

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
3 RESMED CORP,)CASE IPR 2025-00159
)U.S. PATENT NO. 11,375,921
4 PETITIONER,)
)CASE IPR 2025-00160
5 V.)U.S. PATENT NO. 11,786,680
)
6 CLEVELAND MEDICAL)MOBILE VIDEOCONFERENCE
 DEVICES, INC.,)DEPOSITION OF
7)SANDEEP CHATTERJEE, Ph.D.
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MOBILE VIDEOCONFERENCE DEPOSITION OF SANDEEP
CHATTERJEE, Ph.D., taken remotely before Cheryl A.
Rooney, RPR, CRR, Online General Notary Public within
and for the State of Nebraska, beginning at 8:58 a.m.
PST, on September 8th, 2025.

1 A P P E A R A N C E S

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1 (Whereupon, the following proceedings
2 were had, to-wit:)

3 SANDEEP CHATTERJEE, Ph.D.,
4 having been first duly sworn,
5 was examined and testified as follows:

6 DIRECT EXAMINATION

7 BY MS. FULLER:

8 Q. Good morning, Dr. Chatterjee, or
9 afternoon, wherever you may be. Could you
10 please state your name and occupation for the
11 record?

12 A. Sandeep Chatterjee. I am an engineer.

13 Q. And engineer, electrical engineer,
14 computer engineer?

15 A. Well, my degrees are in electrical
16 engineering and computer science. But my Ph.D.
17 was -- had an emphasis or a specialization in
18 computer science.

19 Q. Dr. Chatterjee, do you understand why
20 you're here today, that we'll be taking your
21 deposition in connection with declarations filed
22 in IPR 202500159 and IPR 202500160?

23 A. I haven't memorized the IPR numbers,
24 but I do understand today's deposition is
25 related to the declarations I submitted in

1 relation to the '921 and '680 patents.

2 Q. Since you're familiar with the patents
3 themselves, is it okay when we're referencing
4 your declarations if we reference them as the
5 '921 declaration and '680 declaration?

6 A. Sure.

7 Q. Do you have hard copies of those
8 declarations available, or --

9 A. I do.

10 Q. Okay. So what I'll plan to do, are
11 these declarations clean and unmarked?

12 A. I was just given the declarations
13 about two minutes before we went on the record,
14 so I'm just flipping through them right now. I
15 don't see any markings whatsoever.

16 Q. Okay. Well, I will let you look at
17 the hard copy declarations. And what other
18 materials do you have available to you, the
19 prior art?

20 A. I have the declarations, I have the
21 '921 and '680 patents, and I have the Toge,
22 Burton, Kumar, and Kisner prior art references.

23 Q. Perfect. Well, we'll just have you
24 refer to those hard copy exhibits, and if I
25 introduce another exhibit you don't have, I can

1 put it up into the chat. Does that work for
2 you?

3 A. It does.

4 Q. Dr. Chatterjee, what was your process
5 in preparing your declarations that were filed
6 in these proceedings? Can you briefly elaborate
7 on that process?

8 A. Well, my process was reviewing the
9 challenged patent, reviewing certain prior art
10 references, identifying certain background
11 materials, for example, the background that is
12 briefly summarized in the tech background and
13 state of the art section. So I think that was,
14 at a high level, the process.

15 Q. And the background materials that you
16 just referenced, are those in Paragraph 16 of
17 your '921 declaration?

18 A. Yes. I believe this should be the
19 materials that I considered. There may be
20 inadvertently, if I forgot to include one in
21 this table, but it would have been referenced in
22 the actual body of the declaration.

23 Q. Okay. So if I have a correct
24 understanding, these are the materials that you
25 considered and cited in your declaration, and if

1 there's any other materials not in this table
2 they would have been in like a hyperlink in your
3 declaration?

4 A. No, not a hyperlink. I think what I'm
5 saying is that I believe this table includes
6 everything, but inadvertently, if I may have
7 left something out, it would be, for example, in
8 a footnote.

9 Q. In preparing for your deposition
10 today, what materials did you consider?

11 A. Are you asking which materials I
12 reviewed?

13 Q. Reviewed could be a word as well, yes.
14 So what materials did you review?

15 A. So I did go through my declaration. I
16 did go through these materials in the table that
17 we discussed. Like I explained earlier, to the
18 extent that there's anything that's not in the
19 table, like for example it might be in a
20 footnote, I did go through that as well.

21 I've also, in preparation for today,
22 reviewed the POPR, as well as the institution
23 decision for each of these IPRs.

24 Q. Did you review Dr. Kirkness's
25 declaration?

1 A. I did not.

2 Q. Did you review Dr. Kirkness's
3 transcript?

4 A. I did not.

5 Q. Can you turn to paragraph starting on
6 32 of your declaration and going to
7 Paragraph 39. I'll let you turn there and
8 quickly just review those paragraphs and let me
9 know when you've done that.

10 A. To be clear, you're talking about the
11 '921 dec?

12 Q. Correct.

13 A. You said to review from Paragraph 32
14 to 34?

15 Q. Correct.

16 A. Okay. I've reviewed those three
17 paragraphs.

18 Q. Is this a write-up that you did based
19 off of Exhibit 1046?

20 A. Yes, I believe it's pretty close to
21 verbatim from that reference.

22 Q. When you say "pretty close to
23 verbatim", was it just copied from that
24 reference or did you put these passages into
25 your own words?

1 A. I think it's -- like I stated, it's
2 pretty close to verbatim there. There may have
3 been some tweaks and minor additions. But it's
4 pretty close to verbatim.

5 Q. Dr. Chatterjee, are you aware of the
6 different client-server architecture types?

7 MS. NGUYEN: Objection; vague.

8 THE WITNESS: I'm not sure what
9 you mean by that.

10 BY MS. FULLER:

11 Q. Client server -- there's different
12 client-server models. So is there 1-tier
13 models, 2-tier, n-tier models? Are you aware of
14 those models?

15 A. I'm not sure -- I have heard reference
16 to different tiers. I'm not sure that that is
17 characterized as a client-server models. But
18 those are different computer or system
19 architecture models.

20 Q. What are the client server models that
21 you are aware of then?

22 A. I'm not sure what you mean by what are
23 the client server models that I'm aware of.

24 Q. There's a client and a server in these
25 client server architectures; correct?

1 MS. NGUYEN: Objection; vague.

2 THE WITNESS: Yes, there is a
3 client and a server, and that's what I've
4 explained here in these paragraphs. So I'm not
5 sure what you mean by types or models of client
6 and server.

7 BY MS. FULLER:

8 Q. Are there models where a client and a
9 server are on the same machine, client servers
10 that are on different machines?

11 A. So I'm not sure that those are models,
12 but yes, in general, again, in general, I
13 understand this question to be outside the scope
14 of the references in the patent. But in
15 general, you can have a client on the same
16 machine as the server. You can also have a
17 client on a different machine from the server.

18 Q. And when clients are on the same
19 machine as a server, are these for applications
20 such as Microsoft Office?

21 A. I'm not really sure what you mean by
22 that. If -- what do you mean by -- Microsoft
23 Office is a stand-alone application. So I'm not
24 sure what your question is with regards to a
25 particular feature within Office, a particular

1 version?

2 Q. So in Microsoft Office, all the
3 components, the application, the client, the
4 local database, that resides on a single
5 computer; is that correct?

6 A. I'm not -- with regards to Microsoft
7 Office, which database are you talking about?

8 Q. A database of the information.

9 MS. NGUYEN: Objection; vague.

10 THE WITNESS: Which information?

11 BY MS. FULLER:

12 Q. In a client-server architecture, where
13 the client and server are on the same machine,
14 does that mean that all the components, so the
15 client, the server, and the database, are on
16 that one machine?

17 A. So to be clear, this question is
18 unrelated to one you asked before about
19 Microsoft Office; correct?

20 Q. I'm trying to rephrase the question to
21 get to a clear answer from you.

22 A. So you're saying this question is
23 still related to the question about Microsoft
24 Office? Because I'm confused about that
25 question.

1 Q. I am rephrasing the question, asking,
2 I guess, a different question about when a
3 server and client are on the same machine. So
4 let's just take out Microsoft Office in this
5 question.

6 A. So can you give me all of the details?
7 You seem to be asking me a question whether a
8 database, a client, a server are on the same
9 machine, but I need to know what the system is,
10 how it's architected, implementation details.
11 Then I can answer your question.

12 Q. I'm saying where there's a client and
13 a server on the machine, that is a type of
14 architecture; correct, on the same machine?

15 COURT REPORTER: (Requests
16 clarification.)

17 MS. NGUYEN: Objection; vague.

18 THE WITNESS: Again, completely
19 outside of the references in the patents. I
20 think you can implement systems where -- like I
21 mentioned, you can have the client and the
22 server on a single machine, you can have them on
23 multiple machines. These are implementation
24 details. So again, it's a very vague question
25 and I need the actual system details in order to

1 answer this question.

2 BY MS. FULLER:

3 Q. Well, when can you have a client and
4 server on the same machine? You just said that
5 you can have a client and server on the same
6 machine. Are you aware of when you can?

7 A. If you implement it that way, then you
8 can. It's not magic. It's simply if the
9 software architect or the developer implements
10 it a particular way, then it's going to be that
11 way.

12 Q. Are you aware of limitations with
13 particular implementations?

14 MS. NGUYEN: Objection; vague.

15 THE WITNESS: I don't know what
16 you mean by limitations and particular
17 implementations.

18 BY MS. FULLER:

19 Q. Well, when you do a particular
20 implementation like a client server on the same
21 machine, are there going to be limitations such
22 as security, scalability?

23 A. Well, again, when you ask me can you
24 have a client and server on the same machine and
25 I said yes, that doesn't mean that you cannot

1 have with that same server a client that's on a
2 different machine. So again, all of these
3 questions, unless you give me the actual system
4 architecture, the implementation, I can't answer
5 these questions. I can't tell you if something
6 has a limitation without knowing what that
7 something is.

8 Q. So you can't tell me if a client and
9 server are on the same machine, what are
10 limitations with putting a server on a client
11 machine?

12 A. I can tell you everything about the
13 system once you tell me what that system is.
14 You're asking me to answer questions about a
15 system that you're not telling me about.

16 Q. I am telling you that the system is
17 where there's one machine, and the client and
18 server are on that same machine, and I want to
19 know what are those limitations. Are there
20 scalability limitations? Are there going to be
21 security limitations? I'm telling you the
22 system.

23 A. You're not, because even with your
24 example of security limitations or scalability
25 limitations, unless you tell me the

1 architecture -- like I said, if you implement
2 the system where the server is sending data to a
3 third computer unencrypted, then obviously the
4 answer to your question about security
5 limitations is going to be different from if the
6 client and server are implemented in a proper
7 way, and the server or the client are not
8 sending data somewhere else. So it all depends
9 on the implementation details. And without
10 knowing the implementation details, the system
11 architecture, how it's developed, how it's
12 architected, it's impossible to answer these
13 questions.

14 Q. Okay. Well, we'll break it down. So
15 where there's a client server on the same
16 machine and that there's confidential patient
17 information on that machine that is going to be
18 transferred to other client devices, what are
19 the security and scalability limitations?

20 A. So I'm confused again. So I thought
21 your question was where the client and server
22 are on the same machine, but then you said that
23 there are multiple clients and there are
24 multiple client devices.

25 Q. In that implementation there is one

1 machine that has a server and client, and then
2 other client devices that are accessing the data
3 on the server. Can that not happen in that
4 implementation?

5 A. It can. I think my confusion was you
6 said that there's only a single machine and then
7 you added that there are multiple client
8 devices. So in that -- and how is the
9 communication between the machine that's hosting
10 the server and those other client devices?

11 Q. I'm giving you the hypothetical of a
12 specific implementation that you said you needed
13 a particular system. So I'm trying to give you
14 the system now. Is that a system that you
15 understand?

16 A. I understand it, but it still doesn't
17 have the details necessary to answer the
18 question.

19 Q. So what details do you need?

20 A. Well, for example, I just asked you
21 how is the communications between the machine
22 that hosts the server and those client devices.

23 Q. It's through an HTTPS, where they're
24 requesting information.

25 A. Okay. And what's your question with

1 regards to security?

2 Q. Yeah, what would be some security
3 issues?

4 A. Again, HTTPS, you can implement it
5 using different types of TLS, so it depends on
6 the encryption that's used, the specific
7 protocols. But I'm not really sure I understand
8 what you mean by what are some of the issues.

9 Q. When you're having a server and a
10 client on the same machine, do you have to worry
11 about server vulnerabilities?

12 A. Again, outside of everything that
13 we're here to talk about today, and the patents
14 and the prior art, it depends on the
15 implementation details. If the server is
16 available, as an example, to other people coming
17 in, accessing the server, if it's available to,
18 you know, run other software on it, it depends
19 on the implementation details, and that's what I
20 keep on asking you about.

21 Q. What implementation details did you
22 consider in your declaration where you say a
23 POSITA would have been motivated to modify
24 Toge's physician-side computer into a web
25 server?

1 A. So it seems like your question is
2 about the motivations that I've set forth, and I
3 believe there is a section, and then other
4 portions within my declaration that I've pretty
5 clearly set forth those motivations.

6 Q. Did you consider the implementation
7 details in those motivation sections?

8 A. I haven't memorized everything. So
9 I'm looking at Page 34 of the '921 dec and the
10 motivation to combine section there, and it is
11 talking about various aspects and various
12 motivations that one of ordinary skill would
13 have had based on the very clear disclosures in
14 both Toge and Kumar.

15 Q. So in those sections did you discuss
16 implementation details?

17 A. Again, I'm confused by your question.
18 To the extent you're asking the implementation
19 details are set forth here as well as in other
20 portions where I've set forth, but one of
21 ordinary skill would be motivated to, for
22 example, take certain teachings from Kumar and
23 incorporate them into Toge. So that is an
24 example of implementation detail where I explain
25 what the combination would look like and why one

1 of ordinary skill would have been motivated to
2 create that combination.

3 Q. So in Paragraph 76 you state that a
4 POSITA would have been motivated to improve the
5 physician-side computer taught by Toge by
6 implementing it as the web server with
7 browser-based engine as taught by Kumar; is that
8 correct?

9 A. I think Kumar calls it the central
10 server for the browser-based engine.

11 Q. So is it your opinion that a server
12 with a browser-based engine is a remote Internet
13 site?

14 A. Can you point me to that paragraph
15 where I talk about that so I can take a quick
16 look at it?

17 Q. Paragraph 66.

18 A. So, yes, in Paragraph 66 I do say that
19 Kumar discloses a central server 106 that hosts
20 a browser-based engine that can be accessed
21 through web pages. And in the parentheses I do
22 say that one of ordinary skill would understand
23 that to be the recited remote Internet site in
24 the independent claims.

25 Q. So it is your opinion that a server

1 that hosts browser-based engine is a remote
2 Internet site; correct?

3 MS. NGUYEN: Objection. Document
4 speaks for itself.

5 THE WITNESS: My opinion is
6 Kumar's disclosure -- I think you seem to be
7 saying in general, but this is -- my analysis in
8 this declaration, and specifically Paragraph 66,
9 it's talking about Kumar and the Kumar reference
10 and what one of ordinary skill would have
11 understood from reading the Kumar reference.

12 BY MS. FULLER:

13 Q. So in the Kumar reference you identify
14 a server that hosts a browser-based engine as a
15 remote Internet site; is that correct?

16 MS. NGUYEN: Same objection.

17 THE WITNESS: Well, I'm talking
18 about the combination that is set forth in my
19 declaration and the analysis. And so
20 essentially what I'm stating is that in the
21 combination one of ordinary skill would
22 understand that Kumar's central server in that
23 combination would render obvious the remote
24 Internet site as recited in the independent
25 claims.

1 BY MS. FULLER:

2 Q. So is it your opinion that -- pardon
3 me. Strike that.

4 So is a browser-based engine web
5 software -- web-server software that's run on
6 the server?

7 MS. NGUYEN: Objection; vague.

8 THE WITNESS: So I think Kumar
9 has disclosure about the central server 106 in
10 the Kumar reference. I can try to look through
11 the Kumar reference --

12 BY MS. FULLER:

13 Q. Before we do that, before we do that,
14 what is your understanding of browser-based
15 engine?

16 A. Well, it states, for example, in
17 Paragraph 66 that a central server 106 hosts a
18 browser-based engine that can be accessed
19 through web pages.

20 Q. So based off of that, what is your
21 understanding of a browser-based engine?

22 MS. NGUYEN: Objection; vague.

23 THE WITNESS: That it can be, for
24 example, accessed through web pages.

25 BY MS. FULLER:

1 Q. So is the browser-based engine web
2 server software?

3 A. Are you asking what Kumar says about
4 this? Again, I have not memorized all of these
5 patents or my declaration. I'm happy to take a
6 look at something in Kumar and answer your
7 question.

8 Q. I just want to understand what a
9 POSITA would understand a browser-based engine
10 to be. So either you can answer that right
11 here, or do you need to look into Kumar's
12 disclosure to then be able to provide that
13 answer?

14 A. Well, I think, like I explained to
15 you, I have not memorized these references, and
16 so I'm happy to look through Kumar and explain
17 what the disclosures are in Kumar.

18 Q. Sure, certainly. We can open up the
19 Kumar disclosure.

20 A. Well, for example, in Paragraph 87 of
21 Kumar it talks about the Apache web server,
22 .NET, Java servlets. Additionally, figure 17
23 also talks about servlets. So I believe one of
24 ordinary skill would understand that one such
25 implementation could be based on, for example, a

1 web server such as the Apache web server.

2 Q. Can we go back to Paragraph 76 of your
3 '921 declaration.

4 A. Paragraph 76?

5 Q. Correct. So where you state that a
6 POSITA would have implemented Toge's
7 physician-side computer as a central server with
8 browser-based engine, would that entail Toge's
9 physician-side computer storing and then
10 transferring data upon receiving a client
11 request in that implementation?

12 A. Can you ask that question one more
13 time, please?

14 Q. So you state that a POSITA would have
15 been motivated to improve the physician-side
16 computer taught by Toge by implementing it as
17 the central server with browser-based engine.
18 In this implementation, would Toge's computer
19 store and transfer data upon receiving a client
20 request?

21 A. I want to be clear, because you read
22 that first sentence in Paragraph 76 but you
23 ended before "as taught by Kumar", that it's
24 talking about the central server with
25 browser-based engine as taught by Kumar. And so

1 are you asking that the central server with
2 browser-based engine, whether it would respond
3 to a request? Is that your question?

4 Q. I'll break this down. So do I have a
5 correct understanding that the Kumar
6 modification would be to Toge's physician-side
7 computer based off of this paragraph?

8 A. Yes, in the combined system, as I
9 state, a person of ordinary skill in the art
10 would have been motivated to improve the
11 physician-side computer taught by Toge by
12 implementing it as the central server with
13 browser-based engine as taught by Kumar.

14 Q. So then in this implementation, Toge's
15 physician-side computer would store and then
16 transfer data upon a client request; is that
17 correct?

18 A. So you're using the word "transfer
19 data". So it would respond to a request, for
20 example, in -- like we were talking about
21 before, there is disclosure in Kumar of
22 implementing the system using, for example, the
23 Apache web server. So the web server would, for
24 example, respond to a request.

25 Q. And when you say "respond to a

1 request", a client device sends out an HTTP
2 request that is received by the web server
3 software and then there's an HTTP response? Is
4 that a correct understanding?

5 A. In that implementation as explained by
6 Kumar, yes, one of ordinary skill would
7 understand that the client would send a request
8 and the server would process that request and
9 send a response.

10 Q. Is there a difference between a
11 response and a transfer of data?

12 A. Well, it depends what the request is.

13 Q. What do you mean by "depends on what
14 the request is"?

15 A. Well, I think if one of ordinary skill
16 would understand that HTTP, there may not be a
17 request to transfer data. There are requests
18 such as like a post, and so it depends on what
19 the request is.

20 Q. So if the request is to get data, such
21 as data to render a web page, would that
22 encompass transferring data?

23 A. If you're calling, for example, the
24 HTML data, yes, it could include that.

25 Q. So I'm just getting the correct

1 understanding, is that transfer and request can
2 be the same, just depends on if the request is
3 for getting the data that then is transferred to
4 the client device; is that correct?

5 A. I think you misspoke. You said
6 transferred request could be the same. I think
7 what we were talking about is really the
8 response.

9 Q. Okay, thank you. Transfer and
10 response. Thank you.

11 Can we go to Paragraph 87 of your
12 declaration, of the '921.

13 A. Okay. I'm there.

14 Q. Do you see where it says:
15 "Implementing the web pages of Kumar allowed
16 anyone with Internet browser to access the data
17 without downloading additional software"?

18 A. I do.

19 Q. So is this one of the reasons why a
20 POSITA would have been motivated to modify
21 Toge's physician-side computer?

22 A. I think one of ordinary skill would
23 have understood that there are a multitude of
24 benefits in taking the learnings from Kumar and
25 applying them to the system of Toge, and I

1 believe not requiring specific software and
2 allowing, for example, multiple doctors to
3 potentially access the information would be
4 understood by one of ordinary skill to be
5 benefits to the combined system.

6 Q. And when you say "specific software",
7 what do you mean by that term?

8 A. Well, for example, specific software
9 meaning like specific software like an
10 application that's only for that usage.

11 Q. Can we go to Kumar? So return back to
12 Kumar, and go to Paragraph 18 of Kumar. Let me
13 know when you get there.

14 A. Okay, I'm there.

15 Q. Do you see where Kumar references
16 plug-and-play web device drivers?

17 A. I do see a little bit more than
18 halfway into it Kumar says that the present
19 invention may support both plug-and-play web
20 device drivers and customized graphical user
21 interfaces, GUIs, for the various devices.

22 Q. Can you explain what a plug-and-play
23 device is in Kumar?

24 A. I think if you look about two
25 sentences -- or one sentence before that, I was

1 explaining that preferably the present invention
2 is built on a modular architecture in which the
3 patient-side device and/or the computing device
4 coupled to the patient-side device can send a
5 request to the engine with an identifier of the
6 patient-side device, and the engine will send
7 the appropriate plug-in, which allows the
8 computing device to communicate with the
9 patient-side device.

10 Q. So the plug-and-play software allows
11 the communication between a medical device and a
12 computing device such as a PDA; is that correct?

13 A. The plug-and-play is downloading a
14 piece of software that allows that patient-side
15 device, for example, to communicate with a
16 particular -- with the computing device, for
17 example, the one that the patient may have.

18 Q. Will you go back to your '921
19 declaration and specifically Paragraph 146 of
20 that declaration. Let me know when you get
21 there.

22 A. Okay. I'm at 146.

23 Q. Okay. So in that paragraph you state:
24 "A person of ordinary skill in the art would
25 have understood that if data can be transmitted

1 through the Internet to and from the
2 physician-side computer, the physician-side
3 computer could be implemented as a web server."

4 Do you see that?

5 A. I do.

6 Q. Is this based off of the fact that
7 Toge discloses that a communication network can
8 be the Internet, and therefore, that would be
9 the basis for why a POSITA would have understood
10 that the physician-side computer could be
11 implemented as a web server?

12 A. I think Paragraph 146 is saying that
13 based on the disclosure of Toge, one of ordinary
14 skill would understand that the physician-side
15 computer could be implemented as a web server.
16 And as I talked about earlier in the tech
17 background, web servers and web content were
18 readily known to those of ordinary skill.

19 And then in Paragraph 147, that's when
20 I talk about Kumar and I say, for example, like
21 the Kumar reference talks about, as we talked
22 about earlier, potentially Apache web server,
23 .NET, things like that.

24 Q. So just sticking to Paragraph 146,
25 though, you make the statement that a POSITA

1 would have understood that if the data can be
2 transmitted through the Internet to and from the
3 physician-side computer, the physician-side
4 computer could be implemented as a web server.
5 Is that because Toge discloses a communication
6 network as being the Internet?

7 A. I think what I'm saying there is that
8 yes, it's based on Toge's disclosure of the
9 Internet, but also the knowledge of one of
10 ordinary skill, which like I explained, one of
11 ordinary skill would have readily understood
12 that web pages and web servers exist and they --
13 by the time of the relevant time period for this
14 patent, web servers and web pages and web
15 content were well known to those of ordinary
16 skill. So that would have been an obvious
17 implementation decision for a POSITA.

18 MS. FULLER: We've been going for
19 about 45 minutes now. I need to take a quick
20 break. Cheryl, we can go off the record.

21 (9:47 a.m. PST - Recess taken.)

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1 (At 9:53 a.m. PST, with parties
2 present as before, the following proceedings
3 were had, to-wit:)

4 BY MS. FULLER:

5 Q. Dr. Chatterjee, welcome back.

6 A. Thank you.

7 Q. Dr. Chatterjee, are you aware of
8 network address translation devices?

9 A. Yes.

10 Q. Okay. Can you explain generally what
11 a network address translation device is?

12 A. Well, in that device, as the name
13 implies, can convert, for example, internal IP
14 addresses to external IP addresses, and vice
15 versa.

16 Q. So it converts private IP addresses to
17 public IP addresses; is that correct?

18 A. It could do that, yes.

19 Q. And are client devices operating
20 behind NAT devices when they're on a private
21 network, for example?

22 A. If you're talking about, for example,
23 like the home network, the home network could
24 potentially be using, for example, 192.168 IP
25 addresses, and then on the external facing side

1 you can have noninternal or nonreserved IP
2 addresses.

3 Q. So then the NAT device would be
4 converting the internal addresses to the public
5 IP addresses; correct?

6 A. Yes.

7 Q. Are these devices behind NAT, are they
8 not accessible from the outside?

9 A. Are they not accessible?

10 Q. From an outside device, because the
11 private IP addresses are not known.

12 A. Well, again, this gets back to
13 configuration of the NAT device, and whatever
14 firewalls that you have. But in general, no,
15 the whole purpose of a NAT device is that it
16 can, like I mentioned, translate between
17 internal or reserved IP addresses like 192.168
18 to public facing or external IP addresses.

19 Q. I guess an outside device, though,
20 does not know the private IP address of the
21 device that's behind the NAT device; is that
22 correct?

23 A. The external resource would be
24 communicating with the external or public IP
25 address.

1 Q. So in that instance the external
2 resource only knows the public IP address that
3 gets transferred to the NAT device, and the NAT
4 device then does the translation to the private
5 IP address; is that correct?

6 A. It can, yes.

7 Q. So in a scenario such as a web
8 application, a client device sends a request to
9 a web server. In that request it would be
10 transferred from the client device through a NAT
11 device that translates the IP network to a
12 public IP network address, and then gets sent to
13 the web server.

14 A. Typically web servers have external or
15 public IP addresses. But if you wanted to, you
16 could potentially implement the web server that
17 resides behind, for example, a firewall, a NAT
18 device, you can have that.

19 Q. So let's do the example where you have
20 the client device operating on a private
21 network, and the web server that's on the
22 Internet. So where the client device sends an
23 HTTP request to the web server, that request is
24 going to go through a NAT device where the IP
25 address is going to get translated from a

1 private IP address to a public IP address, and
2 then sent to the web server; is that correct?

3 A. If a NAT device is implemented in that
4 situation, then, yes, the NAT device will, for
5 example, translate the source IP address to the
6 external or public-facing IP address and then
7 forward the packet based on that.

8 Q. And then any responses back from the
9 web server would be to the public IP address and
10 then the NAT device translates it back to the
11 private IP address; correct?

12 A. Yes. And as part of that translation
13 it also forwards the packet.

14 Q. Forwards the packet back to the client
15 device; right?

16 A. Or on the first part of that leg it
17 would forward the packet to the web server and
18 then on the back part of that leg, on the return
19 leg, it would translate the IP address back
20 into, for example, the 192.168 IP address and
21 forward the packet within the internal network.

22 Q. So the web server does not know the
23 private IP address of the client; it only knows
24 the public IP address?

25 A. It depends on the implementation, but

1 I believe that that could be accurate. Some
2 implementations could be like that.

3 Q. And depends on the implementation
4 like, for example, if the web server is in an
5 intranet, it might know the private IP address?

6 A. I think what I'm saying is like it
7 depends on the implementation in terms of what
8 the NAT does and how it keeps track of the
9 different IP addresses. It may keep track of it
10 by putting it into some field of the packet, or
11 it may keep track of it a different way within
12 its own internal tables.

13 Q. Can we turn to the '921 patent, which
14 is marked as Exhibit 1001.

15 A. Okay, I'm there.

16 Q. I'd like to direct your attention to
17 the passage starting on Column 19, starting on
18 Lines 35 through 41. I'll let you quickly read
19 that passage and let me know when you're done
20 reading it.

21 A. You said Column 19, Lines 35 to 41?

22 Q. Correct.

23 A. Okay. I've read it.

24 Q. So in this passage of the '921
25 specification it states -- it has the word

1 retransmit. Do you see that word, retransmit?

2 A. I do.

3 Q. So in this context is retransmit
4 referring to a relay of data from one device to
5 another?

6 A. Well, it's saying that another example
7 is where the remote communication system is a
8 PDA, computer, or cell phone, which receives the
9 physiological data transmission, optionally
10 reprocesses the information and retransmits the
11 information via cell towers, land phone lines,
12 satellite, radiofrequencies or cable to a remote
13 site for analysis. So it's saying optionally
14 reprocesses the information as well.

15 Q. When the device retransmits, though,
16 is that signifying that the device is relaying
17 the information to another device such as a
18 remote site?

19 A. I think it's saying that the device
20 can send the information to a remote site for
21 analysis.

22 Q. Do you have an understanding of what
23 retransmit means and how it differs from
24 transmit?

25 A. Can you point to which part of my

1 declaration I'm talking about this so I can take
2 a look at it and refresh my memory?

3 Q. I'm just -- specifically just staying
4 here in the '921 patent.

5 A. Well, I mean, even for the '921 I have
6 not memorized the entirety of the '921. But
7 just looking at this sentence and it seems like
8 your question is limited to this sentence in a
9 vacuum, it's basically saying that another
10 example is where the remote communication system
11 is a PDA, computer or cell phone, which receives
12 the physiological data transmission, optionally
13 reprocesses the information, and retransmits the
14 information via cell towers, land phone lines,
15 satellite, radiofrequencies, or cable to a
16 remote site for analysis.

17 Q. So in this instance is this
18 communication, remote communication system
19 acting as an intermediary device that receives
20 and then relays the data to another device?

21 A. That's what I pointed out to you
22 earlier. It's expressly stating optionally
23 reprocesses the information in that sentence
24 that I read to you as well.

25 Q. So I mean, but focusing on the

1 retransmit in that sentence where it retransmits
2 it, it's just relaying the data to another
3 device; is that correct?

4 A. Well, it's saying retransmits the
5 information via cell towers, land phone lines,
6 satellite, radiofrequencies or cable to a remote
7 site for analysis. So it does say all of those
8 things in there as well.

9 Q. So then what's the difference in a
10 retransmission versus just a transmission?

11 A. Well, again, I'm understanding your
12 question to be limited to this sentence in a
13 vacuum, and as I've explained to you a couple of
14 times, I have not memorized everything in the
15 '921, and if there is other disclosure about
16 that question. But I think what it's trying to
17 get at is that it's information that device,
18 that PDA, computer, or cell phone, is first
19 receiving the information. It optionally
20 processes or reprocesses the information and
21 then retransmits the information via cell
22 towers, land phone lines, satellite,
23 radiofrequencies or cable to a remote site for
24 analysis. So at a minimum it's not transmitting
25 it by itself; it's first receiving it, as is

1 expressly stated in that sentence.

2 Q. When you say not transmitting it by
3 itself, what do you mean by that statement?

4 A. Well, because it's saying that it
5 receives the physiological data transmission,
6 optionally reprocesses the information, and
7 retransmits the information, and it continues
8 on.

9 Q. So it's not -- strike that.

10 So is this device in this passage, is
11 it retransmitting without having to wait for a
12 request from the remote site?

13 MS. NGUYEN: Objection; vague.

14 THE WITNESS: Again, my
15 understanding of your question is limited to
16 only that one sentence within the '921, and like
17 I've explained, I have not memorized everything
18 else in the '921. But what you're asking is an
19 implementation detail, and there's nothing here
20 that -- at least for this sentence, there's
21 nothing that I see that says it's implemented
22 one way versus another way.

23 BY MS. FULLER:

24 Q. Can we go to Paragraphs 158 and 159 of
25 your '921 declaration.

1 A. Okay. Would you like me to read those
2 paragraphs?

3 Q. You can just briefly skim it over just
4 to get your bearings on what these paragraphs
5 discuss. Let me know when you're done.

6 A. Okay. Okay, I've briefly skimmed
7 them.

8 Q. So are these paragraphs, Paragraph 158
9 and 159, based on what Toge describes in its
10 disclosure?

11 A. Well, it's talking about what one of
12 ordinary skill would understand, and then it's
13 also talking about Kumar, if you look at the
14 last sentence in 158. So it is talking about --
15 it's talking about the combination.

16 Q. And in Toge's disclosure there's a
17 physician-side computer and a physician-side
18 mobile device; correct?

19 A. Yeah. I think the mobile terminal 5
20 and the physician-side computer 4.

21 Q. Okay. And in Toge's disclosure these
22 two devices are devices that are located at the
23 physician-side, so such as a desktop computer or
24 a mobile device, and are what physicians or
25 other medical professionals use in their

1 day-to-day working capacity; is that correct?

2 A. Again, I have not memorized the Toge
3 reference and whether it says things like
4 day-to-day. But what the Toge reference
5 discloses is that it does disclose a mobile
6 terminal 5 and a physician-side computer 4, and
7 it does say how, for example, in emergencies the
8 mobile terminal 5 can be mobilized. And so it
9 does have disclosure. And like I'm saying, I
10 remember that off the top of my head but I have
11 not memorized if it uses words like day-to-day
12 or not.

13 Q. Well, the physician-side computer and
14 physician-side mobile terminal are the personal
15 devices of physicians or other medical
16 personnel; is that correct?

17 A. Again, if you point me to where in the
18 Toge reference you're seeing this -- I think my
19 recollection, off the top of my head, again,
20 with the caveat that I've not memorized
21 everything, the Toge reference talks about the
22 mobile terminal 5 and physician-side computer 4.
23 I don't remember, again, off the top of my head
24 saying day-to-day or if it's the personal device
25 or provided by the medical center. I don't

1 remember that off the top of my head. It may be
2 there but I don't remember it.

3 Q. We can open up Toge and just take a
4 look. Do you have that exhibit available to
5 you?

6 A. I do.

7 Q. Okay.

8 A. Where do you want me to look?

9 Q. Just one second. I'm opening it up
10 myself. Okay, in Paragraph 18 it discusses
11 medical institution personnel, such as
12 physicians and nurses, can access the
13 transmitted data using a physician-side
14 computer. In this passage would a POSITA
15 understand a physician-side computer is a
16 desktop computer that is used for the physician
17 or nurses?

18 A. I think -- like if you look at
19 Paragraph 19 it's saying in the possession of a
20 physician or nurse. So I believe that
21 physician-side computer 4 could be, for example,
22 like you stated, a computer like a PC.

23 Q. And then in Paragraph 19 the mobile
24 terminal 5 in the position of a physician or a
25 nurse is an example of a PDA that they carry

1 around in their possession; correct?

2 A. It's just saying it's in the
3 possession of a physician or a nurse. So the
4 disclosure is that the mobile terminal is in the
5 possession of a physician or nurse.

6 Q. Since we have Toge open right now and
7 it's right in front of you, did you read Toge
8 from front to back in preparing your
9 declaration?

10 A. I've read the Toge reference many
11 times front to back.

12 Q. And what is your understanding of what
13 Toge is directed to? Is it directed to
14 physician monitoring of patients' PAP device
15 data?

16 A. Well, if you read the abstract for
17 Toge, it's saying in parentheses, (problem),
18 "Enabling remote monitoring of the patient's
19 condition during the use of a positive pressure
20 artificial respiration assisting device, or the
21 condition of the positive pressure artificial
22 respiration assisting device."

23 Q. So the remote monitoring is done by
24 the physician; is that correct?

25 A. Well, I think like even if you look

1 right to the right of the abstract, it's showing
2 that there is physician-side computer 4 and
3 mobile terminal 5, and then we were just
4 looking, reading from Paragraph 18 and 19, I
5 believe, where it's talking about that these
6 devices could be in the possession of a
7 physician or a nurse. So it is giving
8 disclosure that the information is provided to,
9 for example, physician-side computer 4 and
10 mobile terminal 5. And it's saying that those
11 devices are in the possession of a physician or
12 a nurse.

13 Q. In the early 2000s, Dr. Chatterjee,
14 did the majority of cell phone subscribers have
15 flip phones versus smartphones? Are you aware
16 of that time frame and what the makeup was?

17 A. Um, again, just going from memory, I
18 believe that there were a number of different
19 types of phones. There were flip cell phones.
20 There were also candy bar cell phones. I talk
21 about -- in my declarations I talk about the
22 Nokia Communicator, which looks like a candy bar
23 from the outside but then you can open it up.
24 So there were -- even in the early 2000 time
25 period, there were a different variety of cell

1 phones.

2 Q. Were you aware of the percentage
3 breakdown of the number of people that had flip
4 phones versus what you say is the candy bar
5 phones? Were you aware of that percentage
6 breakdown?

7 A. Not off the top of my head for sure.
8 But just going from personal recollection, I
9 believe that like I just testified to, I was
10 working in the space at that time, and we were
11 testing for a variety of devices at that time as
12 well. So I believe that there were a large
13 variety of different devices, even in the early
14 2000 time period, but I don't have specific
15 percentages off the top of my head.

16 Q. In your declaration you make reference
17 to text web browsing in these earlier phones
18 before the Nokia phone. Can you elaborate on
19 what text web browsing is?

20 A. Can you point me to a paragraph,
21 please?

22 Q. Certainly. 27 of your '921
23 declaration.

24 A. Okay. So I think 27 is trying to get
25 across the point that previous phones had

1 offered only text web browsing but the 9000
2 Communicator could render graphics, and then it
3 continues on. So I think that's one of the key
4 differences that I was trying to get across.

5 But also, like I mentioned, the Nokia
6 Communicator 9000, this, I believe, came out in
7 the late '90s, very early 2000s as well.

8 Q. So what is text web browsing?

9 A. Where you don't have a lot of
10 graphics, and it's the information -- the
11 specific information is what is displayed using
12 text. And you could, for example, implement
13 graphics using different text characters as
14 well.

15 Q. So were these phones limited by
16 network speeds, processing powers, display
17 capabilities, and that's why they could only
18 render text web browsing?

19 A. Well, I think at that time, like I
20 just -- like I've explained in the declaration,
21 the Nokia Communicator was available, but the
22 Nokia Communicator was expensive as well. And a
23 lot of the other devices, they did not have, for
24 example, two screens like the Communicator 9000
25 did. So it's not that the technology did not

1 exist. The technology was clearly there. But
2 some of these devices like I'm saying, the candy
3 bar phones and some of the flip phones, they
4 would implement graphics using text characters
5 versus rendering graphics in and of itself.

6 Q. At the time was data -- at that time
7 was Internet speed slow for being able to render
8 these types of graphics?

9 A. When you say at that time, are you
10 talking about prior to -- I believe we're
11 looking at 2005?

12 Q. I guess -- pardon me. I should say
13 previous phones had offered only text web
14 browsing, so I guess the time frame of the
15 previous phones. My apologies for not being
16 specific when I said at that time.

17 A. But I think -- so I'm a little bit
18 confused. So you're asking before -- I think
19 we're saying that the Communicator came out in
20 '99 time frame, I think -- oh, '96. If you look
21 at Paragraph 25 of my report, it's talking about
22 it was launched in 1996. So are you asking
23 prior to 1996?

24 Q. Let's just go roughly in that time
25 frame of 1996 to early 2000s, what was -- it was

1 2G network connectivity; correct?

2 A. I believe so. I don't recall exactly
3 the time period, but yes, I believe so.

4 Q. And 2G network connectivity, was that
5 basically voice communication and text messages?

6 A. So are you asking whether the web
7 existed prior to 1996? Is that your question?

8 Q. I'm trying to understand, you know,
9 in -- let's just be concrete. Early 2000s,
10 where there is 2G network connectivity. How
11 did, you know, data get transferred to web-based
12 applications?

13 A. How did data get transferred --

14 MS. FULLER: I guess strike that
15 question, Cheryl. Pardon me.

16 BY MS. FULLER:

17 Q. In the early 2000s, there was 2G
18 network connections; correct?

19 A. Again, I don't recall when 3G came
20 out, but it was either 2 or 3G.

21 Q. Were you aware of cell phone carriers
22 and how they charged for their data when a user
23 accessed the Internet on cell phones? Was it
24 expensive?

25 A. I think they charged -- I think they

1 had -- there were different pricing models, if I
2 remember correctly. In different countries
3 there were different pricing models. But people
4 were using their mobile devices to access the
5 web, and the reason I know this is that I worked
6 on one of the leading web application servers at
7 that time, and we were focused on supporting
8 mobile devices. And so clearly people were
9 using mobile devices to access web pages and
10 retrieve data from web pages. And so yes, that
11 was a big thing, a lot of activity around that
12 space at that time.

13 Q. And how was Internet speed in
14 transferring data from a web server to a cell
15 phone at that time? Was it slow?

16 A. Are you asking if it's slower than
17 today's 5G, is that your question?

18 Q. Yes. I'm just trying to get the
19 transfer of data speeds at that time.

20 A. I think it was slower than today's 5G,
21 but like I mentioned, even in early 2000s mobile
22 access to the web was one of the hottest areas,
23 and I worked at Bluestone where we had one of
24 the leading web application servers, and I was
25 in the mobile group and we were focused, how do

1 you allow mobile devices to access any web page
2 in the world. And so we were doing that, and
3 that was a huge area. Everyone was using their
4 mobile devices to access web pages and get
5 up-to-date realtime information.

6 Q. So if a cell phone subscriber had a
7 flip phone, they could access a web page over
8 the Internet during that time; correct?

9 A. If you had a correct type of phone,
10 mobile device, and you had -- and you wanted to
11 go to a particular web page and your telco
12 allowed it, then yes, you could access that web
13 page and you could see the contents of the web
14 page on your phone.

15 Q. When you say correct type of cell
16 phone, what do you mean by that?

17 A. I'm just saying if you had a phone,
18 like a correct type of phone, like not a
19 wireless phone but like a cell phone, then you
20 could -- and you had a screen on there, then you
21 could access a web page and then have that
22 information displayed on your phone. And then
23 depending on the screen size, you may have to
24 scroll down to see additional parts of the
25 screen, but you were able to access web pages

1 and access in realtime and get up-to-date
2 information from web pages.

3 Q. And the carriers allowed it -- only if
4 the carriers allowed it, what did you mean by
5 that statement?

6 A. So at the beginning some of the
7 carriers, with regards to the web, they would
8 have walled gardens as well. So they blocked
9 certain types of inappropriate content, things
10 like that. And so that's an example of what I
11 mean.

12 Q. And for a cell phone subscriber to
13 access the data on a website, they would still
14 have a data charge from that carrier; correct?

15 A. I think at that time it was based more
16 on time, or a combination of both time as well
17 as the amount of data.

18 Q. That's transferred in that request,
19 the amount of data that's transferred in that
20 request, is that what you mean?

21 A. Well, not the request, but all of your
22 data -- all of your usage. So if you go to 15
23 different websites, then your bill would be
24 based on your aggregate going to those 15
25 websites.

1 Q. So in Paragraph 26 where you showed
2 what you labeled as a candy bar phone, the
3 Nokia, did these phones have applications that
4 could be downloaded on these Nokia cell phones?

5 A. These phones did have applications,
6 and I believe I talk about some of the
7 applications, as well.

8 Q. So this was a unique phone in that it
9 was able to download applications, whereas the
10 flip phones did not have application capability;
11 is that correct?

12 A. No, that's not correct. What I'm
13 trying to get across here is that the Nokia 9000
14 was very close to a portable PC. It had a lot
15 of the applications that a PC would have whereas
16 the flip phones, you could have different types
17 of applications but they would not be PC type of
18 applications. You could have applications that
19 allow you to communicate and do different
20 things.

21 But the point that I'm trying to make
22 is that even by the late 1990s and very early
23 2000s, there was a variety of phones out there,
24 including like we've been talking about, flip
25 phones and candy bar phones, but also going up

1 to devices like the Nokia 9000, which were very
2 close to essentially a PC in your pocket.

3 MS. FULLER: Let's go off the
4 record.

5 (10:34 a.m. - Recess taken.)

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1 (At 10:40 a.m. PST, with parties
2 present as before, the following proceedings
3 were had, to-wit:)

4 MS. FULLER: Thank you,
5 Dr. Chatterjee. I have no further questions at
6 this time.

7 THE WITNESS: Thank you.

8 MS. NGUYEN: No redirect. Thank
9 you so much.

10 MS. FULLER: Thank you.

11 COURT REPORTER: (Requests orders
12 for the record.)

13 MS. FULLER: Rough, and expedited
14 by the 11th.

15 MS. NGUYEN: Cheryl, can I get
16 back to you on that, whatever my standing order
17 with my paralegal was.

18 COURT REPORTER: Yes, that's
19 fine.

20 (10:41 a.m. PST - Adjournment.)

21 ** ** *

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25

1 C E R T I F I C A T E

2 STATE OF NEBRASKA)
3 COUNTY OF DOUGLAS) Ss.

4 I, Cheryl A. Rooney, Registered
5 Professional Reporter, General Notary Public
6 within and for the State of Nebraska, do hereby
7 certify that the foregoing testimony of SANDEEP
8 CHATTERJEE, Ph.D. was taken by me in shorthand
9 and thereafter reduced to typewriting by use of
10 Computer-Aided Transcription, and the fifty-five
11 (55) pages contain a full, true and correct
12 transcription of all the testimony of said
13 witness, to the best of my ability;

14 That I am not a kin or in any way
15 associated with any of the parties to said cause
16 of action, or their counsel, and that I am not
17 interested in the event thereof.

18 IN WITNESS WHEREOF, I hereunto affix
19 my signature and seal this 11th of September,
20 2025.

21
22 _____
23 CHERYL A. ROONEY, RPR
24 GENERAL NOTARY PUBLIC
Registered Professional Reporter

25 My Commission Expires: November 24, 2026

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