

Samsung Electronics Co., Ltd.,

v.

Headwater Research LLC,

U.S. Patent No. 8,406,733 B2

IPR2024-00341

Headwater's Hearing Demonstratives

May 5, 2025

Headwater Research LLC
Ex. 2005, IPR2024-00341

Argument Roadmap

- In TS-23.140, destination applications are subapplications of the MMS User Agent
- Petitioner and Dr. Traynor misunderstood the TS-23.140 specification
- Dr. Traynor offered no opinion that the claims would be obvious under the correct interpretation of TS-23.140
- Patent Owner additionally provides evidence of non-obviousness

“MMS User Agent” is an Application on the UE

MMS User Agent: application residing on a UE, an MS or an external device that performs MMS-specific operations on a user's behalf and/or on another application's behalf.

Ex. 1004, 14

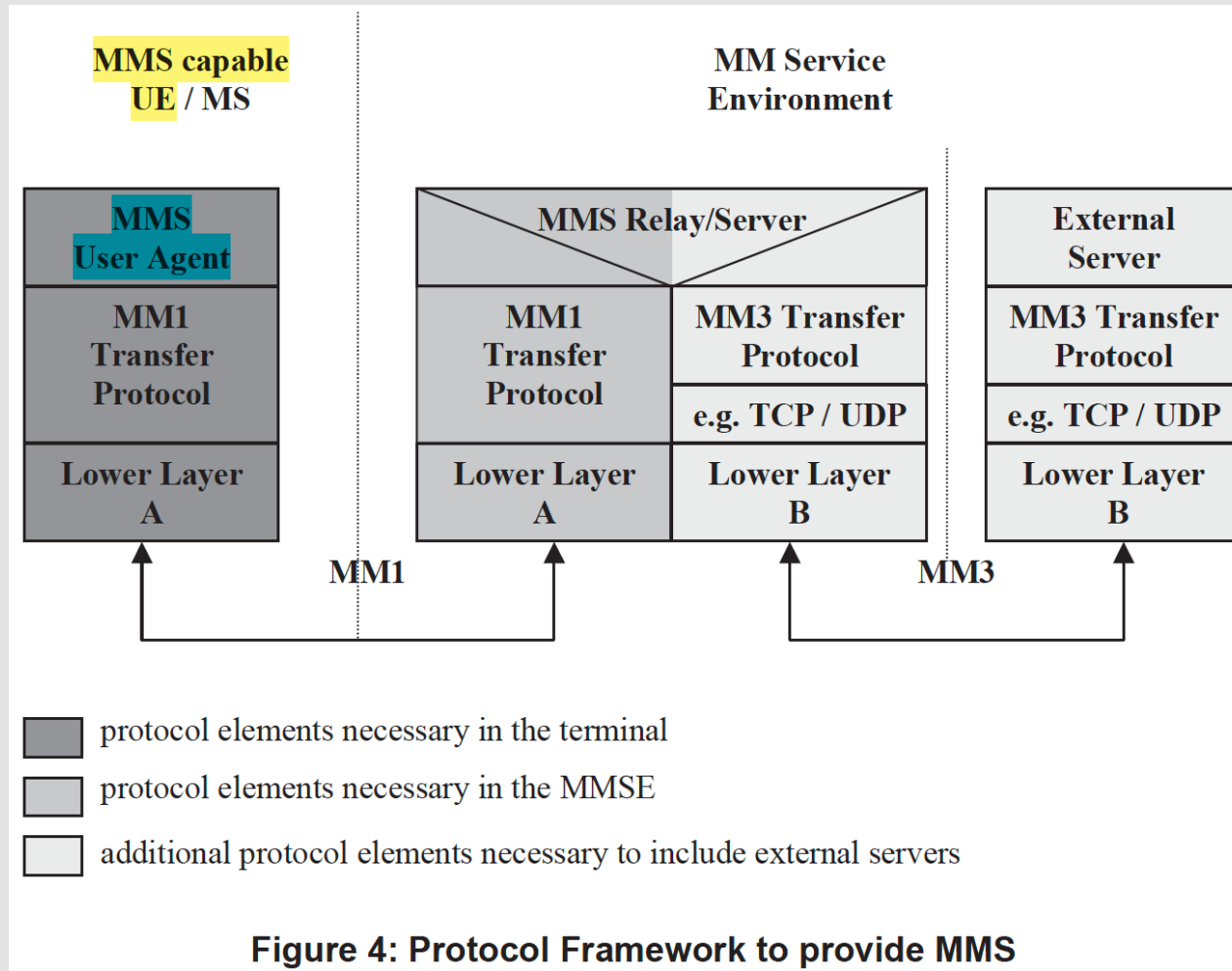
MMS User Agent

The MMS User Agent resides on a UE, an MS or on an external device connected to a UE/MS. It is an application layer function that provides the users with the ability to view, compose and handle MMs (e.g. submitting, receiving, deleting of MMs).

Ex. 1004, 18

POR at 2, 6-7; Sur-reply at 3-4, 7, 11.

“MMS User Agent” is an Application on the UE



Ex. 1004, 24 FIG. 4 (annotated)

POR at 8; Sur-reply at 3; Ex. 2001, ¶45

Dr. Traynor: "MMS User Agent" is an Application on the UE

9 Q. Okay. And under Section 7.1.18, "Support
10 for Transporting Application Data," the third sentence
11 there says, "Details of these applications or how an
12 MMS user agent or an MMS VAS application would
13 interface with them are outside the scope of this
14 specification."
15 Do you see that?
16 A. I do.
17 Q. Okay. What is an MMS user agent?
18 A. This is the software that's running on a UE
19 that receives the -- the incoming MMS.

Ex. 2003 (Traynor Dep.), 28:9-19

Sur-Reply at 4

Destination Applications “reside on” the User Agent

Apart from using MMS as a service for users to exchange messages, MMS may also be used to transport data specific to applications. Applications that intend to transport application specific data using MMS may either reside on an MMS User Agent or on an MMS VAS Application. Details of these applications or how an MMS User Agent or an MMS VAS Application would interface with them are outside the scope of this specification.

Ex. 1004, 54

POR at 2, 8; Sur-reply at 3, 5

Destination Applications “reside on” the User Agent

Upon reception of an abstract message containing a destination application identifier (it can either be the MM1_notification.REQ, MM1_retrieve.RES or MM7_deliver.REQ transactions), the receiving MMS User Agent or MMS VAS Application shall first check if the destination application resides on it.

Ex. 1004, 56

If the destination application resides on a receiving MMS User Agent, the MMS User Agent shall immediately route the received MMS information on to the destination application that is referred to from the destination application identifier (based on the negotiated details upon application registration process) without presentation to the user.

Ex. 1004, 56

If the destination application does not reside on the receiving MMS User Agent or on the USIM or MMS VAS Application, the MMS User Agent or MMS VAS Application shall discard the corresponding abstract message. In such a case the recipient MMS Relay/Server and recipient MMS User Agent or VAS application shall apply the normal reporting behaviour towards sending entities.

Ex. 1004, 56

Sur-reply at 3, 5 n.2

Dr. Traynor: Destinations Applications That “reside on” an Application Are Subapplications

16 Q. Okay. So what I'm specifically asking is
17 the specification says that applications may reside on
18 an MMS VAS application, and my specific question is
19 what it means for an application to reside on the VAS
20 application.

21 A. Sure. So again, this is just going to be
22 some -- some feature or function. So this larger VAS
23 application could have multiple subapplications, so
24 it's -- we have some -- we have some service that's
25 implemented on this server.

1 Q. So are these applications then part of the
2 MMS VAS application, if they reside on it?

3 I'm just trying to understand what "reside on"
4 means in this context.

5 ATTORNEY JHURANI: Objection to form.

6 THE WITNESS: So I -- I could imagine an
7 application -- a VAS application that's games. And
8 let's say it's from the same company, one is checkers,
9 one is chess, they could reside within a larger
10 application or application framework and still have
11 these subparts for specific games.

Ex. 2003, 29:16-30:11

POR at 8; Sur-reply at 5-6, 11, 20.

Dr. Brogioli: Destinations Applications That “reside on” the UA Are Subapplications

38. However, the applications that send and receive MMS data in TS-23.140 in conjunction with the MMS User Agent are *not* external to the MMS User Agent. TS-23.140 makes this explicit, in stating that these applications “*reside on* an MMS User Agent.” Ex. 1003, 54 (“Applications that intend to transport application specific data using MMS may either reside on an MMS User Agent or on an MMS VAS Application.”). In other words, these applications are incorporated into the MMS User Agent as “subparts” or “subapplications” (to use the terms Dr. Traynor used at his deposition) within the MMS User Agent application.

Ex. 2001 (Brogioli Decl.), ¶38

POR at 10, 38; Sur-Reply at 13, 18-20

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- Patent Owner additionally provides evidence of non-obviousness

The Petition Misinterpreted TS-23.140

MMS User Agent: application residing on a UE, an MS or an external device that performs MMS-specific operations on a user's behalf and/or on another application's behalf.

Ex. 1004, 14

“MMS may be used to transport data specific to applications” “other than the MMS User Agent” which also “reside on [the] MMS User Agent [device].” *Id.*, 14, 54-56; EX-1003, ¶51 (citing EX-1028, 732-733). For such “application data,” “the MMS User Agent... route[s] the received MMS information on to the destination application” using a “destination application identifier” included with the received message. EX-1004, 14, 54-56; EX-1003, ¶52.

Pet. 6

POR at 1-2, 10-11.

Dr. Traynor Misinterpreted TS-23.140

MMS User Agent: application residing on a UE, an MS or an external device that performs MMS-specific operations on a user's behalf and/or on another application's behalf.

Ex. 1004, 14

The MMS User Agent and the destination applications “reside on [the] MMS User Agent [device],” which a POSITA would have understood to be the same as the UE in the context of this sentence because “MMS User Agent” was a term that was used also to refer to a client device.

Ex. 1003, ¶51

POR at 10-11.

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No Express or Inherent Disclosure

7.1.18 Support for transporting Application Data

Apart from using MMS as a service for users to exchange messages, MMS may also be used to transport data specific to applications. Applications that intend to transport application specific data using MMS may either reside on an MMS User Agent or on an MMS VAS Application. Details of these applications or how an MMS User Agent or an MMS VAS Application would interface with them are outside the scope of this specification.

Ex. 1004, 54

37. I disagree with Dr. Traynor's opinion in this regard, as a POSITA would know that an agent communication bus (such as, e.g., the D-Bus referenced in Dr. Traynor's analysis) would be used to transfer data between *separate* applications. This is because buses in computing are typically used to route data *outside* of a given application, not *internal* to an application (e.g., to subparts or subapplications within that application). And each of the examples Dr. Traynor provides of a "bus" is for communications *external* to an application.

Ex. 2001 ¶¶37

POR 7; Ex. 2001 ¶¶35-38

Dr. Traynor Relies on Misunderstanding of TS-23.140's Disclosure

125. Alternatively, a POSITA would have reason to implement communications between the MMS User Agent and the device's other applications to occur over a bus. Before the Critical Date, it was well-known to use a communications bus (*e.g.*, a "D-bus") for inter-process communications that enable applications to interface with one another, as TS-23.140 describes.

Ex. 1003, ¶125

POR at 10-11; Sur-reply at 12-13

Dr. Traynor Relies on Misunderstanding of TS-23.140's Disclosure

Dr. Traynor presents no evidence that an “agent communication bus” would have been obvious to transport data *within* an application such as the MMS User Agent, as his theory applied to TS-23.140 would require.

Ex. 2001, ¶38

POR at 8, 10; Sur-Reply at 3, 5, 13, 18-20

Dr. Brogioli Confirms That Dr. Traynor Misunderstood TS-23.140

48. In view of all of the above, I disagree with Dr. Traynor that when the TS-23.140 specification teaches that applications reside on the MMS User Agent, they merely reside on the MMS-enabled device. Instead, a POSITA would understand those applications to be subparts or subapplications of the MMS User Agent application, such that it would not have been obvious to use an agent communication bus to transfer data within the MMS User Agent (e.g., to the various subapplications within the MMS User Agent). This is not only consistent with the TS-23.140 specification, but also consistent with how Dr. Traynor applies the term “reside on” as it pertains to an application residing on an MMS VAS Application.

Ex. 2001, ¶48

POR at 8-10; Sur-reply at 3, 5, 7.

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- Patent Owner provides un rebutted expert testimony regarding non-obviousness

Unrebutted Testimony: Not Obvious to Transfer Data Within MMS UA

Instead, a POSITA would understand those applications to be subparts or subapplications of the MMS User Agent application, such that it would not have been obvious to use an agent communication bus to transfer data within the MMS User Agent (e.g., to the various subapplications within the MMS User Agent). This is not only consistent with the TS-23.140 specification, but also consistent with how Dr. Traynor applies the term “reside on” as it pertains to an application residing on an MMS VAS Application.

Ex. 2001, ¶48

POR at 8-10; Sur-reply at 3, 5, 7.

Unrebutted Testimony: Not Obvious to Transfer Data Within MMS UA

A POSITA would have understood that, because the MMS User Agent *includes* each application to which it will deliver application-specific data, no agent communication bus would have been helpful or necessary. Instead, the MMS User Agent would provide data to its subcomponents via standard function calls, such as UpdateAppData(AppID, AppData), which would simply write the AppData to a memory location within the subapplication of the MMS User Agent identified by the AppID.

Ex. 2001, ¶38

POR at 8, 10; Sur-Reply at 3, 5, 13, 18-20

Unrebutted Testimony: Not Obvious to Transfer Data Within MMS UA

In my opinion, a POSITA would not have found it obvious to use an “agent communication bus” for transporting data *within* an application such as the MMS User Agent, because applications are able to effectively manage data and memory issues without the use of any type of “bus.”

Ex. 2001, ¶38

POR at 8, 10; Sur-Reply at 3, 5, 13, 18-20

Unrebutted Testimony: Not Obvious to Transfer Data Within MMS UA

49. Furthermore, because the applications are subapplications of the MMS User Agent, there would be no need or desire to use an agent communication bus to transfer data within the MMS User Agent to the appropriate subapplication, as discussed above. I thus disagree with Dr. Traynor's conclusion that "a POSITA would have reason to implement communications between the MMS User Agent and the device's other applications to occur over a bus." Ex. 1003, ¶125.

Ex. 2001, ¶49

POR at 10; Sur-reply at 13, 19