UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO. LTD.,	IPR2024-00010
	Patent 9,615,192
Petitioner,	
v.	
HEADWATER RESEARCH LLC, Patent Owner.	

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REMOTE DEPOSITION OF DR. PATRICK TRAYNOR

WEDNESDAY, AUGUST 28, 2024

7:02 A.M. PDT

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Reported by:

JULIE RUMSEY, CSR 14144

Job No. 102548

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO. LTD., Petitioner, v. HEADWATER RESEARCH LLC, Patent Owner.	IPR2024-00010 Patent 9,615,192

REMOTE DEPOSITION OF DR. PATRICK TRAYNOR, located in Gainesville, Florida, commencing at 7:02 A.M. PDT on Wednesday, August 28, 2024, before JULIE RUMSEY, Certified Shorthand Reporter 14144, in and for the State of California.

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EXHIBITS

EXHIBIT	DESCRIPTION	PAGE
Exhibit 1003	4/4/2017 Declaration of Dr. Patrick Traynor 247 Pages	6
Exhibit 1004	3GPP TS-23.140 Technical Specification 218 Pages	6
Exhibit 1007	"Houghton" International Publication Number WO 2006/077283 A1 56 Pages	6
Exhibit 1017	"Munson" Patent Application Publication Pub. No.: US 2009/0240807 A1 12 Pages	20

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CERTIFIED STENOGRAPHER: Good morning. My name is Julie Rumsey, California Certified Shorthand Reporter Number 14144. The stenographic record is the official record pursuant to C.C.P. 2025.

Before we proceed, I will ask counsel to agree on the record that there is no objection to this deposition officer administering a binding oath to a witness not appearing personally before me and located in Florida.

ATTORNEY MILKEY: No objection by patent owner.

ATTORNEY JHURANI: No objection by petitioners either.

---o0o---

DR. PATRICK TRAYNOR,

called as a witness herein, having been administered an oath remotely in accordance with C.C.P. Section 2096, was examined and testified as follows:

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EXAMINATION

BY ATTORNEY MILKEY:

Q. Good morning, Dr. Traynor. Do you understand that this is a deposition regarding -- a proceeding regarding the '192 patent?

A. Yes, I do.

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Q. Okay. And you issued a declaration in this proceeding; is that correct?

A. Yes. That's correct.

Q. Do you have a copy of that declaration available?

A. I do.

ATTORNEY MILKEY: Okay. You can refer to that. I'm uploading a copy in the chat for the benefit of the reporter, but that's Exhibit 1003 in this proceeding.

(Exhibit 1003 was presented and subsequently marked for identification.)

ATTORNEY MILKEY: I'm also -- just in the interest of efficiency -- going to upload Exhibit 1004, which is a 3GPP TS-23.140 reference.

(Exhibit 1004 was presented and subsequently marked for identification.)

ATTORNEY MILKEY: As well as Exhibit 1007, which has been referred to as "Houghton" in this proceeding.

(Exhibit 1007 was presented and subsequently marked for identification.)

ATTORNEY MILKEY: And Exhibit 1017, which has been referred to as "Munson" in this proceeding.

(Exhibit 1017 was presented and subsequently marked for identification.)

BY ATTORNEY MILKEY:

Q. Dr. Traynor, feel free to reference any, you know,

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clean copies that you have or any -- you know, the exhibits that I've uploaded into the chat throughout your deposition.

A. Thank you.

Q. So what did you do to prepare for your deposition today?

A. I reread my declaration. Looked back through the documents that I cited.

Q. Okay. Do you have any corrections to make to your declaration at this time?

A. No, I do not.

Q. So in your first ground, you rely on the TS-23.140 specification. What is that reference at a high level?

A. At a high level --

ATTORNEY JHURANI: Objection to form.

THE WITNESS: At a high level, TS-23.140 is a standards document for telephony networks specifically related to MMS.

BY ATTORNEY MILKEY:

Q. Okay. Is this a real-time system?

ATTORNEY JHURANI: Objection to form.

THE WITNESS: Sorry. MMS is part of larger cellular standards. Which part are you asking about?

BY ATTORNEY MILKEY:

Q. I'm asking about the MMS portion of the

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specifications that are real-time MMS system.

A. Sorry to keep pulling this apart, because I think there were a few things in here. Can you -- can you be a little more clear about what you mean by "real time"?

Q. Do you have an understanding of what "real time" means in the context of messaging services?

A. Yes. I do.

Q. So would you -- in your understanding, would you understand the TS-23.140 specification to provide for real-time messaging?

A. MMS is a store-and-forward protocol. So messages are generally delivered very quickly. It's not appropriate for things like real-time video and real-time audio. So if you mean instantaneous real time, then no. But if you mean often very quickly, then it could be.

Q. Okay. Thank you.

Could you go to page 19 of Exhibit 1004, the TS-23.140 specification.

A. Just confirming. Looks like 19 is both the PDF page and printed page, correct?

Q. Correct.

A. Okay. I'm there.

Q. Okay. And do you see, under section 5.1.1, the first statement is (as read):

The MMS user agent shall provide the following

application layer functionalities: the retrieval of MMs.

A. Yes, I do see that.

Q. Okay. What does "shall" mean in the TS-23.140 specification?

A. This is a core feature of the -- of the specification. So this is a core service. This is part of what the specification and the products that implement it provide.

Q. Is that different than -- strike that. Yeah.

Is that different than the phrasing in the next non-bullet line that says (as read):

> The MMS user agent may provide additional application layer functionality.

ATTORNEY JHURANI: Objection to form.

THE WITNESS: So, again, "shall" tends to indicate core requirements. "May" are features that are useful. But in my experience working with 3GPP standards, these "may" clauses are implemented by commercial products.

BY ATTORNEY MILKEY:

Q. Okay. If you could go to page 29 of Exhibit 1004.

A. Page 29.

Q. Do you see the third paragraph under section 7.1.3? It states:

> Upon retrieval request, the recipient MMS

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relay/server shall deliver the MM to the recipient MMS user agent.

A. I see that text. Yes.

Q. Okay. Are you aware of any other instances in this document that -- under which the MMS relay server shall deliver the MM to the recipient MMS user agent?

A. I haven't memorized the document. Are there other particular places you'd like me to read?

Q. Sitting here today, are you aware of any instances in Exhibit 1004 -- you can look through the document if you want. But are you aware of any other instances in which the MMS relay server shall deliver the MM to the recipient MMS user agent other than upon a retrieval request?

A. Again, in context, a message arriving at the MMS relay server would, in a real 3GPP system, cause the system to attempt to reach out and see that the device was available, that the UE was available. And so that first message then would spawn the request -- the retrieval request from the phone, the UE, to receive this.

So that's just sort of the standard. When an MMS comes in, the target UE is alerted if it's available, and then it makes a request if it's capable of downloading that message.

Q. Okay. So the process is that the MMS comes in -- sorry. Strike that. Yeah.

So the process is the MMS comes into the MMS relay server. The MMS relay server notifies the UE that a message is available. The UE provides a retrieval request, and it's at that point that the MMS relay server delivers that MM to the UE?

ATTORNEY JHURANI: Objection to form. Compound.

THE WITNESS: So there are a lot of caveats along the way. Your question assumes, number one, that the device is available. So the network may -- the MMS may try to deliver. A device could be out of coverage, for example, so it may not hear that request.

Similarly, even if it reaches -- if the request does reach the device, whether by user preference, by platform limitation, by perhaps the -- an older phone, certainly, if storage for MMS messages is exceeded. The phone may elect to not receive that message. And so there are a number of caveats along the way that could cause a message not to be delivered.

Q. Are you aware of any instances in which the MMS will be delivered without a retrieval request?

A. There are some additional standards on broadcasts. Those would send to every -- every device, you know, at a specific tower, for example, that's like in a separate standard, but those are cases in which things might be pushed down to a phone.

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Q. Okay. But in the TS-23.140 standard, are there any instances in which the MMS will be delivered without a retrieval request?

A. Again, as I've said before, the -- you know, the network will attempt to contact the target UE, and if it's available, it will then request that the message be sent to it.

Q. Understood.

My specific question is are there any instances in which the MMS will be delivered but there has been no retrieval requests by the UE?

A. Again, as I said before, there may be some broadcast cases that are covered in additional standards. Here, we -- as I said before -- send a request, and then the device, if it's capable and ready and online, will then request delivery.

Q. Okay. Okay. If you could go to page 94 of your declaration. This is regarding Claim 9.

A. One moment, please. Let me get there. I'm going to take a moment to just read this.

Q. Yeah.

A. Okay. I've read that text.

Q. Okay. And turning to paragraph 197 of your declaration. That's on page 95. This refers to -- actually, paragraphs 196 and 197 refer to an "earliest

desired time of delivery."

And this is, I believe, an earliest desired time of delivery that's provided to the MMS relay server.

Do you see that?

A. Yes, I see that in paragraph 196.

Q. Yeah.

In your view, does Claim 9 require that the claimed expiration of a periodic timer referred to a timer that is known to the message link server of Claim 1?

ATTORNEY JHURANI: Objection to form.

THE WITNESS: Can you please break that down for me a little bit? That's kind of a complicated multipart question.

ATTORNEY MILKEY: Yeah.

BY ATTORNEY MILKEY:

Q. So in your paragraph-196-and-197 example, my understanding is that the MMS relay server is aware of the timer.

And my question is could Claim 9 be satisfied if the MMS relay server is not aware of the timer?

ATTORNEY JHURANI: Objection to form.

THE WITNESS: Sorry. Just a bit of a hypothetical. I need to think about this for a minute.

So I'm looking at the language of the claim, and it talks about message delivery triggers. As I say in 196,

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that's -- the trigger here is something that is at the MMS relay server. But, you know, because the language is fairly general in Claim 9, I go on to talk about periodic polling in paragraph 198.

And so, in this case, the phone, the UE, is with some regularity polling for messages. Checking to see if anything is waiting for it. And so, when the timer on the phone expires -- the periodic timer -- it's then going and seeing if a message is available. That would then trigger the release of that message, if one was available.

BY ATTORNEY MILKEY:

Q. Okay. So I do want to ask about paragraph 198, which you just mentioned. You said that the periodic polling would trigger the message delivery.

How does the periodic polling trigger message delivery?

A. So we spoke about this a little bit earlier. Periodic polling would be retrieval requests. So the UE could reach out to the MMS and say, do you have anything for me? It could do so on a regular basis.

Knowing that the state in these networks is not always consistent, you could imagine that I can pass in and out of coverage areas. And so the MMS may not -- server may not know that I'm available right now or possibly that I've just come back into an available range. So this kind

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of behavior is a pretty normal thing in that scenario.
Q. Okay. So the periodic polling is a request from the UE to the MMS relay server to see if any messages are available for the UE?
A. Yes. That's correct. That's what I say here.
Q. So just to be clear, this is not polling that's done by the MMS relay server. It's polling that's done by the UE itself?
A. As I say in paragraph 198, that's the MMS user agent that's doing the periodic polling.
Q. Okay. Where in TS-23.140 does it say that the MMS user agent performs the periodic polling?
A. This is just a standard function that happens in the network. I can spend some time going to try and root it out, but this is how -- this is how phones work.
So would you like me to spend some time going through the document?
Q. Yeah.
A. Okay. So just really quickly. I mean, I say right here in paragraph 198 -- I have a pointer to pages 90 and 91. If you are on those pages -- if not, I have, I think, most of a quote here, but there is a bullet point at the top of 91 that says (as read):
Periodic polling for messages on external server.

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So right there.

Q. It talks about retrieval by the MMS user agent in that bullet point. But it doesn't specify -- that bullet point itself doesn't specify what component is performing the periodic polling, correct?

A. I don't see an explicit discussion, but this is a practice that phones do all the time. Again, because they move in and out of coverage areas, this is a regular function of UEs and has been for a long time.

Q. So it's your understanding that the MMS user agent is going to contact the external server via periodic polling, correct?

A. Could, potentially.

Q. And your understanding is that's what the TS-23.140 specification discloses?

A. The TS -- sorry.

The specification here discloses many things. Here, we're talking about periodic polling. As I mentioned to you, at the time of the patent in question, this sort of polling behavior by UEs was very well known.

Q. And it's disclosed by the TS-23.140 specification -- correct? -- that the MMS user agent polls for messages on the external server?

ATTORNEY JHURANI: Objection to form.

THE WITNESS: Those are the literal words here.

Again, I'm looking at the teachings of this and my understanding of the broad set of 3GPP specifications.

Polling by user devices for MMS messages is a normal practice. It -- periodically doing so ensures robustness. So I'm just pointing to a place where one kind of periodic polling happens. But this is not unique.

BY ATTORNEY MILKEY:

Q. Okay. If you could go to paragraph 389 of your declaration. This is on page 173.

A. I'm there. If you just give me a moment to read around this area.

Q. Absolutely.

A. Okay. I've read the text around 389.

Q. Okay. And is it your contention that pushing content according to a schedule of time or event is necessarily as a result of the expiration of a periodic timer?

A. Yes. I believe so. As I talk about here -- I am not sure if you remember, because the providers don't work like this anymore. But once upon a time, if you sent messages during a certain time of the day, it cost more money, but after -- it's generally 9:00, messaging and voice would become free. And so a timer set for 9:00 would satisfy that.

Q. Okay. And would a user waiting until, say, 9:00,

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10:00 p.m. in order to -- you know, until they hit send on their message -- would that constitute expiration of a periodic timer?

ATTORNEY JHURANI: Objection. Form. Scope.

THE WITNESS: If I could just ask. Did the user set some kind of a timer on their phone, or was just -- this just looking at the clock and waiting?

BY ATTORNEY MILKEY:

Q. Just looking at the clock and waiting.

ATTORNEY JHURANI: Objection. Scope.

THE WITNESS: It's hard to say. Maybe. I tend to think of these triggers as something that's set in the technology, but there might be -- there might be a case to be made for a user doing it. It's a hypothetical, and I apologize.

BY ATTORNEY MILKEY:

Q. What does "periodic" mean?

A. I mean, I believe the dictionary definition is of or related to a time period. I could...

ATTORNEY MILKEY: All right. I have no further questions.

CERTIFIED STENOGRAPHER: Anything else on the record? Karan?

ATTORNEY JHURANI: Maybe give us ten minutes, and then we'll come back.

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CERTIFIED STENOGRAPHER: Okay to go off the record, Jim?

ATTORNEY MILKEY: Yeah.

(Time noted 7:41 a.m. PDT.)

(Recess taken.)

(Time noted 7:50 a.m. PDT.)

ATTORNEY JHURANI: No further questions on our end.

ATTORNEY MILKEY: All right. Thank you very much.

CERTIFIED STENOGRAPHER: Karan, I'll get your transcript order on the record, please.

ATTORNEY JHURANI: Sure.

CERTIFIED STENOGRAPHER: Anything else on the record?

ATTORNEY JHURANI: Well, I guess we don't need the transcript rushed or anything like that. We'll take it in due course, or I'm sure patent owners can submit that with their materials. So we don't necessarily need that.

CERTIFIED STENOGRAPHER: Okay to go off record?

ATTORNEY MILKEY: Yeah.

CERTIFIED STENOGRAPHER: Okay, Karan?

ATTORNEY JHURANI: Yeah.

(Time noted 7:51 a.m. PDT.)

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CERTIFICATE OF REPORTER
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I, the undersigned, a Certified Shorthand Reporter, Licensed by the State of California, being empowered to administer oaths and affirmations remotely pursuant to Section 2093(b) of the Code of Civil Procedure, do hereby certify:

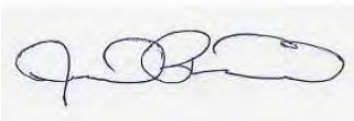
That the foregoing proceedings were taken remotely before me on 08-28-24 and commenced at 7:02 a.m.; that the witness in the foregoing proceedings, prior to testifying, were placed under oath; That Counsel for all parties were present at the time of the deposition; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney or any of the parties.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript [ ] was [X] was not requested.

IN WITNESS WHEREOF, I have this date subscribed my name.

DATED: 8/29/2024



JULIE RUMSEY, CSR No. 14144

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