. 24 A. Okay. "A connection combines." Yeah, go 25 ahead.
78 1 Q. Okay. So -- so your testimony is that the 2 quality of service manager in Goossens is not a part of 3 the IP block; right? 4 A. Yes. 5 Q. Okay. Is it located in the network? 6 A. It -- it could be. 7 Q. But you don't know? 8 A. I mean, it is possible that it could be 9 somewhere there. I have not checked that. 10 Q. So you don't know. It could be in the network 11 or not in the network? 12 A. I have not opined on that. 13 Q. Okay. Is it in the network interface? 14 MR. CHRISTOPHER: Objection to form. 15 THE WITNESS: I don't see any reason that I 16 would suspect it to be there because I haven't checked 17 it. 18 BY MR. LOUWAGIE: 19 Q. Okay. So -- so you don't know where the 20 Goossens quality of service manager is located except 21 that it is not located in an IP block. Is that fair? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: I have not checked to see if it 24 could be anywhere, but if you find an IP block that has 25 a quality of service manager, then so be it. It is --	80 1 Q. This says, "A connection combines multiple 2 channels and can include flow control and reordering for 3 lossless in-order (multicast) transmissions. The 4 programming model is concurrent and distributed: IPs 5 can set up and remove connections in a pipelined 6 fashion, and at the same time. Configurations that have 7 been computed offline can be efficiently loaded and 8 extended or changed at run time. GT channels are 9 created and removed with BE packets that are reserved a 10 path through the network, subject to resource 11 availability." 12 Did I read that correctly? 13 A. Yes. You read that correctly. 14 Q. And so you agree that Goossens 2002 describes 15 communicating over connections; right? 16 A. Communicating over connections, yes, it does. 17 Q. Okay. Let's go to the last column. 18 A. The last column. 19 Q. It says -- the last sentence in the first 20 paragraph right above conclusions, it says, "Network 21 interfaces implement multipath and multichannel ordering 22 and channel flow control." 23 Do you see that? 24 A. Yes. 25 Q. Where are the network interfaces in Goossens

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1 located? 2 A. There's certainly not in the IPs, but they are 3 somewhere else. 4 Q. Are they in the network? 5 A. Could be. 6 Q. But you don't know? 7 A. It doesn't have to -- it doesn't say, but it 8 could be, yes. 9 Q. It could be -- so it is not in the IP? 10 A. Yes. 11 Q. It could be in the network, but it doesn't have 12 to be in the network; is that right? 13 A. So, if it is not in the IP, if it is not in the 14 network, then it has to be somewhere else. 15 Q. That is not my question. My question is you 16 have studied this reference? 17 A. Yes. 18 Q. Where would a POSITA understand that the 19 network interface was located in Goossens 2002? 20 MR. CHRISTOPHER: Objection to scope. 21 THE WITNESS: I have not looked into exactly 22 where network interface would be for Goossens. I don't 23 know that but certainly not in the IPs. 24 BY MR. LOUWAGIE: 25 Q. So you don't have an opinion about whether it	81 83 1 be in the IP block. 2 A. Yeah. 3 Q. So my question is would a POSITA have an 4 understanding of whether it was in the network or -- or 5 not in the network? 6 A. I did not check that. I just know that it is 7 not in the IP block. That I can tell you. 8 Q. Okay. So Goossens 2002 is, you know, a 9 three-page article. Feel free to take all the time you 10 need? 11 A. Okay. In terms of -- 12 Q. To determine whether you believe a POSITA would 13 think that a network interface was in the network or not 14 in the network in Goossens 2002? 15 A. Okay. 16 (Recess.) 17 BY MR. LOUWAGIE: 18 Q. We can -- we can move on from that point. We 19 don't need to sit here and berate it. 20 A. Okay. 21 Q. So let's go, then, to -- we are still talking 22 about Goossens 2002? 23 A. Yes. 24 Q. In the last column? 25 A. Last column.
82 1 would be in the network or not in the network? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: I said that is one of the 4 options. I have not looked into that. 5 BY MR. LOUWAGIE: 6 Q. You don't have an opinion about whether it is 7 in the network or not in the network? 8 MR. CHRISTOPHER: Same objection. 9 THE WITNESS: I don't know -- I don't know that 10 because I have not reviewed that aspect of it, but it -- 11 it certainly could be in the network. 12 BY MR. LOUWAGIE: 13 Q. It could be in the network, or it could be not 14 in the network. Either are options that are available? 15 A. I tried to allude to that. I said if it is not 16 in the IP, there are two other places. It is in the 17 network or somewhere else. I -- I think I mentioned 18 that. 19 Q. And I guess what I'm trying to understand is 20 what is your opinion about what a POSITA would 21 understand what the location of the network interface in 22 Goossens 2002. 23 MR. CHRISTOPHER: Objection to form. 24 BY MR. LOUWAGIE: 25 Q. And I think you -- you stated that it would not	84 1 Q. The second to last paragraph of the -- of the 2 reference? 3 A. Okay. 4 Q. Halfway through it says, "It breaks the fatal 5 global time in closure loop by separating inter-IP from 6 intra-IP communications and so can reduce global design 7 iterations." 8 Do you see that? 9 A. Just a second. Yes, I see that. 10 Q. What does that mean? 11 MR. CHRISTOPHER: Objection to form. 12 THE WITNESS: I have to read before that 13 sentence to see what it is referring to. 14 BY MR. LOUWAGIE: 15 Q. Sure. That's fine. 16 A. So I have not opined on that sentence, but my 17 understanding would be that, by using the approach that 18 they have mentioned in this paper, you do what is called 19 divide and conquer. You will not have that global 20 timing issue. You turn it into smaller pieces that you 21 can resolve. 22 Global timing issue, meaning -- meaning certain 23 requirements at -- at the global level of all the IPs 24 working. That is my impression on this. I have not 25 looked at this more than that.

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85 1 Q. Can you describe that in a little bit more 2 detail, apologies. 3 A. Yes, I -- I will do my best. I didn't look 4 into the details of this, but there is something called 5 global timing, meeting certain global requirements as 6 far as timing is concerned, meeting certain expected 7 results in terms of time, like finishing something. So 8 by separating the IP and trying to do the best you can 9 with individual IPs, you help solve the global issue. 10 I have not looked into this as much, but that 11 is my impression of this. 12 Q. Okay. Let's -- let's go back to talking about 13 the quality of service manager that is disclosed in 14 Goossens 2002? 15 A. Yes. 16 Q. I -- I want to talk at a high level of how this 17 quality of service manager works. 18 So do you agree that, first, the request comes 19 from -- a request is sent by one of the bought -- bought 20 or pre-made IPs? 21 MR. CHRISTOPHER: Objection; form. 22 THE WITNESS: The IP would initiate one of 23 those requests, yes. 24 BY MR. LOUWAGIE: 25 Q. Okay. And we agreed before that those requests	87 1 point was contacting the quality of service manager 2 might be bypassing the standard protocol. I am not sure 3 about that. It is possible to design it that way. 4 BY MR. LOUWAGIE: 5 Q. But you wouldn't -- in the Goossens NoC, you 6 are not changing the IPs such that the IPs are sending a 7 specific type of QoS request; right? 8 MR. CHRISTOPHER: Objection to form. 9 THE WITNESS: I did not look into that, that 10 the IPs would be modified for that purpose. 11 BY MR. LOUWAGIE: 12 Q. You think the IPs might be modified for that 13 purpose in Goossens 2002? 14 A. I have not looked into that. I don't know. I 15 mean -- 16 Q. Even though they are bought at pre-made IPs? 17 A. Yes. But you could buy a pre-made IP that says 18 that I have a special interaction with the quality of 19 service manager of some sort. It is possible. I have 20 evaluated that. You cannot refuse an IP which has some 21 sort of relationship with the quality of service manager 22 of some sort, but I have not checked -- I have not 23 looked into that. 24 Q. Okay. So you think it is possible that 25 Goossens is -- is teaching to modify the IPs to add some
86 1 could come in in a variety of different protocols; 2 right? 3 A. I -- I said the IP will have its own standard 4 protocol interface. It is possible that's the case. I 5 have not looked into that, but it is possible. That has 6 come through the standard protocol, the request, because 7 it is really not clear to me that the quality of service 8 manager may be talking prior to the standards protocols. 9 Standard protocols are in communication with 10 the network. Is it possible that QoS manager, if you 11 call it, interacts with the IP in a different path? I 12 am not sure about that. I have not looked into that. 13 Q. But each IP would have a different -- 14 "language" is the wrong word, but a different language 15 for making a QoS request; right? 16 MR. CHRISTOPHER: Objection; form. 17 THE WITNESS: I have not looked into that. 18 BY MR. LOUWAGIE: 19 Q. But if -- if you bought one IP from Arm, an IP 20 from another company, you would expect that 21 they would -- there would be differences in the way that 22 they requested QoS; right? 23 MR. CHRISTOPHER: Objection to form and scope. 24 THE WITNESS: Yeah. I have not looked into 25 that. There -- there might be a different approach. My	88 1 quality of service components? 2 MR. CHRISTOPHER: Objection to form. 3 THE WITNESS: No. That's not what I said. 4 BY MR. LOUWAGIE: 5 Q. Okay. 6 A. I said the IP that they acquired may have some 7 of those features. They said they are going to reuse 8 the IPs. Would they use an IP that had that particular 9 feature with QoS? Maybe not, maybe they would. If you 10 want to have certain design parameters, you may say, 11 "That's not the IP I want to use. I want to use another 12 IP." 13 Q. So your thought is that Goossens does not allow 14 for sort of mixing and matching of IPs? 15 MR. CHRISTOPHER: Objection to form. 16 THE WITNESS: No. That's not what I said. It 17 basically uses the IPs. So some of the IPs may have 18 specific parameters for quality of service interaction. 19 I did not say that. It integrates IPs for their design. 20 BY MR. LOUWAGIE: 21 Q. What I am trying to understand is does the 22 Goossens network -- would it include different IPs that 23 requested QoS somewhat differently from each other? Or 24 would every single IP that is attached to Goossens 25 network have identical QoS requests?

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89 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: I have not checked that. 3 BY MR. LOUWAGIE: 4 Q. So you think it is possible that -- that 5 Goossens' teaching is that we're limiting it to only IPs 6 that are identical QoS requests? 7 MR. CHRISTOPHER: Objection to form. 8 THE WITNESS: I have not checked that. I don't 9 know. 10 BY MR. LOUWAGIE: 11 Q. So let's assume for a moment that the IPs in 12 Goossens do request QoS somewhat differently. Could we 13 do that? 14 A. So this is a hypothetical? 15 Q. Yes. 16 A. Okay. Go ahead. I mean, you know what my 17 answer might be. 18 Q. Okay. So, if that -- if that were the case, 19 IP1 request QoS using language A, IP2 requests QoS using 20 language B, how would the QoS manager understand both of 21 those languages? 22 MR. CHRISTOPHER: Objection to form. 23 THE WITNESS: I have not formed an opinion on 24 that, Counsel. That is very deep engineering question 25 that requires understanding all those languages that you	91 1 "interpret"? I mean, there are hundreds of IPs. It is 2 really hard to answer that, Counsel. 3 BY MR. LOUWAGIE: 4 Q. Would -- would the QoS manager need to be able 5 to interpret the QoS requests from IPs that were 6 attached to the Goossens network? 7 MR. CHRISTOPHER: Objection to form. 8 THE WITNESS: What -- what is the definition of 9 "interpret"? I -- I don't understand that. 10 BY MR. LOUWAGIE: 11 Q. What -- can you tell me what -- what is 12 troubling you about the word "interpret"? 13 A. I don't even know what you mean by "interpret." 14 Q. Understand. Would -- would the Goossens QoS 15 manager need to be able to understand the QoS requests 16 coming from different IPs? 17 MR. CHRISTOPHER: Objection to form. 18 THE WITNESS: Oh, from different IPs? 19 BY MR. LOUWAGIE: 20 Q. Yes. 21 A. If -- if it was to work with different IPs, it 22 has to be able to interact with them. I mean, that's 23 quite clear to me. 24 Q. Okay. 25 A. It would not be sitting there, not be able to
90 1 talked about, if there is any commonality. I cannot 2 answer that. This is really an honest answer to your 3 question. 4 BY MR. LOUWAGIE: 5 Q. And it is possible that there would be some 6 sort of a translation feature; right? 7 MR. CHRISTOPHER: Objection to form and scope. 8 THE WITNESS: I have not looked into that. I 9 don't know what that means. 10 BY MR. LOUWAGIE: 11 Q. So -- so Goossens 2002 does not provide 12 adequate detail for you to know how it would handle a 13 situation like that. Is that fair? 14 A. The situation that you stated? No. I don't 15 see that. 16 Q. And Goossens 2002 also doesn't say that every 17 IP must request QoS in identical fashion; right? 18 MR. CHRISTOPHER: Objection to form. 19 THE WITNESS: It doesn't talk about that. 20 BY MR. LOUWAGIE: 21 Q. Okay. Do you agree that the -- the QoS manager 22 in Goossens would need to interpret the IPs' QoS 23 request? 24 MR. CHRISTOPHER: Objection to form. 25 THE WITNESS: What -- what do you mean by	92 1 interact with another IP. 2 Q. And how -- how would the QoS manager in 3 Goossens work with those different IPs? 4 MR. CHRISTOPHER: Objection to form. 5 THE WITNESS: I don't know. 6 MR. LOUWAGIE: We will go to the document that 7 was previously marked as Exhibit 1007. 8 (Exhibit No. 1007 identified.) 9 MR. CHRISTOPHER: Thank you. 10 THE WITNESS: I just opened the screen for 11 that. 12 MR. LOUWAGIE: For Goossens 1007? 13 THE WITNESS: Yes. 14 BY MR. LOUWAGIE: 15 Q. Just to clarify, you still -- still have not 16 had chat open or anything throughout this -- 17 A. No, no. I know the rules, Counsel. Trust me 18 on this. 19 Q. It will take a minute or two to get my 20 questions straight. So you can just read the reference. 21 A. Yeah. Sure. 22 Q. So we're -- we're discussing Exhibit 1007. Do 23 you recognize this as the prior art reference Goossens 24 2003 discussed in the petition? 25 A. Yes.

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Transcript of Dr. Nader Bagherzadeh
Conducted on January 16, 2025

24 (93 to 96)

93 1 MR. CHRISTOPHER: Objection to form. 2 BY MR. LOUWAGIE: 3 Q. So let's start with the title. Again, the 4 title of this reference is "Guaranteeing the Quality of 5 Services in Networks on Chip." 6 Did I read that correctly? 7 A. Yes. 8 Q. And so you agree that Goossens 2003 involves 9 managing quality of service on a network; right? 10 MR. CHRISTOPHER: Objection to form. 11 THE WITNESS: It provides that capability for 12 network -- network on chips. 13 BY MR. LOUWAGIE: 14 Q. So you agree that Goossens 2003 involves 15 managing quality of service on a network; right? 16 MR. CHRISTOPHER: Objection to form. 17 THE WITNESS: It -- it handles that capability. 18 Managing, yeah, I mean, probably managing is another way 19 to put it, yeah. 20 BY MR. LOUWAGIE: 21 Q. Okay. And you agree it provides guarantees 22 regarding quality of service; right? 23 MR. CHRISTOPHER: Objection to form. 24 THE WITNESS: It says right in the abstract, 25 "NOCs provide services through protocol stacks,	95 1 same time, i.e. all contentions is avoided. This can be 2 achieved by controlling both the time the GT packets 3 enter the network and their speed in the network." 4 Do you see that? 5 A. I see that. 6 Q. And so you agree that Goossens 2003 discloses a 7 network that transfers packets; right? 8 A. Yes. 9 Q. Okay. Let's turn to page 76. At the bottom of 10 this page, it discusses a network interface. 11 Do you see that? 12 A. Yes. 13 Q. Where is the network interface in Goossens 2003 14 located? 15 A. I can read it to you. Let me just check. So 16 I look -- it is not in the IPs. It must be in the 17 network somewhere. I am trying to find out if there's a 18 citation for that. Isn't there a figure here? It is 19 somewhere between the network and the IPs, or part of 20 the network. That's my general understanding. 21 Q. So it is not in the IP? 22 A. No, no. 23 Q. And it could be in the network, or it could not 24 be in the network, and you don't know which one; is that 25 right?
94 1 introducing guaranteed services enables IP reuse and 2 platform-based design." 3 So it -- it introduces guaranteed services. 4 BY MR. LOUWAGIE: 5 Q. Okay. Let's go to page 71. 6 A. Yes. 7 Q. And if you go down to Part 4.1. It says, 8 "Ethereal services?" 9 A. Yes. 10 Q. And then it says, "The ethereal NOC offers 11 differentiated services with connections. A connection 12 describes communication between one master and one or 13 more slaves, with an associated service level, such as 14 FIFO transaction ordering and maximum latency. 15 Connections must be created stating the requested 16 service level; this is the negotiation phase." 17 Did I read that correctly? 18 A. Yes. 19 Q. So you agree that Goossens 2003 describes 20 communicating in a network using connections; right? 21 A. Yes. 22 Q. Okay. Let's go to page 75. 23 If you go halfway down the page, halfway 24 through the second paragraph, it says, "Guaranteed 25 throughput (GT) packets never use the same link at the	96 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: No. That's not what I said. It 3 is the option available one could use. 4 BY MR. LOUWAGIE: 5 Q. So there are two options available: in the 6 network or not in the network? 7 MR. CHRISTOPHER: Objection to form. 8 THE WITNESS: At least, yes. 9 BY MR. LOUWAGIE: 10 Q. And you don't know which of those two it is? 11 MR. CHRISTOPHER: Objection to form. 12 BY MR. LOUWAGIE: 13 Q. In Goossens? 14 A. I will take a look to see what they have said 15 in that but -- 16 Q. The answer is you don't have an opinion about 17 whether it is in the network or not in the network. 18 That is fine. That's my question. 19 Do you have an opinion about others in the 20 network or not in the network? 21 MR. CHRISTOPHER: Objection to form. 22 THE WITNESS: Actually, there is a figure that 23 shows it is part of the network. 24 BY MR. LOUWAGIE: 25 Q. Which figure is that?

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97 1 A. Figure 4.5, at least that is one embodiment of 2 that. 3 So it shows it is in the part of the network 4 but not limited to that. It could be outside the 5 network, too, if it wants to. 6 Q. Okay. 7 A. But that Figure 4.5 is clearly showing. 8 Q. Okay. So let's see where it is. So we 9 discussed that this reference discusses quality of 10 service; right? 11 A. We did, yes. 12 Q. Are the components that provide the quality of 13 service management in the modules or not in the modules 14 in Goossens 2003? 15 A. I have not checked that. I don't know. 16 Q. Do you think those components might be in the 17 module in Goossens 2003? 18 MR. CHRISTOPHER: Objection; form. 19 THE WITNESS: I have not checked that, but 20 going to what we said, it is possible that it is outside 21 that, yes, outside the IPs. 22 BY MR. LOUWAGIE: 23 Q. My question is do -- do you believe that the 24 QoS management components in Goossens 2003 are inside 25 the IP modules?	99 1 location is. I don't see it. 2 BY MR. LOUWAGIE: 3 Q. Okay. So -- so you don't have an opinion about 4 where the QoS components in Goossens 2003 would be 5 located; is that right? 6 MR. CHRISTOPHER: Objection to form. 7 THE WITNESS: That sentence is silent on that. 8 BY MR. LOUWAGIE: 9 Q. I am asking -- 10 A. If you want I can check every element of that 11 document. I don't know where it is in this. We can 12 look at it together. But from what you just read, I 13 disagree with -- that it's telling you that. 14 Q. Okay. Do you agree that Goossens 2003 is 15 trying to use the IP reuse model where you can buy and 16 reuse previous IPs? 17 A. I agree with that. 18 Q. Okay. So, in your opinion, in that case, would 19 you add a QoS components to the IPs? 20 MR. CHRISTOPHER: Objection to form. 21 THE WITNESS: Yeah, I couldn't -- I wouldn't -- 22 it depends really on the -- on the situation. But the 23 whole purpose of IP reuse is to have the flexibility of 24 using the IPs that are available. We read that. So I 25 couldn't for certain say that would be one of the
98 1 MR. CHRISTOPHER: Objection to form. 2 THE WITNESS: I have not checked that. I 3 have -- I can look into that. But if you have a 4 citation that it says where it is, I can confirm it. 5 BY MR. LOUWAGIE: 6 Q. So in 2003 -- in Goossens 2003 in the abstract? 7 A. Yes. 8 Q. It says, "And introducing guaranteed services 9 enables IP reuse and platform-based design." 10 Do you see that? 11 A. Yes, I see that. 12 Q. And that's the same kind of using the -- an IP 13 that is bought or previously made; right? 14 A. Yes. 15 Q. And so you wouldn't be changing those IPs -- 16 your -- your opinion is that you wouldn't change those 17 IPs to add QoS components to -- to it; right? 18 MR. CHRISTOPHER: Objection to form. 19 THE WITNESS: I don't read that sentence the 20 way you just read. I will read it to you, "NOCs provide 21 services through protocol stacks." Understood. 22 "And introducing guaranteed services enables," 23 what does that have to do where the manager is? It just 24 says that service is provided as part of the enabling 25 the IP reuse. I don't think it identifies where the	100 1 advantages of adding the QoS to the IP, if that's what 2 you are asking. 3 BY MR. LOUWAGIE: 4 Q. I guess I'm just asking: What -- what -- do 5 you believe that the QoS components in Goossens 2003 are 6 inside the IP modules or outside the IP modules? 7 MR. CHRISTOPHER: Objection to form. 8 THE WITNESS: I don't know for sure. 9 BY MR. LOUWAGIE: 10 Q. You don't have an opinion on that? 11 MR. CHRISTOPHER: Same objection. 12 THE WITNESS: Yeah. I don't have an opinion on 13 that. 14 MR. LOUWAGIE: Let's take a little break. 15 MR. CHRISTOPHER: Sure. 16 (Recess.) 17 (Exhibit No. 2070 identified.) 18 MR. LOUWAGIE: I just handed you what was 19 previously marked as Exhibit 2070. 20 BY MR. LOUWAGIE: 21 Q. Which is -- and do you recognize that as your 22 declaration in this matter? 23 A. Yes. 24 Q. Let's go to page 134. Let me know when you're 25 there?

101 1 A. Yep. Hold on, almost there. Yes, 134. 2 Q. And I'm specifically wondering about the first 3 sentence. So -- and it starts on 133. It says, 4 "However, Drake source station 10 corresponds to 5 Goossens IP block, and a POSITA would have understood 6 that Goossens 2003 emphasized that its IP should not 7 contain communication components like Drake's QoS 8 requestor manager." 9 Do you see that? 10 A. Yes. 11 Q. Does that refresh your recollection that you 12 do -- your opinion is that QoS components should not be 13 in the IP blocks of Goossens 2003? 14 A. Yes. I said that much earlier too. 15 MR. LOUWAGIE: Okay. I don't have any more 16 questions. 17 MR. CHRISTOPHER: All right. If you give us 18 five minutes, we can get organized and probably get out 19 of here pretty quickly. Off the record. 20 (Recess.) 21 EXAMINATION 22 BY MR. CHRISTOPHER: 23 Q. Back on the record. 24 Do you recall being asked earlier by counsel 25 whether you had experience working with networks on a	103 1 that paragraph. Do you see where you state, "To note, a 2 POSITA would have understood Goossens 2002's network 3 interfaces to be at least partially within the NOS." 4 Do you see that? 5 A. Yes. 6 Q. Does that refresh your memory as to whether 7 a -- as to where a POSITA would have understood the 8 network interfaces to be in Goossens 2002? 9 MR. LOUWAGIE: Objection; leading. 10 THE WITNESS: It would be in the network. 11 Okay. I think I said as much but -- 12 BY MR. CHRISTOPHER: 13 Q. Okay. Same -- same questions for Goossens 14 2003. Do you recall being asked about the network 15 interfaces in Goossens 2003? 16 A. Yes. 17 Q. And you recall specifically being asked about 18 where a POSITA would have understood the network 19 interfaces to be located in Goossens 2003? 20 A. Yes. 21 Q. All right. Let's turn to paragraph 263 of your 22 declaration. 23 A. 263. All righty. 24 Q. And I will direct you to the second sentence 25 where you state, "To note, a POSITA would have
102 1 chip or NOCs? 2 A. I do. 3 Q. And do you recall stating that you did, in 4 fact, have experience working with NOCs? 5 MR. LOUWAGIE: Objection; leading. 6 THE WITNESS: I did say that, yes. 7 BY MR. CHRISTOPHER: 8 Q. Did you have experience working with NOCs prior 9 to October of 2003? 10 A. Yes. 11 Q. Okay. All right. Do you recall being asked 12 about the Goossens 2002 reference? 13 A. I do. 14 Q. Do you recall being asked about the network 15 interface in the Goossens 2002 reference? 16 A. I do. 17 Q. All right. And specifically do you recall 18 being asked about where a POSITA would have understood 19 the network interface in Goossens 2002 to be located? 20 A. Yes. 21 Q. Okay. Could you please turn to paragraph 188 22 of your declaration, Exhibit 2070. Let me know when you 23 are there? 24 A. 188. I'm there. 25 Q. And I will refer you to the second sentence of	104 1 understood Goossens 2003's network interfaces to be part 2 of its NOCs" -- "NOC." 3 Do you see that? 4 MR. LOUWAGIE: Objection; leading, form. 5 THE WITNESS: Yes. 6 BY MR. CHRISTOPHER: 7 Q. Did I -- did I misread it? 8 A. No. 9 Q. Okay. Does that sentence in your declaration 10 refresh your memory as to whether a POSITA -- where a 11 POSITA would have understood the network interfaces to 12 be located in Goossens 2003? 13 MR. LOUWAGIE: Objection; leading. 14 THE WITNESS: It refreshes my memory. 15 BY MR. CHRISTOPHER: 16 Q. All right. And then one final question: Are 17 you aware of any typographical errors in your 18 declaration? 19 MR. LOUWAGIE: Objection; outside the scope. 20 THE WITNESS: In paragraph 2008 -- 21 BY MR. CHRISTOPHER: 22 Q. You mean 2000 or -- 23 A. 208. 24 MR. LOUWAGIE: Objection; leading, outside the 25 scope.

Transcript of Dr. Nader Bagherzadeh
Conducted on January 16, 2025

27 (105 to 108)

105 1 THE WITNESS: 208. There should be a "no" in 2 the section that says, "There's no explicit teaching." 3 "As such, there is no explicit teaching in Drake" at the 4 bottom of 103. 5 MR. CHRISTOPHER: Understood. No further 6 questions. 7 EXAMINATION 8 BY MR. LOUWAGIE: 9 Q. Dr. Bagherzadeh, did you talk with counsel 10 about the substance of your testimony at all during the 11 breaks in this case? 12 A. No. 13 Q. Did you talk with them about the questions they 14 would ask on redirect? 15 A. No. 16 MR. LOUWAGIE: No further questions. 17 MR. CHRISTOPHER: Thank you, everyone. 18 (The deposition was concluded 19 at 11:57 p.m.) 20 21 22 23 24 25	107 1 STATE OF CALIFORNIA) 2) ss. 3 COUNTY OF ORANGE) 4 I, LINDSAY ANNE STOKER, RDR, RMR, CRR, CRC, 5 and Certified Shorthand Reporter of the State of 6 California, does hereby certify: 7 That the foregoing deposition was taken 8 before me at the time and place therein set forth, at 9 which time the witness was duly sworn by me; 10 That the statements made on the record were 11 recorded stenographically by me and were thereafter 12 transcribed; said transcript being a true and correct 13 copy of the proceedings thereof; 14 I further certify that I am neither counsel for 15 nor related to any party to said action, nor in any way 16 interested in the outcome thereof; 17 Further, that if the foregoing pertains to the 18 original transcript of a deposition in a federal case, 19 before completion of the proceedings, review of the 20 transcript was not requested/offered on the record. 21 In witness whereof, I have subscribed my name, 22 this 17th day of January, 2024. 23  24 Lindsay A. Stoker, RDR, RMR, CRR, CRC 25 CA CSR No. 14373
106 1 I certify or declare under declaration 2 under penalty of perjury that the foregoing testimony is 3 true and correct. 4 5 Executed this _____ day of _____, 6 2024, at _____, California. 7 8 9 10 _____ 11 DR. NADER BAGHERZADEH 12 13 14 15 16 17 18 19 20 21 22 23 24 25	

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