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12 **UNITED STATES DISTRICT COURT**
13 **NORTHERN DISTRICT OF CALIFORNIA**
14 **SAN FRANCISCO DIVISION**

15 UNWIRED PLANET LLC, a Nevada limited
liability company,

16 Plaintiff,

17 v.

18 APPLE INC., a California corporation,

19 Defendant.
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Case No. 3:13-cv-4134-VC (JCS)

**APPLE INC.'S FURTHER BRIEFING
REGARDING ITS MOTION FOR
SUMMARY JUDGMENT OF
NON-INFRINGEMENT OF THE '446
PATENT**

[FILED UNDER SEAL]

Judge: Hon. Vince Chhabria

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1 As the Court's Order Regarding Further Briefing (D.I. 363) notes, the '446 patent
2 explains that a voice channel "is generally established and coordinated using the infrastructure
3 and procedures generally known in the art for setting up a phone call." '446 patent at 6:21-24.
4 The undisputed record shows that such procedures include, *inter alia*, the channel's giving
5 specific priority to voice over non-voice data, as well as using different error correction
6 mechanisms for voice versus non-voice data, such that voice is sent more quickly (at the expense
7 of accuracy), while non-voice data is sent more accurately (at the expense of speed). Thus, a
8 voice channel is a voice channel by virtue of *how it treats and handles voice communications*.
9 Consequently, as a bright line threshold principle, and at the most fundamental level, a voice
10 channel must treat voice differently from how non-voice data is treated. A channel cannot, of
11 course, treat voice according to the "procedures generally known in the art for setting up a phone
12 call" if it makes no distinction between voice and non-voice data.

13 Here, Unwired Planet's expert, Dr. Jones, *expressly admits* that the channel used by Siri –
14 a TCP/IP channel – does not distinguish between voice and non-voice data. Dkt. 316-35 (Ex.
15 43) at 9 ("TCP/IP is not concerned with whether it is transmitting voice or non-voice data.").
16 This undisputed fact carries with it important ramifications relevant to the very issue before the
17 Court. Specifically, because the channel used by Siri is not concerned with whether voice or
18 non-voice data is being transmitted, it treats voice communications *exactly the same* as non-voice
19 communications, such as webpages or email. Apple repeatedly emphasized this critical fact in
20 both its expert report and its summary judgment briefing, and Unwired Planet has never
21 attempted to dispute it. This undisputed fact, viewed in light of the patent's teaching of what
22 constitutes a voice channel, is dispositive of the issue of whether Siri uses a voice channel to
23 transmit a user's voice, and establishes that Siri does not.

24 Unwired Planet has raised a host of so-called "disputes." But Unwired Planet's
25 arguments, at best, relate to how data is processed at devices or servers before or after it is sent
26 (and, as explained below, many of Unwired Planet's arguments are wholly irrelevant), rather
27 than the *nature of the channel* over which the data is sent. Not a single one of Unwired Planet's
28 "disputes" changes the undisputed and *dispositive* fact that Siri's TCP/IP channel does not treat

1 voice differently from non-voice data (nor even distinguish between the two) and, therefore, is
2 not a voice channel. To conclude otherwise, and *include*, within the patent's scope, channels that
3 do not distinguish between voice and non-voice data, would be to disregard the alleged invention
4 of the '446 patent, set forth in the Summary of the Invention, which is premised on the
5 dichotomy between sending voice input over a *voice channel* and the resulting symbolic data file
6 over a *data channel*. Here, the undisputed record establishes that Siri sends all communications,
7 in both directions, over the same data channel and does not use a voice channel.

8 **I. As Recognized by the '446 Patent, Voice Channels Have Fundamentally Different**
9 **Properties From Data Channels**

10 The contrast between voice channels and data channels at the heart of the '446 patent is
11 founded in how networks fundamentally treat voice differently from non-voice data. As Apple's
12 expert, Mr. Rysavy, explained, it is critical that voice communications be transmitted without
13 any delays. D.I. 316-32 (Ex. 36) ¶398. Delayed or irregular voice transmission causes
14 distortion, and can also cause participants in a conversation to speak over each other. *Id.*
15 Consequently, for the transmission of speech to be useful, voice channels must transmit all voice
16 packets at the same speed, even if it means some transmission errors or dropped packets go
17 uncorrected. *Id.* This undisputed requirement is the basis for the specific priority, protocols, and
18 error correction used by voice channels, as discussed further below.

19 Data channels, in contrast, will tolerate delays, but they will *not* tolerate errors. *Id.*
20 ¶¶398, 401. When transmitting non-voice data such as web pages, email, or file downloads, a
21 data channel will sacrifice speed for the sake of accuracy. *Id.* For example, if errors are detected
22 in a file download, the corresponding data packets are re-sent, guaranteeing an accurate file
23 transfer but slowing down the overall transmission. In other words, it is unacceptable for a file
24 to be downloaded with missing content, whereas it is acceptable for a phone conversation to have
25 some dropped packets so long as the speech is not delayed. Importantly, Unwired Planet has
26 *never disputed* any of these different attributes of voice channels versus data channels.

27 As discussed further below, in both cellular and non-cellular contexts, voice channels use
28 priority, protocols, and error correction properties to accommodate the unique needs of voice
communications. Critically, it is undisputed that Siri's TCP/IP channel has *none* of these

properties because it does not distinguish between voice and non-voice data.

A. Cellular Voice Channels Treat Voice Differently From Non-Voice Data

Because voice requires smooth transmission without delays, wireless carriers assign higher *priority* to voice communications. D.I. 316-32 (Ex. 36) ¶402. As a result, voice channels are assigned dedicated network resources, and receive network resources first, before allocations are made to data channels. *Id.* It is *undisputed* that speech sent to Siri servers – transmitted over a TCP/IP connection – is not given this higher priority, but instead is assigned the same priority as typical data communications like web browsing and email.

Moreover, voice channels use different *transmission protocols* from non-voice data channels. One important element of the transmission protocol on a voice channel is the use of short transmission intervals to avoid introducing delays. D.I. 316-32 (Ex. 36) ¶421. In voice networks, 20 millisecond (msec) intervals are typical, meaning that 20 msec of voice are sent at a time. *Id.*

Id.

Finally, and relatedly, voice channels use different *error correction* mechanisms from non-voice data channels. Data channels that use TCP employ error correction techniques that will retransmit packets if necessary, in order to ensure accuracy, even though this retransmission necessarily causes delays. D.I. 316-32 (Ex. 36) ¶401. Voice channels, on the other hand, use error correction that does *not* retransmit packets, even though it is less reliable, in order to avoid delays. *Id.* Unlike voice channels, Siri’s TCP/IP channel undisputedly uses error correction techniques that retransmit packets, thus causing delays, when errors are detected.

These properties are integral to what the ’446 specification describes as the hallmark of a voice channel, i.e., “the infrastructure and procedures generally known in the art for setting up a phone call.” ’446 patent at 4:21-25. A phone call could not function properly without the priority, transmission protocols, and error correction properties employed by voice channels.

B. VoIP Voice Channels Treat Voice Differently From Non-Voice Data

The Court has asked whether VoIP technology sends voice input over a voice channel. The answer is that some, but not all, VoIP services utilize voice channels, but they do so by

1 adopting the properties discussed above with respect to cellular voice channels. Specifically, as
2 Mr. Rysavy, explained in his report, a robust, reliable VoIP service—such as a VoIP system
3 installed on a corporate or government network—will prioritize voice traffic above non-voice
4 traffic being sent over the same network, use short transmission interval such as 20 msec, and
5 use transmission protocols such as UDP and RTP, rather than TCP, because they do not cause
6 delays by retransmitting voice packets when errors are detected.¹ D.I. 316-32 (Ex. 36) ¶421.

7 This discussion of VoIP leads to the Court’s next question, which is whether there are
8 examples of voice input being sent over a voice channel other than a cellular phone call. The
9 answer is yes. One such example would be a robust VoIP service that is integrated on a
10 corporate or government network, where the voice-channel-related prioritization, protocols, etc.
11 are implemented.² On the other hand, an off-the-shelf VoIP service that merely provides a free
12 VoIP app that anyone can download onto their personal device and use over a standard data
13 channel would not be using a voice channel because it would not be integrated into a network
14 such that it could reliably utilize the priority, transmission protocols, and error correction
15 properties that cellular carriers or robust VoIP services use to create voice channels.

16 In any event, Unwired Planet’s focus on VoIP and its attempt to link Siri to VoIP services
17

18 ¹ The Court also asks if there is a different answer to this question depending on whether or
19 not VoIP uses TCP/IP protocols. While all VoIP services, by definition, send voice as IP
20 packets, VoIP services avoid using TCP as the transmission protocol for sending those
21 packets because TCP’s error correction techniques introduce delays that are unsuitable for
22 voice, as discussed above. Indeed, Dr. Jones admits that no VoIP services use TCP in normal
23 conditions. D.I. 316-15 (Ex. 15) at 301:19-302:4. While it is not theoretically impossible to
24 use TCP to send undistorted speech, this hypothetical scenario is irrelevant here because, in
25 order to overcome TCP’s delays, it would necessitate the use of prioritization and dedicated
26 network resources that undisputedly are not applied to Siri communications.

27 ² The Court noted that the ’446 patent refers to “palm sized computing devices and personal
28 digital assistants [PDAs] with voice transmission” capabilities. D.I. 363 at 1. Importantly,
Mr. Rysavy explained, and Dr. Jones never disputes, that these devices could access the same
voice channels used for phone calls. For example, in the mid 1990s, the Nokia
Communicator combined a personal organizer with a GSM cellular phone, and the Motorola
Envoy was a PDA that connect to a phone jack to place phone calls. D.I. 316-32 (Ex. 36)
¶407. Further, other PDAs and handheld computers communicated over telephone lines by
using special dial-up modems. *Id.* ¶408.

1 is a red herring. First, Dr. Jones admits that Siri is not a VoIP service because it does not enable
2 voice communications between users. Dkt. 323-22 (Ex. 9) at 278:18-23, 279:6-23. Second, Siri
3 is also not analogous to VoIP because, as Dr. Jones admits, no VoIP services use TCP in normal
4 operation. D.I. 316-15 (Ex. 15) at 301:19-302:4. Lastly, it is undisputed that the TCP/IP channel
5 Siri uses does not distinguish between voice and non-voice data—instead all data is treated the
6 same from the perspective of the channel. VoIP services do not create voice channels merely by
7 sending voice-related information, they do so if they apply the priority, protocols, and error
8 correction used by voice channels, which Siri undisputedly does not do.

9 **II. Siri's TCP/IP Channel Does Not Treat Voice Differently From Non-Voice Data**

10 The Court has also asked for examples of voice being sent over a data channel. A prime
11 example is Siri itself. Some of the data Siri communicates is of course voice information, but *the*
12 *channel* over which it is being communicated is a standard TCP/IP data channel. As Apple
13 pointed out in its summary judgment briefing – and as Unwired Planet *does not dispute* – Siri
14 uses the same type of TCP/IP channel used for web browsing, email, and push notifications. D.I.
15 316-3 at 26, 30. Thus, the voice information that is sent from an iPhone to Siri servers is *treated*
16 *the same by the channel* as a webpage or email would be treated.³ *Id.* at 28-29.

17 Indeed, the '446 patent expressly notes that TCP/IP is a characteristic of a *data channel*,
18 not a voice channel. For example, Claim 9 and Claim 41 state that TCP/IP is one of the
19 communication protocols used on the “second communication path” that returns the translated
20 data file from the speech recognition server to the mobile device. Tellingly, neither the claims
21 nor the specification of the '446 patent ever mention TCP/IP in the context of the voice channel.

22 The Court's final question is whether there are any discernible limits on what constitutes
23 a voice channel. As discussed above, the one inherent, immutable characteristic of any voice
24 channel is that it must, at a minimum, treat voice differently from how non-voice data is treated.

25 ³ Moreover, it is also undisputed that non-voice data is transmitted between iOS devices and
26 Siri servers in *both directions* using this same TCP/IP channel. D.I. 316-3 at 28-29. Not
27 only is the translated text sent from the Siri servers to the iOS device, but the iOS device also
28 sends address book names and song titles to the server (so that Siri can better recognize these
words) over this same TCP/IP channel. D.I. 316-32 (Ex. 36) ¶¶388, 475.

1 Without this limitation, the dichotomy between voice channels and data channels that is at the
2 center of the '446 patent's "present invention" is rendered meaningless—and by rendering that
3 distinction meaningless, negates the very premise of the Court's claim construction.

4 Unwired Planet's infringement theory fails as a matter of law because it is undisputed
5 that Siri's TCP/IP channel treats voice and non-voice data *exactly the same*. There is nothing in
6 the *nature of the channel* that distinguishes between voice and non-voice data. Thus, what
7 Unwired Planet has been left to do is to point to irrelevant "evidence." This "evidence" simply
8 does not speak to the nature of the channel, or more specifically, to *how the channel treats voice*
9 *differently from how non-voice data is treated*.⁴

10 For example, Unwired Planet points to Speex software on the iOS device that compresses
11 speech before it is transmitted. But Speex software affects *the format of the data*, not the nature
12 of the channel. *See* D.I. 335-3 at 12. Unwired Planet also vaguely argues that the user's speech
13 is "streamed" to the Siri servers but has no evidence or theory as to whether the user's speech is
14 "streamed" any differently from how other non-voice data is "streamed" over a data channel. *Id.*
15 Moreover, as discussed above, it is undisputed that the user's speech is actually transmitted to
16 Siri servers with [REDACTED]

17 In conclusion, Unwired Planet admits that it did not invent server-based speech
18 recognition for mobile devices. D.I. 316-3 at 27. Instead, the '446 patent claims a particular
19 system that uses both a voice channel and a different data channel to communicate with a speech
20 recognition server. Because Unwired Planet admits that Siri's TCP/IP channel treats voice
21 information exactly as non-voice data would be treated, and does not distinguish between the
22 two, Unwired Planet's infringement theory fails as a matter of law.

23
24 ⁴ Much of Unwired Planet's "evidence" is not even relevant to the accused functionality. *See*
25 D.I. 335-3 at 10-11. For example, Unwired Planet points to technology for *game developers*
26 that Siri undisputedly does not use. *Id.* Unwired Planet also argues that the phrase "audio
27 channel" appears in the Siri source code, but as is also undisputed, this particular code refers
28 to transferring data between servers, not sending speech from a mobile device to the server in
the first place. *Id.* at 11. Finally, Unwired Planet continues to misleadingly argue that Siri
uses the same "uplink" channels that phone calls use, but Dr. Jones conceded that he does not
actually contend that this uplink channel meets the "voice channel" requirement. *Id.*

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CERTIFICATE OF SERVICE

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