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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,)
)
Petitioner,)
)
vs.)
)
HEADWATER RESEARCH LLC,)
)
Patent Owner.)
_____)

CERTIFIED COPY

Case No.: IPR2024-00010
PATENT 9,615,192

DEPOSITION OF
DR. MICHAEL C. BROGIOLI
REMOTELY HELD VIA VIDEOCONFERENCE TECHNOLOGY
DECEMBER 3, 2024

REPORTED BY:
LYNETTE MARIE NELSON,
CA CSR No. 11585, OR CSR No. 250121,
TN LCR No. 896, RPR, CRR, CCRR, CRG,
REALTIME SYSTEMS ADMIN.
JOB NO. 24-144891
FR Ref. 39843-0166IP1

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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,	)	
	)	
Petitioner,	)	
	)	
vs.	)	Case No.: IPR2024-00010
	)	PATENT 9,615,192
HEADWATER RESEARCH LLC,	)	
	)	
Patent Owner.	)	

DEPOSITION OF DR. MICHAEL C. BROGIOLI,
taken by the Petitioner, commencing at the hour of
10:03 a.m. on Tuesday, December 3, 2024, held remotely
via videoconference, before Lynette Marie Nelson,
Certified Shorthand Reporter in and for the State of
California, Oregon, and Tennessee.

APPEARANCES:

For the Petitioner:

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1 REMOTE DEPOSITION; TUESDAY, DECEMBER 3, 2024, 10:03 A.M.

2 -000-

3 THE STENOGRAPHER: Counsel, if you will waive
4 the read-in, I will swear in the witness.

5 MR. MILKEY: So yeah, we also waive the
6 read-in.

7 MR. JHURANI: Yes, waived on our end.

8 (Witness sworn.)

9 THE WITNESS: Yes, I do.

10 THE STENOGRAPHER: Thank you.

11

12 DR. MICHAEL C. BROGIOLI,
13 HAVING BEEN DULY SWORN BY THE CERTIFIED SHORTHAND
14 REPORTER, WAS EXAMINED AND TESTIFIED AS FOLLOWS:

15 EXAMINATION

16 BY MR. JHURANI:

17 Q. Good morning, sir. This is Karan Jhurani, and
18 I will just state for the record, I'm with Fish &
19 Richardson appearing on behalf of petitioner, Samsung.

20 Sir, could you please state your name for the
21 record.

22 A. Yes, it's Michael Brogioli, B-R-O-G-I-O-L-I.

23 Q. All right. Thank you.

24 I'm going to go over some ground rules today,
25 sir, for today's deposition.

1 You understand that you're testifying under
2 oath today?

3 A. Yes, I do.

4 Q. And you understand that in today's deposition,
5 I'm going to ask you a series of questions?

6 A. Yes.

7 Q. And if you don't understand a question, will
8 you let me know that you don't understand the question?

9 A. Yes, I will.

10 Q. But if you answer a question, is it fair for me
11 to accept that you understood the question I asked?

12 MR. MILKEY: Objection to form.

13 THE WITNESS: Yes, that should be true.

14 BY MR. JHURANI:

15 Q. You understand that you're to give complete,
16 truthful, and accurate testimony today?

17 A. Yes, I do.

18 Q. Is there any reason, medical or otherwise, that
19 you can't do that?

20 A. No.

21 Q. Sir, did you prepare for today's deposition?

22 A. I did.

23 Q. What did you do to prepare?

24 A. I recall reviewing my declaration that I
25 submitted in this matter. I looked at the prior art

1 references that I -- that I mentioned in my declaration,
2 the Houghton, Munson, and the 3GPP reference as well.
3 And I probably looked at at least a couple portions of
4 Dr. Trainer's declaration. At least those that I talk
5 about in my declaration. And then met with counsel
6 yesterday.

7 Q. Did you discuss this case with anyone other
8 than counsel?

9 A. No.

10 Q. And just as a housekeeping matter, sir, I'm
11 going to be putting in exhibits that we will use during
12 this deposition in the chat.

13 Do you have any local exhibits that you were
14 planning on using or -- or were you planning to use the
15 exhibits I provide?

16 A. We can use the exhibits you provide. I have
17 unmarked copies of probably the same ones. My
18 declaration and the three references I mentioned
19 earlier.

20 Q. As long as they're unmarked, I'm happy with you
21 using whichever one, whether it's your local copy or the
22 one that I put in the chat, but to make the court
23 reporter's job easier, I'll put it in the chat.

24 A. Okay.

25 Q. All right. So with that, I'm going to put depo

1 Exhibit 1 into the chat and this is your declaration.

2 Bear with me.

3 All right, sir.

4 MR. JHURANI: So just for the record, Depo
5 Exhibit 1 is the "Declaration of Dr. Michael C. Brogioli
6 in Support of Patent Owner's Response."

7 (Exhibit No. 1 marked for identification.)

8 BY MR. JHURANI:

9 Q. Sir, this is the declaration you prepared?

10 A. One -- one moment. I'm downloading your copy.

11 Q. Sure.

12 A. Yes, that looks to be correct.

13 Q. And on the title page of this exhibit, do you
14 see the patent, 9,615,192?

15 A. I do.

16 Q. If I refer to this patent as the '192 patent,
17 will you understand that reference?

18 A. Yes.

19 Q. And this declaration that you've prepared is
20 prepared in connection with the IPR proceeding involving
21 the '192 patent; right?

22 A. That's correct, yes.

23 Q. All right. Let's turn to paragraph 48 of your
24 declaration. Feel free to read that paragraph and let
25 me know when you're done.

1 A. Okay.

2 Okay.

3 Q. Towards the end of this paragraph, you state:

4 "I note that the above citation
5 (and other portions of TS-23.140)
6 discuss things that 'shall' occur and
7 other things that 'may' occur."

8 Do you see that?

9 A. I do.

10 Q. So if the standard document says that something
11 "shall occur," that is a mandatory requirement of the
12 implementation of the standard; is that your
13 understanding?

14 MR. MILKEY: Objection to form.

15 THE WITNESS: That is -- that is generally how
16 that language is used in these references.

17 BY MR. JHURANI:

18 Q. And if the standard says something "may occur,"
19 that would be an optional feature of the implementation;
20 is that also your understanding?

21 A. That's correct, yes.

22 Q. And so an optional feature may or may not be
23 included in an implementation of the standard; is that
24 right?

25 A. That generally when something is denoted as the

1 "may" language, it's something that you can opt to
2 implement or not in contrast to the "shall" language
3 where it's something that's mandatory, yeah.

4 Q. And the basis for your understanding of the
5 meaning of words like "shall" and "may" as used in this
6 and other standards documents?

7 A. Your question is what is the basis?

8 Q. Yeah. Why is that your understanding in the
9 context of the words like "may" and "shall"?

10 A. That within various standards documents, there
11 will be -- perhaps not in all of the documents for a
12 version of the standard, but a number of them will
13 define the meanings of words "shall" and "may" in this
14 example. And it's often the case that these are used
15 consistently across even other standards even in various
16 3GPP references from the time frame, I think the 140
17 reference is from Release 6 but even subsequent releases
18 to that is how this type of language is used for things
19 that are either mandatory that you must implement to be
20 compliant with a given version of the standard or things
21 that are, I would say, permissive where you can elect to
22 implement it such as the "may" language.

23 Q. And you said in some of those standard
24 documents, the terms "shall" and "may" are defined; is
25 that right?

1 A. As -- as a recollection that perhaps in some of
2 the either higher level or maybe main documents of a
3 given standard or section of the standard, have an index
4 of words being defined.

5 Q. Is it your understanding that "shall" and "may"
6 is also a defined in TS-23.140?

7 MR. MILKEY: Objection to form.

8 THE WITNESS: I would need to go back and look
9 for you. I don't recall if in what's probably listed as
10 a glossary of terms if it was just technical terms that
11 were defined there or other words were defined as well.

12 MR. JHURANI: Well, I will put in TS-23.140
13 into the chat just so we can have it. And this is going
14 to be Depo Exhibit 2, which is Exhibit 1004.

15 We will submit it in the '192 IPR proceeding.

16 (Exhibit No. 2 marked for identification.)

17 BY MR. JHURANI:

18 Q. Feel free to take a look, sir, and let me know
19 if these terms are defined in TS-23.140.

20 A. So it looks like in the glossary or the
21 Section 3, I'm on page 14 of the PDF in the internal
22 page No. 14 as well. I don't see that it's defining
23 "shall" and "may" here. It looks like the definitions
24 in 3.1 are more technical terms themselves.

25 Q. Would a term like "shall" be used to describe

1 an optional feature or implementation?

2 MR. MILKEY: Object to form.

3 THE WITNESS: I would need to see the context
4 in -- in which the word may be used, the broader
5 sentence or broader paragraph. But as I describe in my
6 declaration, that word is being used for things that are
7 mandatory in a given -- in a given standard.

8 BY MR. JHURANI:

9 Q. All right. While you have it, sir, let's turn
10 to page 29 of the TS-23.140 reference, which is
11 Exhibit 2. And I'll draw --

12 A. Okay.

13 Q. -- your attention to the section that begins
14 with 7.1.3, "Retrieval of a Multimedia Message in the
15 recipient MMSE."

16 Are you there?

17 A. I am, yes.

18 Q. The first paragraph in this section states, in
19 part, that:

20 The "MMS User Agent shall be able
21 to request retrieval of an MM."

22 Do you see that?

23 A. Yes, I do.

24 Q. And because this sentence uses the term
25 "shall," that would be a mandatory implementation of

1 TS-23.140; right?

2 A. That's right, as we just -- or as I discussed
3 in my paragraph 48.

4 Q. The next paragraph in Section 7.1.3 states, in
5 part, or states:

6 "Within a retrieval request, the
7 recipient MMS User Agent may indicate
8 a size restriction of the returned MM
9 (i.e., maximum size) that the MMS
10 Relay/Server is to use in processing
11 the retrieval request."

12 Do you see that?

13 A. Yes, I do.

14 Q. And because the sentence uses the word "may,"
15 it would not be mandatory for the MMS user agent to
16 indicate the size restriction within the retrieval
17 request; is that fair?

18 A. That looks like what this sentence or paragraph
19 is saying.

20 Q. So retrieval requests may include the size
21 request or it may not; is that right?

22 A. That looks like what this sentence is saying,
23 yes.

24 MR. JHURANI: Can I go off camera for a second?
25 I feel like there's a Jesus-like halo glow on me right

1 now. Let me reduce that a little bit.

2 Sorry about that.

3 BY MR. JHURANI:

4 Q. Let's turn back to your declaration and I will
5 draw your attention to paragraph 31. Let me know when
6 you're there.

7 A. Okay.

8 Q. You identify here some parameters listed in the
9 '192 patent specification. Do you see that?

10 A. Yes, I discuss a number of the parameters
11 mentioned in the specification of the '192.

12 Q. And I'll just put in the '192 patent as well in
13 the chat, but I'll stick with the -- stick with the
14 questioning here.

15 MR. JHURANI: The '192 patent is Exhibit 1001
16 that I just put in the chat and that will be Depo
17 Exhibit 3.

18 (Exhibit No. 3 marked for identification.)

19 BY MR. JHURANI:

20 Q. But going back to your declaration, sir,
21 paragraph 31, you say that specification refers to these
22 parameters as "transmission triggers." Where does it do
23 that?

24 MR. MILKEY: Objection to form.

25 THE WITNESS: So let me just quickly download

1 your copy of the patent.

2 In the about three or four lines down on
3 page 11 -- okay -- I mention or I state a POSITA would
4 understand that these constitute memory triggers because
5 the specification refers to them as transmission
6 triggers, and then I cite to, looks like, Column 7, 6 to
7 16. And I believe they're also mentioned in some of the
8 claims, but I'll start with Column -- sorry, 70, 6 to
9 16.

10 So it starts out saying that a service control
11 links -- service control server link can determine when
12 to transmit base potentially on several parameters and
13 such as one or more of, and then lists things like such
14 as a periodic timer and continues on.

15 It mentions the different agent communications
16 and frame communications.

17 Then continues down at the same column around
18 21, or 22 rather, the timing function such as
19 "asynchronous messages or polling for messages, constant
20 frequency transmissions," et cetera. Continues on
21 through that paragraph.

22 And then looks like that's what I also cite at
23 the latter part of my paragraph 31.

24 And then as I recall, way down in the claims,
25 I'm at page, I guess, 202 of the 203-length PDF, we see

1 things like Claim 9, for example, quote, wherein one of
2 the message delivery triggers is the expiration of a
3 periodic timer. Claim 11 talks about message delivery
4 triggers as well. Claim 13 does as well.

5 BY MR. JHURANI:

6 Q. So the claims are referring -- or use the
7 phrase "message delivery trigger"; right?

8 A. That's correct, yes.

9 Q. I think my question was a little bit more
10 specific about the parameters in Column 70 and -- in
11 Column 70 and specifically my question is this: Where
12 are these parameters identified as transmission
13 triggers?

14 MR. MILKEY: Objection to form.

15 THE WITNESS: Well, I think it's just -- excuse
16 me -- just as this section states, for example, it
17 starts out on line 6 of Column 70:

18 "The service control server
19 link... can determine when to
20 transmit based potentially on."

21 And then it goes to describe several of these
22 parameters.

23 So someone reading this section understands
24 that these are the various transmission -- or the
25 various transmission triggers that are being described

1 in the claims subsequently and are also described here
2 in this section.

3 BY MR. JHURANI:

4 Q. I see.

5 So then each of these parameters that is listed
6 as examples in Column 70 would be examples of
7 transmission triggers; is that right?

8 MR. MILKEY: Object to form.

9 THE WITNESS: I would say certainly the ones
10 that I discuss in my citations here in paragraph 31, and
11 it looks like I'm covering lines 6 to 30. So it looks
12 like those transmission triggers in that section would
13 be examples of the triggers, yes.

14 BY MR. JHURANI:

15 Q. Got it.

16 One of the triggers listed here on line 11 is
17 "initiated by one or more servers."

18 Do you see that?

19 A. I see that, yes.

20 Q. In paragraph 31 of your declaration, you do not
21 include this as one of the triggers. Why is that?

22 A. I'm just revisiting the paragraph first.

23 It may be the case that -- and I don't recall
24 from memory, the -- the arguments of Dr. Traynor's that
25 I'm responding to perhaps didn't include a reference to

1 the, quote, initiated by one or more servers on line 11
2 here. I just don't recall from memory.

3 Q. Is it your view that "initiated by one or more
4 servers," which is one of the parameters listed in
5 Column 70 is a transmission trigger?

6 MR. MILKEY: Objection to form.

7 THE WITNESS: I don't think I've addressed that
8 at my declaration.

9 I would say that the specification here says
10 what it says, but I don't recall addressing that
11 specific condition in this list of conditions as to
12 whether it's one of the transmission triggers I'm
13 discussing in my -- in my declaration.

14 BY MR. JHURANI:

15 Q. I understand.

16 But you did note that the parameters listed in
17 Column 70, lines 6 through 16, are examples of
18 transmission triggers; right?

19 A. In that section, 6 to 16 that I cite to, that's
20 correct. Or that sentence, rather.

21 Q. So you don't disagree that "initiated by one or
22 more servers" is an example of a transmission trigger;
23 right?

24 MR. MILKEY: Objection to form.

25 THE WITNESS: I would say that in -- in citing

1 in my paragraph 31 to various transmission triggers, I
2 point to at least portions of that sentence that covers
3 those ten lines or so.

4 I don't discuss in my declaration that specific
5 passage, quote, initiated by one or more servers. At
6 least if I do, feel free to point me to it, but I don't
7 recall discussing that explicitly so I haven't analyzed
8 that.

9 BY MR. JHURANI:

10 Q. I think that's the issue, sir. I didn't see it
11 cited, and I'm just trying to understand whether you
12 disagree that that is a trigger or not.

13 A. I would answer that I haven't formed an opinion
14 on that outside what's in my declaration.

15 Q. And sitting here today, you can't say whether
16 "initiated by one or more servers" is a transmission
17 trigger or not?

18 A. I don't have an opinion one way or the other
19 sitting here today. Beyond what's in the declaration.

20 Q. Another transmission trigger listed here is
21 "initiated by some other error condition."

22 Do you see that? That's around line 14.

23 A. Yeah, I see, I think, on line -- line 13, it
24 says, quote, and/or initiated by some other error
25 condition is part of the language there.

1 Q. Do you have an understanding of how that
2 trigger would work?

3 MR. MILKEY: Objection to form.

4 THE WITNESS: It looks like it's describing, at
5 least in this paragraph, it's talking about at line 7
6 when to transmit based potentially on several
7 parameters. And then skipping back down to 13, says,
8 "and/or initiated by some other error condition."

9 I see what it says. I don't think I've looked
10 through the '192 specification as to -- if there's
11 description or implementation or some other detail on
12 the error condition language. I don't recall discussing
13 that in depth in my declaration.

14 BY MR. JHURANI:

15 Q. I understand, sir.

16 As an expert in this field, how would that
17 transmission trigger work?

18 MR. MILKEY: Objection to form.

19 THE WITNESS: I would say there may be a
20 discussion in the specification or if someone were
21 building a system pursuant to some standard that talked
22 about how that type of behavior might be required to be
23 implemented, they would -- to be standard compliant need
24 to follow that standard. It seems like a very generic
25 question to me.

1 BY MR. JHURANI:

2 Q. Sure.

3 So certainly we can agree that there's some
4 error condition; right? And that would need to occur
5 before message is delivered?

6 MR. MILKEY: Objection to form.

7 THE WITNESS: It looks like what is being said
8 here is that the service control link -- sorry -- the
9 service control server link can determine when to
10 transmit based on several parameters. One of those
11 described in line 13 is this "initiated by some other
12 error condition." Just prior to that at line 12 talks
13 about "initiated by a verification error condition." So
14 it looks like it's saying there may be some other error
15 that might happen.

16 I don't see it in this sentence being specific
17 about it. And that if that error condition happens,
18 we -- we can initiate the transmit.

19 BY MR. JHURANI:

20 Q. Okay. Understood.

21 In Column 70, line -- around line 14, it says:

22 "For example, once a transmission
23 trigger has occurred, the service
24 control server link 1638 can take all
25 buffered agent communications and

1 frame the communications."

2 Do you see that?

3 A. Yes.

4 Q. What does it mean that the "link 1638 can take
5 all buffered agent communications and frame the
6 communications"?

7 MR. MILKEY: Objection to form.

8 THE WITNESS: I'm doing a quick look for how --
9 the reference is using "frame."

10 It looks like what it's saying here at line 15
11 of Column 70 is the entity, 1638, can look at what's
12 held in a buffer as an agent communication and then
13 conceptually package those up into a frame that it
14 describes, it looks like it starts talking about frames
15 in some of the figures around 25. And so -- but
16 effectively package them up for transmission.

17 BY MR. JHURANI:

18 Q. Going back up in this column around line 9,
19 another transmission trigger listed is:

20 "Waiting until a certain amount
21 of service usage or traffic usage has
22 occurred."

23 Do you see that?

24 A. I do.

25 Q. Can you explain to me how that trigger would

1 work?

2 MR. MILKEY: Objection to form.

3 THE WITNESS: Let me see.

4 So I don't -- I don't discuss this in depth in
5 my declaration. But I will say that when it says
6 service usage or traffic usage has occurred, it may just
7 be monitoring the amount of traffic that's happened.
8 And if some level of traffic has occurred, that may be
9 another one of the -- one of the several parameters
10 that's being described in this portion of Column 70.

11 BY MR. JHURANI:

12 Q. So in that context, then, the message would not
13 be delivered until a certain amount of that service
14 usage has occurred?

15 A. It looks like here it's saying -- if I back up
16 to line 6, that 1638:

17 "The service control server link
18 can determine when to transmit based
19 potentially on several parameters."

20 And then it continues on to where you were
21 referring to line 9.

22 One of those parameters being discussed here
23 being "a certain amount of service usage or traffic
24 usage" has happened.

25 Q. So would traffic usage, just as an example, be

1 how many kilobytes have been used in the traffic or how
2 much -- how much kilobyte of traffic has happened?

3 A. I guess I would answer that sort of
4 generically. I haven't gone through the lengthy
5 specification for all of the details of how it may use
6 traffic usage or -- just finding my spot again or
7 service usage. But traffic usage may be something like
8 the number -- as you said, maybe kilobytes or megabytes
9 of network traffic flowing to a node or something or to
10 a specific user agent or something like that.

11 Q. I see. Yeah.

12 Just for example purposes, if that certain
13 amount of service usage or traffic usage is
14 500 kilobytes, let's use that as an example, okay?

15 A. Okay.

16 Q. If the traffic usage is less than 500, the
17 service control server link would not transmit the
18 message; right?

19 MR. MILKEY: Objection to form.

20 THE WITNESS: It -- I would say that if -- if
21 we're defining traffic usage as some raw number of bytes
22 of data, and your example, I think, was 500 kilobytes,
23 then that -- going back to the language starting at
24 Column -- I'm sorry, line 6, then the service control
25 link server can determine when to transmit based

1 potentially on, in this example, traffic usage being
2 your 500 kilobytes or something like that. So we're
3 waiting until a certain amount of, dot, dot, dot,
4 traffic usage of 500 kilobytes has occurred.

5 BY MR. JHURANI:

6 Q. And while we're waiting, it remains stored in a
7 buffer presumably; correct?

8 MR. MILKEY: Objection to form.

9 THE WITNESS: I don't -- I don't see that this
10 sentence says that.

11 BY MR. JHURANI:

12 Q. Well, if we look at Column 70 at line 4, it
13 says:

14 "The service control server
15 link... can perform collection or
16 buffering of server messages between
17 transmissions."

18 Do you see that?

19 A. I see that, yes.

20 Q. And the next sentence, when it talks about --
21 it talks about:

22 "The service control link can
23 determine when to transmit based
24 potentially on several parameters."

25 Right?

1 A. That's right.

2 Q. And then in Column 70, line 14, it goes on to
3 say at line 14:

4 "Once a transmission trigger has
5 occurred, the service control server
6 link ... can take all buffered agent
7 communications and frame the
8 communications."

9 Do you see that?

10 A. I do.

11 Q. So then coming back to our example of that
12 certain amount of service usage which we are just using
13 as an example 500 bytes -- kilobytes, excuse me, if this
14 traffic usage is less than 500 kilobytes, the service
15 control server link does not transmit the message and it
16 keeps it in storage; correct?

17 MR. MILKEY: Objection to form.

18 THE WITNESS: It looks like in this example
19 what this portion of the specification is saying is that
20 the service control server link will do this collection
21 or buffering of messages between transmissions, and so
22 when you were asking me about traffic usage, it sounds
23 like if the traffic usage is -- has been below that
24 500-kilobyte example, let's say it's 200 kilobytes or
25 something, that traffic will be perhaps sitting in a

1 buffer somewhere.

2 BY MR. JHURANI:

3 Q. And when the traffic usage reaches or exceeds
4 500 kilobytes, the buffered messages will be
5 transmitted; is that right?

6 MR. MILKEY: Object to form.

7 THE WITNESS: It looks like it says at 14:

8 Once the -- "Once a transmission
9 trigger has occurred, the service
10 control link server 1638 can take all
11 buffered agent communications and
12 frame the communications."

13 BY MR. JHURANI:

14 Q. And I believe you said that language taking all
15 of the buffered communications and framed communications
16 is part of initiating the transmission; is that fair?

17 A. I think I was describing the framing of the
18 communications as probably putting them into the various
19 frame formats that's described in the figures of the
20 specification.

21 Q. I see.

22 Going back to line 6:

23 "The service control link... can
24 determine when to transmit based...
25 on several parameters."

1 Do you see that line?

2 A. Yes.

3 Q. So in our example, when 500 kilobytes or more
4 of traffic usage is reached, the service control server
5 link would determine to transmit the buffered messages;
6 right?

7 A. That it's saying it -- the service control
8 server link can determine when to transmit based on the
9 parameters that are described here in Column 70.

10 Q. Right.

11 I'm trying to understand that language in the
12 context of our 500-kilobyte example. So what happens
13 when 500 kilobytes of traffic usage is reached?

14 MR. MILKEY: Objection to form.

15 THE WITNESS: So in this example, if the
16 traffic usage in the traffic usage example, if the
17 certain amount is 500 kilobytes, then it sounds like if
18 the 500 kilobytes is reached, that's one of the several
19 parameters described at line 8 and that the service
20 control link server at that time can determine when to
21 transmit based on that parameter, the traffic usage.

22 And then it continues down to say, at 14:

23 "Once a transmission trigger has
24 occurred, the service control link...
25 can take all buffered agent

1 communication and frame the
2 communications."

3 And then continues on.

4 My understanding is this paragraph just talks
5 about the framing part of the communication process.

6 BY MR. JHURANI:

7 Q. Let's look down to lines 21 through 30 of
8 Column 70. And feel free to read that and let me know
9 when you're done.

10 A. Okay.

11 Okay. Go ahead.

12 Q. The last few lines in this excerpt that you
13 read says:

14 Message transmission -- "Other
15 message transmission trigger criteria
16 can be determined, controlled, and/or
17 initiated by either the device side
18 or the network side depending on the
19 embodiment."

20 Do you see that?

21 A. Yes.

22 Q. What does it mean for the trigger criteria to
23 be determined, controlled, or initiated by the device
24 side or the network side?

25 MR. MILKEY: Objection to form.

1 THE WITNESS: So I guess I would say that it
2 looks to be as this sentence or portion of the sentence
3 reads that -- that there's message transmission trigger
4 criteria and that those can be determined or controlled
5 or initiated by -- it looks like this is referring to
6 the service or from the vantage point of the service
7 control server link 1638 that that can happen from
8 either devices side like a UE or a handset or network
9 side depending on the embodiments discussed in the
10 specification.

11 I haven't -- I don't recall analyzing this
12 sentence beyond just citing to it in my paragraph 31
13 that we discussed.

14 BY MR. JHURANI:

15 Q. When you say "network side," is that referring
16 to some server in the network?

17 MR. MILKEY: Object to form.

18 THE WITNESS: I don't see that this sentence
19 is -- is -- at least the language of this second half of
20 the sentence isn't necessarily saying a specific -- I
21 think your word was "server," for example. It's just
22 saying different sides, either the device side of 1638
23 or the network side of 1638 is how it's -- is how it is
24 describing it.

25

1 BY MR. JHURANI:

2 Q. I believe for the device side, you said it
3 could be a device or UE, and my question is when you say
4 "network side," what could that be referring to as an
5 example?

6 MR. MILKEY: Object to form.

7 THE WITNESS: I would guess just as it says,
8 it's saying "or the network side depending on the
9 embodiment."

10 So it would be something, it sounds like,
11 perhaps residing on the network side within the scope of
12 the embodiments discussed in the specification.

13 BY MR. JHURANI:

14 Q. Can you give me an example of some element on
15 the network side?

16 A. It would sound like something sitting in the
17 network or network reachable from the service control
18 server link 1638. I don't recall of the embodiments in
19 the specification as to what -- what it contemplates may
20 or may not sit out there.

21 Q. All right. I understand.

22 I'm just trying to understand as an example
23 what would be an example of an element sitting on the
24 network side.

25 MR. MILKEY: Object to form.

1 THE WITNESS: Generically, in a network, there
2 might be something that would be called a server, for
3 example, that can reach various nodes in the network.
4 You know, it's a complex network that these things would
5 be deployed. So we would have to look at a specific
6 embodiment.

7 BY MR. JHURANI:

8 Q. One question on 70, Column 70, 6 through 16, it
9 notes that:

10 "The service control server link
11 can determine when to transmit based"
12 on potentially -- "based potentially
13 on several parameters such as one or
14 more," and it lists several
15 parameters.

16 When it says "one or more," does that indicate
17 that one or more of those parameters or triggers could
18 occur and then the server control link determines when
19 to transmit the message?

20 MR. MILKEY: Objection to form.

21 THE WITNESS: Can I hear you one more time?

22 BY MR. JHURANI:

23 Q. Sure.

24 I guess I'm just trying to understand what "one
25 or more" signifies in this paragraph.

1 MR. MILKEY: Objection to form.

2 THE WITNESS: So I would just refer us to the
3 language just as it is here starting at line 6 of
4 Column 70, that:

5 "The service control server link
6 1638 can determine when to transmit
7 based potentially on several
8 parameters."

9 And then examples are discussed in this section
10 through -- I guess we've talked about through line 30,
11 and that "transmit based potentially on several
12 parameters" and "such as one or more of" after the colon
13 the things listed in this section, sounds like.

14 BY MR. JHURANI:

15 Q. So per this example, embodiment, the service
16 control link can be configured to determine when to
17 transmit based on a single parameter; is that right?

18 MR. MILKEY: Objection to form.

19 THE WITNESS: I guess it's just as the sentence
20 says:

21 "The service control server link
22 can determine when to transmit based
23 potentially on several parameters,
24 such as one or more of," colon, the
25 things listed below.

1 BY MR. JHURANI:

2 Q. So it could determine when to transmit based on
3 one parameter or based on multiple parameters; is that
4 fair?

5 MR. MILKEY: Objection to form.

6 THE WITNESS: I guess I would point us back to
7 the specification states:

8 "Can determine when to transmit
9 based potentially on several
10 parameters, such as one or more of."

11 And then there is a section detailing various
12 parameters.

13 BY MR. JHURANI:

14 Q. So I understand that, sir. I guess my question
15 is more specific.

16 In a system, would it be the case that multiple
17 of these parameters would be configured so that the
18 service control link determines when to transmit based
19 on those multiple parameters?

20 MR. MILKEY: Objection to form.

21 THE WITNESS: I guess it sounds like what this
22 sentence or subsection of the sentence is reading is
23 that the service control server link can determine when
24 to transmit and that's potentially on several
25 parameters. And those can be such as one or more of

1 things in -- or things being described starting at
2 line 8 onwards in this -- in this section.

3 BY MR. JHURANI:

4 Q. What is -- what do you understand the word
5 "potentially" to mean in this context?

6 MR. MILKEY: Objection to form.

7 THE WITNESS: That the 1638 is going to
8 determine when to do this transmission. It's
9 potentially on several parameters or possibly on several
10 parameters as it's describing. And then it says "such
11 as one or more of" the following description.

12 BY MR. JHURANI:

13 Q. So the element 1638 determines when to do this
14 transition possibly based on several of these parameters
15 or triggers occurring; correct?

16 MR. MILKEY: Objection to form.

17 THE WITNESS: Then it says it can determine
18 when to transmit based potentially on several parameters
19 and that description is then such as one or more of the
20 various things described starting on that line 8 onward.

21 BY MR. JHURANI:

22 Q. Sir, a system practicing this portion of the
23 specification could be configured to implement multiple
24 parameters or transmission triggers; is that fair?

25 MR. MILKEY: Objection to form.

1 THE WITNESS: It looks like what it's
2 describing here is that that when to transmit can be
3 based on, as it describes, several parameters and then
4 that description of the several parameters at line 7 is
5 one or more -- it says such as one or more of this list
6 of -- starts with "periodic timer trigger," comma, and
7 continues onward.

8 BY MR. JHURANI:

9 Q. Thank you. I understand.

10 MR. JHURANI: Been going about an hour. Would
11 you like a five-minute break and then reconvene?

12 THE WITNESS: Sure.

13 (A recess was taken.)

14 BY MR. JHURANI:

15 Q. All right. Welcome back, Dr. Brogioli. It's
16 always good when the witnesses come back. It's never
17 happened in my career so far that someone doesn't come
18 back. So thank you for keeping this.

19 We were talking about the '192 patent which is
20 Depo Exhibit 3. Let's stick with that and go to
21 Column 38.

22 I'll draw your attention in particular to
23 lines 25 to 40 of Column 38. And feel free to read that
24 and let me know when you're done.

25 A. Okay. Go ahead.

1 Q. This description in Column 38 that you just
2 read provides a similar list of transmission triggers
3 that we discussed in the context of Column 70; right?

4 A. It looks like it's at least in part describing
5 similar things that we talked about earlier.

6 Q. Lists some of the same or similar parameters
7 that we were looking at on Column 70; right?

8 A. That looks right -- right. I haven't performed
9 a word-to-word comparison, but, for example, we were
10 talking about before the break traffic usage and service
11 usage and things like that.

12 Q. Right.

13 And similar to what we saw in Column 70, at
14 line 38, it says:

15 "In some embodiments, once a
16 transmission trigger has occurred,
17 the service control device link 1691
18 assembles all buffered agent
19 communications and frames the
20 communications."

21 Right?

22 A. I see that, yes.

23 Q. I think at this point -- sorry, were you going
24 to say something?

25 A. I note that it looks like this section is

1 talking about Figure 16.

2 Q. Right. Yes.

3 One of the things you pointed out, a certain
4 amount -- waiting until a certain amount of service
5 usage or traffic usage, and I know we were talking about
6 that in the context of Column 70.

7 If we go to Column 39, beginning at line 11.

8 A. Okay.

9 Q. It says:

10 "In some embodiments, the service
11 usage or service activity trigger
12 occurs based on some other measure
13 than traffic usage."

14 It lists some measures after that, do you see
15 that?

16 A. I see that, yes.

17 Q. And one of the items that's listed is "roaming
18 event." Do you see that?

19 A. Yes. Line 17 or so.

20 Q. What is your understanding of a "roaming
21 event"?

22 MR. MILKEY: Objection to form.

23 THE WITNESS: I'm just doing a quick scan for
24 how it's used in this reference, but it may be the
25 condition of if I'm operating on a device -- sorry,

1 operating a device on another vendor's network or
2 something along those lines. I don't recall getting
3 into how that's used in the specification within my
4 declaration.

5 BY MR. JHURANI:

6 Q. So would it be something like the user joining
7 a network other than the home network?

8 MR. MILKEY: Object to form.

9 THE WITNESS: Perhaps something like this. I
10 know in Figure 42J, it talks about, for instance, in the
11 first row, the roaming selection service is a function
12 that surveys available roaming service partners. So it
13 may be other partners or network providers, a device can
14 operate on that may be partner -- there may be different
15 pricing structures or things like that associated with
16 it. Something like that.

17 BY MR. JHURANI:

18 Q. In what context, just by way of example, would
19 a device join or access a different network provider's
20 network?

21 MR. MILKEY: Object to form.

22 THE WITNESS: I haven't looked at -- well, in
23 the context of the '192 patent, I haven't looked at the
24 conditions for what constitute these roaming events
25 described in Column 39. I haven't done that analysis.

1 The specification's over 200 pages. That wasn't
2 something I looked at.

3 BY MR. JHURANI:

4 Q. Right.

5 I'm just trying to understand as an expert in
6 this field, when you're considering a roaming event,
7 what would be a scenario in which a device would access
8 a different network off a different network service
9 provider?

10 MR. MILKEY: Object to form.

11 THE WITNESS: There could probably be many of
12 them.

13 BY MR. JHURANI:

14 Q. Can you give an example?

15 A. Very generically, I can recall using, in my own
16 personal example, a cell phone in a region where perhaps
17 a provider didn't have coverage and I could use someone
18 else's network. And there may be pricing or, as I
19 recall, charge increases associated with that or data
20 rate increases or something like that.

21 Q. So in a different region perhaps maybe when
22 traveling internationally?

23 A. That, at the time frame I'm thinking of, it
24 sounds like the use case I'm recalling. Just
25 generically.

1 Q. I understand.

2 Coming back to Column 38 -- or 39, excuse me,
3 after roaming event, another item listed is:

4 "An event related to another
5 network connection to the device."

6 Do you see that?

7 A. I do.

8 Q. What is your understanding of what "another
9 network connection to the device" might encompass?

10 A. I'm just going to revisit this paragraph in the
11 bottom of 38.

12 So I don't see that it discusses a, quote,
13 another network connection to the device. That language
14 anyway in this paragraph starting at line 50 of 38. But
15 that may be something just as it seems to read, maybe
16 the device is connected to a local Wi-Fi network or
17 something like that. It's just saying there's another
18 network connection to the device in this little passage
19 here.

20 Q. Could it also be referring to another
21 connection to another cellular network?

22 A. I haven't looked through the spec to see that,
23 but I think that would constitute, it seems like, a type
24 of network connection.

25 Q. We can set aside the '192 patent for a few

1 minutes and let's turn back to your declaration, sir.

2 Depo Exhibit 1.

3 A. Okay.

4 Q. Let's go to paragraph 79. Feel free to read
5 that and paragraph 80 and then I'll have a few questions
6 for you.

7 A. Okay.

8 Okay. Go ahead.

9 Q. And in these paragraphs, seem to be discussing
10 a portion of TS-23.140 regarding the earliest desired
11 time of delivery.

12 A. To answer your question, yes, I'm talking about
13 the TS-23.140 and portions of this earliest desired time
14 of delivery.

15 Q. So by way of an example, let's assume for
16 purposes of my question that earliest desired time of
17 delivery is set to 7:00 p.m. Eastern. Can we agree on
18 that just as an example?

19 A. One moment.

20 Q. Well, let's back up.

21 Do you have an understanding of what the
22 earliest desired time of delivery is?

23 A. Yes, the reason I paused was I forget from
24 memory how it's denoted. Denoted. Is it an absolute
25 time that gets set or is it 30 minutes in the future

1 from a relative time. I'm just revisiting this page.

2 I'm just skimming through 23.140 at page 27 and 28.

3 Okay. Go ahead. I don't see that it's, at
4 least in these bullet points, the formats, the format of
5 the time itself is specified.

6 Q. Assuming absolute time, can we assume that the
7 earliest desired time of delivery is 7:00 p.m. Eastern?

8 A. Okay.

9 Q. So if the earliest desired delivery time of
10 delivery is set to 7:00 p.m. Eastern, in the context of
11 what you describe in paragraph 79 and 80, the
12 originating MMS relay/server would retain the message
13 until that time; is that right?

14 A. Okay. Let me revisit the paragraph.

15 So there's -- there -- there are two scenarios
16 described in these paragraphs, one being where -- where
17 there isn't -- there's only one relay/server in this --
18 in this scenario. But if we have a first and second
19 relay/server here, then what will happen is, as
20 described on page 27 of TS-23.140, this -- I'm starting
21 down at the second passage of text.

22 Upon that reception of the MM from the
23 originator, MMS user agent, that originator MMS
24 relay/server, if we continue to the second bullet point
25 under that, will retain that MM until that earliest

1 desired time of delivery, which I believe was your
2 7:00 p.m. Eastern.

3 Q. Got it. Okay. Thank you.

4 What does the originator MMS relay/server do at
5 the earliest desired time of delivery, which is
6 7:00 p.m. in our example?

7 A. So I'm sticking with the second bullet point on
8 page -- on the second set of bullets on page 27. It
9 states that in that first line so if this optional
10 feature of the earliest time of delivery is supported by
11 that first or originator MMS relay/server, then it's
12 going to wait until that time of delivery. If the
13 feature is not supported, then the MM is immediately
14 routed forward to that second or recipient MMS user
15 agent.

16 So in the instance you're asking about where
17 the earliest time of delivery feature is supported, it
18 looks like the originator MMS relay/server will hold on
19 to that MM until that earliest time of delivery. And
20 then -- and then at that time will be routed forward to
21 the recipient. Sorry, the -- the language is the
22 recipient MMS relay/server.

23 Q. Yeah, I understand. There's a lot of
24 long-phrased words here. I completely get that.

25 So okay. Just so we're clear, then, at that

1 time, at the 7:00 p.m. Eastern, earliest desired time of
2 delivery, the originator MMS relay/server would route
3 the message forward to the recipient MMS relay/server;
4 is that right?

5 A. That is what's described in 27 and what I
6 discuss in my paragraph 80, that's right.

7 Q. Now, you mentioned that there may be a case
8 where the originator and the recipient MMS relay/server
9 are the same; right?

10 A. That, yes, where the originator recipient are
11 the same, there's a behavior that's described there as
12 well.

13 Q. Actually, sorry, I didn't think through about
14 one thing on the previous -- we'll come back to the
15 originator and recipient MMS relay/server being the
16 same.

17 Going back really quick to the originator and
18 the recipient MMS relay/server being different.

19 A. Okay.

20 Q. When the recipient MMS relay/server gets the
21 message from the originator MMS relay/server at the
22 earliest desired time of delivery, what happens next?

23 MR. MILKEY: Object to form.

24 THE WITNESS: I would say that once the
25 recipient MMS relay/server receives this MM, the flow

1 process that I described previously in my declaration
2 will take place. So going back to, you know, my
3 description starting in paragraph 43 onward with the
4 various cites and flow diagrams and the TS-23.140
5 reference.

6 BY MR. JHURANI:

7 Q. So would that include the relay/server sending
8 the notification to the user agent and then the user
9 agent sending the retrieval request, is that the flow
10 you're referring to?

11 A. That once that recipient MMS relay/server
12 receives the MM, the process, for example, of the
13 MM1_notification.REQ and so forth will happen between
14 that relay/server and the -- the recipient MMS user
15 agent that's described roughly in 24 and 25 of my
16 declaration.

17 Q. You said "24 and 25," you're referring to pages
18 or --

19 A. Pages, that's right. I was just referring to
20 the various figures from the TS-23.140 reference.

21 Q. So looking at 24, 25, it's referring to the
22 notification request and then the retrieve request?

23 A. Yes, that there's the notification happening
24 between the relay/server and the recipient MMS and so
25 forth.

1 Q. In paragraph 80, you note:

2 The originator -- "Originating
3 MMS relay/server guarantees that the
4 recipient MMS relay/server... will
5 not deliver the message before the
6 earliest desired time of delivery."

7 Do you see that?

8 A. Yes, I do.

9 Q. Why is that?

10 A. Well, the originating MMS relay/server won't be
11 transmitting the MM to the recipient MMS relay/server
12 until that earliest time of delivery. And then after --
13 so when the earliest time of delivery expires, the MM is
14 route forwarded from the originating MMS relay/server to
15 the recipient MMS relay/server.

16 And then at that time -- skipping back to make
17 sure I keep my terminology straight -- the recipient
18 relay/server would then be able to send -- and I'm
19 referring to the -- my Figure 8 on page 25, would send
20 the MM1_notification.REQ to the recipient MMS, and then
21 only at that point would it -- the recipient MMS be
22 aware that this MM was residing on the recipient MMS
23 relay/server, to then go through the subsequent steps
24 shown in this Figure 8.

25 Q. Okay. Understood.

1 Then coming back to what I asked earlier, there
2 is a scenario in which the originating and the recipient
3 MMS relay/server are the same; right?

4 A. That -- that the recipient MMS relay/server is
5 also the originator relay/server. So they're not sort
6 of separate to be route forwarded to. That's right.

7 Q. So in that case, what does the originating
8 relay/server do at the earliest desired time of
9 delivery, say, at 7:00 p.m. Eastern?

10 MR. MILKEY: Object to form.

11 THE WITNESS: I'm just rereading this
12 paragraph.

13 So it looks like what the TS-23.140 states
14 about this is that the top quarter of page 28, that
15 there's the special case where that recipient MMS
16 relay/server is also the originator MMS relay/server.
17 So here it's stating that in this special case, the MM
18 doesn't have to be routed forward. It seems to me, at
19 least in Section -- this is Section 7.1.1, that's all
20 that it's saying about that special case.

21 BY MR. JHURANI:

22 Q. Right.

23 So if a message is received that has the
24 earliest desired time of delivery of 7:00 p.m., and is
25 received at the originating server, that's the same as

1 the recipient relay/server, the MM would not be routed
2 forward for what we see at page 28; right?

3 A. In the sense that because the two, the
4 originator and recipient are the same that the
5 routing-forward portion is not going to occur.

6 Q. And the routing-forward portion, in your view,
7 refers to routing forward from the originator MMS
8 relay/server to the recipient MMS relay/server; right?

9 A. That's right.

10 Q. So because they're one and the same, there
11 would be no recipient, I guess, relay/server to route
12 forward to; right?

13 A. That's right; that the process of waiting for
14 that earliest time of delivery to then route forward,
15 there is no route-forward portion in this special case.

16 Q. So what happens to that message when that
17 earliest desired time of delivery arrives, let's say
18 when it's 7:00 p.m. Eastern? What does the originator
19 MMS relay/server do?

20 A. What it looks like this section of the standard
21 is saying 7.1.1, is in this case where the recipient --
22 the originator and recipient MMS relay/servers are the
23 same, that when that earliest time of delivery at
24 7:00 p.m. occurs, there isn't -- all it's saying is the
25 routing portion doesn't happen.

1 I don't see that the -- the bullet points under
2 7.1.1 give further description of how the special case
3 is handled.

4 Q. So is it your view that the message would not
5 be delivered?

6 MR. MILKEY: Object to form.

7 BY MR. JHURANI:

8 Q. The originator -- let me restate the question.
9 Is it your view that the message would not be
10 delivered if the originator and the MMS relay/server are
11 the same in this earliest desired time of delivery
12 context we've been discussing?

13 MR. MILKEY: Objection to form.

14 THE WITNESS: That the message would not be
15 delivered? I don't know that that's what this section
16 is saying, no.

17 BY MR. JHURANI:

18 Q. I'm just trying to understand. So let's back
19 up.

20 What does the earliest desired time of delivery
21 specify?

22 A. That this is the earliest time at which your
23 end point UA is going to receive the MM.

24 Q. And in the context where the originator and the
25 MMS and the recipient MMS relay/server are the same,

1 what happens? At the time when the earliest desired
2 time of delivery arrives, so 7:00 p.m. Eastern?

3 MR. MILKEY: Objection to form.

4 THE WITNESS: So I'll refer us back to my
5 paragraph 80.

6 In that at the 7:00 p.m. Eastern time for our
7 earliest time of delivery example, in this special case
8 as denoted on Figure 28 where the originator and
9 recipient MMS relay/servers are the same, since the
10 originator and recipient are the same, that the
11 recipient, it sounds like, as I'm describing in
12 paragraph 80, it's going to be ultimately responsible
13 for delivering to that recipient MMS user agent and
14 won't deliver before that earliest time of delivery.
15 But in this special case, the route forwarding between
16 different MMS relay/servers is not part of the process.

17 BY MR. JHURANI:

18 Q. If we can -- thank you, sir, for that. If we
19 can go to page 29 of TS-23.140.

20 A. Okay.

21 Q. I'll draw your attention to Section 7.1.3 and
22 specifically the third paragraph that begins with:

23 "Upon retrieval request, the
24 recipient MMS relay/server."

25 And then it's got a list of bullet points under

1 that.

2 Do you see that?

3 A. Yes.

4 Q. A little more than halfway in this list there
5 is a bullet point stating:

6 "Shall store messages in the
7 network until the recipient MMS User
8 Agent becomes reachable (e.g., user
9 moves" sent to -- "moves back into
10 coverage, switches MMS user agent on)
11 or until MM expires."

12 Do you see that?

13 A. Yes.

14 Q. When it says "user moves back into coverage,"
15 what's your understanding of what the word "coverage"
16 means there?

17 A. That it's saying the -- the user agent is
18 either, in one case, turned on or switched on or that
19 it's within coverage, the user moves back within --
20 within network coverage so it's now reachable -- it
21 sounds like reachable from the network or reachable from
22 the MMS relay/server.

23 Q. That would be the user terminal being available
24 or reachable over a network is what that "moves back
25 into coverage" means?

1 A. I think that sounds fair, yeah. It reach -- I
2 don't know that it's specifically saying -- I'll back
3 up.

4 That's right. That it's now the user has moved
5 back into an area where it's covered by the network and
6 can be reached.

7 Q. Got it.

8 THE STENOGRAPHER: Can we pause here for a
9 moment?

10 MR. JHURANI: Sure.

11 (Brief pause in proceedings.)

12 MR. JHURANI: I'll make it easier. I have no
13 further questions.

14 MR. MILKEY: Okay. Can we take a 15-minute
15 break? I need to review some notes.

16 MR. JHURANI: Sure.

17 (A recess was taken.)

18 EXAMINATION

19 BY MR. MILKEY:

20 Q. So welcome back, Dr. Brogioli. I just have a
21 couple of quick questions.

22 Before we begin, I have uploaded Exhibit 4 into
23 the chat. If you could download that and let me know
24 when you have it.

25 A. Okay. I've got it.

1 (Exhibit No. 4 marked for identification.)

2 MR. JHURANI: Counsel, really quick, is this
3 exhibit part of the record?

4 MR. MILKEY: Not yet.

5 MR. JHURANI: Give me a second just to look at
6 it, please.

7 Okay.

8 BY MR. MILKEY:

9 Q. Dr. Brogioli, do you have Exhibit 4 pulled up?

10 A. I do.

11 Q. And do you see the title page of this document
12 is -- says it's "3G TR 21.801 V4.0.0" dated 2000?

13 A. Yes, I do.

14 Q. And do you see that also on the title page, it
15 refers to "Specification drafting rules, Release 2000"?

16 A. Yes, I do.

17 Q. And this is for the 3rd Generation Partnership
18 Project?

19 A. That's correct.

20 Q. If we could go to page 7 of Exhibit 4.

21 A. Okay.

22 Q. And could -- could you read into the record the
23 first sentence under the first section there under
24 "Scope."

25 A. It says:

1 "The present document specifies
2 rules for the structure and drafting
3 of documents intended to become a
4 3GPP Technical Specification or
5 Technical Report."

6 Q. Do you recall being asked today whether the
7 TS-23.140 specification defined the terms "may" and
8 "shall"?

9 A. Yes.

10 Q. And do you recall what your answer to that was?

11 A. That those terms have specific meaning within
12 the 3GPP specification and related documents.

13 Q. If we could go to Annex E of Exhibit 4, and
14 this is page 36. Just let me know when you're there.

15 A. Okay.

16 Q. And if you could take just a brief moment to
17 review page 36 of Exhibit 4, and then if you could
18 please let me know after you've had a chance to review
19 if page 36 of Exhibit 4 is relevant in any way to your
20 prior testimony on the meaning of "shall" versus "may"?

21 MR. JHURANI: Objection. Leading.

22 THE WITNESS: Okay.

23 BY MR. MILKEY:

24 Q. Actually, I would say what relevance, if any,
25 does page 36 have to your prior testimony in the meaning

1 of "shall" versus "may"?

2 A. So this page is talking about verbal forms that
3 are to be used in 3GPP documents. And it says in that
4 first passage, indicate -- sorry.

5 "In Table E.1 shall be used to indicate
6 requirements strictly to be followed in order to conform
7 to the standard."

8 In that Table E1 shows the word "shall" and it
9 says "equivalent expressions for use in exceptional
10 cases," and it says things like "is to," "is required
11 to," "it is required that."

12 If we continue down, the other question this
13 morning were around the use of the word "may." And
14 right above Table E.3, at the bottom of this page,
15 sorry, page 36, it says:

16 "Verbal forms shown in Table E.3
17 are used to indicate a course of
18 action permissible within the limits
19 of 3G TS or 3G TR."

20 And then in Table E.3 titled "Permission," it
21 says on the left-hand side the verbal form of "may" and
22 equivalent expression "is permitted," "is allowed," "is
23 permissible."

24 Q. And you know where documents like this are
25 typically made available to the public?

1 A. You will find them --

2 MR. JHURANI: Objection to form.

3 Sorry, sir. Let me interpose my objection.

4 Objection to form and out of scope.

5 THE WITNESS: So these are available --

6 available by various places on the Internet. But -- but
7 the authoritative place is 3GPP, I think it's 3GPP.org
8 where the various documents like this are made
9 available. And there are versions of, for instance,
10 this 21.801 document we are looking at from June of
11 2000, there will be updates to it over the years
12 probably leading up to as we sit here right now that are
13 available via the 3GPP organization's website.

14 BY MR. MILKEY:

15 Q. And I'm going to post a link in the chat
16 just -- I -- just for the record, the purpose of this is
17 I don't want there to be any confusion about sort of the
18 origin of this document.

19 But Dr. Brogioli, do you see in the chat that I
20 have entered in the link [HTTPS://portal.3GPP.org/](https://portal.3GPP.org/desktopmodules/specifications/specification_details.aspx)
21 desktopmodules/specifications/specification
22 details.aspx, question mark, specification ID equals
23 552?

24 A. I do.

25 Q. And if you go to that link, what does it appear

1 that link is pointing to?

2 MR. JHURANI: Objection to form, out of scope.

3 THE WITNESS: This is a 3GPP.org link that goes
4 to a page for this 21.801 reference that we were just
5 discussing. And you can see that there's -- you can
6 navigate the different tabs. But it will give you
7 general information, various versions in time. It looks
8 like the -- just as I was saying, the most recent one is
9 from March of 2024. And there's other related
10 information like authors and things like that, primary
11 groups and so forth.

12 BY MR. MILKEY:

13 Q. So the Exhibit 4 that I've been asking about
14 is -- let me double-check the version number.

15 Yeah, Exhibit 4 is version 4.0.0. Are you able
16 to find this version of this 3G TR-21.801 specification
17 on the 3GPP website?

18 MR. JHURANI: Objection. Form, scope, and
19 leading.

20 THE WITNESS: Give me one moment.

21 So on the link you sent in the chat, if you go
22 to the "Versions" tab and scroll down almost to the very
23 bottom, there's a release 4 section. And then you will
24 see Version 4.0.0, which has various links. It shows
25 that June of 2000 date, and if I click on 4.0.0, it

1 downloads -- it downloads a zip file that has that Word
2 document of the 21.801 Version 4.0.0 that we just
3 discussed.

4 BY MR. MILKEY:

5 Q. And could you -- just for the record, could you
6 download that?

7 I don't need you to review the whole thing, but
8 could you download that and just skim that to see if it
9 appears to be the same document as Exhibit 4 that I've
10 entered in this deposition?

11 A. I just downloaded it.

12 The cover page is the same words saying it's
13 got the same -- same page count. Yeah. Things look to
14 be exactly the same. It looks like the word count is
15 identical between the two.

16 Q. Does page 36 appear to be the same?

17 A. Yes, it is. Or it appears to be the same.

18 MR. MILKEY: I have no further questions.

19 THE STENOGRAPHER: Anything further, Counsel?

20 MR. JHURANI: Give me one minute, please. We
21 don't need to go off the record. Just give me a second.

22 Just a couple questions.

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FURTHER EXAMINATION

BY MR. JHURANI:

Q. Dr. Brogioli, you did not cite Depo Exhibit 4 in your declaration; correct?

A. I think that's correct. We had discussed or I had answered earlier this morning that there are governing documents for these 3GPP references, but I don't believe I cited it explicitly.

Q. And before today, had you seen the specific Exhibit 4 that you just talked about with counsel?

MR. MILKEY: Object to form.

THE WITNESS: I've seen versions of that document and probably referenced it in the past. As to whether I looked at the specific 4.0.0 revision, I don't recall.

MR. JHURANI: No further questions.

MR. MILKEY: Nothing further for me.

THE STENOGRAPHER: Any confidentiality concerns or other stipulations you need?

MR. MILKEY: No.

MR. JHURANI: No.

- - -

(Deposition was concluded at 12:19 p.m.)

- - -

* * *

DECLARATION OF PENALTY OF PERJURY

I, _____, do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as appear noted, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this _____ day of _____,
20_____, at _____, _____.
(City) (State)

DR. MICHAEL C. BROGIOLI

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DEPONENT'S CHANGES OR CORRECTIONS

Note: If you are adding to your testimony, print the exact words you want to add. If you are deleting from your testimony, print the exact words you want to delete. Specify with "Add" or "Delete" and sign this form.

DEPOSITION OF: DR. MICHAEL C. BROGIOLI
CASE: SAMSUNG ELECTRONICS CO. V. HEADWATER RESEARCH
DATE OF DEPOSITION: DECEMBER 3, 2024

PAGE	LINE	CHANGE/ADD/DELETE	REASON
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Deponent's Signature _____ **Date** _____

REPORTER'S CERTIFICATE

-000-

I, LYNETTE M. NELSON, CA CSR No. 11585, OR CSR No. 250121, TN LCR No. 896, RPR, CRR, CCRR, CRG, duly licensed and qualified in and for the State of California, Oregon, and Tennessee, do hereby certify that there came before me on the 4th day of December, 2024, via web videoconference, the following named person, to-wit DR. MICHAEL C. BROGIOLI, who was duly sworn to testify the truth, the whole truth, and nothing but the truth of knowledge touching and concerning the matters in controversy in this case; and that he was thereupon examined under oath and his examination reduced to typewriting under my supervision; that the deposition is a true record of the testimony given by the witness.

I further certify that pursuant to FRCP Rule 30(e)(1) that the signature of the deponent:

() Was requested by the deponent or a party before the completion of the deposition;

(X) Was not requested by the deponent of a party before the completion of the deposition.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action in which this deposition is taken,

1 and further that I am not a relative, employee of any
2 attorney or counsel employed by the parties hereto, or
3 financially interested in the action.

4 CERTIFIED TO BY ME on this 4TH day of DECEMBER,
5 2024 .

6 
7

8 LYNETTE M. NELSON,
9 CA CSR No. 11585, OR CSR No. 250121,
10 TN LCR No. 896, RPR, CRR, CCRR, CRG,
11 REALTIME SYSTEMS ADMIN.
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