

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

S.M.R INNOVATIONS LTD and Y.M.R TECH LTD,

Patent Owners.

IPR2024-01048

U.S. Patent 10,547,648

DECLARATION OF KARL GINTER

I. Introduction

1. I have been retained by S.M.R Innovations LTD and Y.M.R Tech LTD (“Patent Owners”) as a technical expert in connection with the proceeding identified above. I submit this declaration in support of the Patent Owners’ Response to the Petition for Inter Partes Review of U.S. Patent No. 10,547,648 (“the ’648 patent”). I have been retained to provide technical opinions concerning the ’648 patent with respect to the challenges presented by the Petitioner.

2. I am being compensated for my time working on this matter at my customary hourly rate for consulting work of this nature. I have no personal stake nor interest in the outcome of the present proceeding or in either party to this proceeding.

3. In forming my opinions stated in this declaration, I reviewed and am familiar with the ’648 patent. I understand that Petitioner has requested Inter Partes Review (“IPR”) of the ’648 patent. I have also reviewed the materials Petitioner cited in support of its petition, including the Declaration of Dr. Sayfe Kiaei (Ex. 1003), the ’648 patent, its prosecution history, and the art cited in the Petition.

II. Background and Qualifications

4. Appendix A is a copy of my curriculum vitae with a list of cases where I have been retained in the past 5 years.

5. I have a BA in computer studies from the University of Maryland System, and 46 years of experience in the industry of software development ranging across a number of different disciplines. I am a computer technologist by training and practice, and a serial entrepreneur by profession. I have participated in 14 startup companies since 1978, each focused on emerging problems within the relevant industry in need of a technological solution.

6. In the early 1980s, I worked as a developer for telephone switch software and associated support and testing systems for TDX, a subsidiary of Cable and Wireless. TDX provided “dial around” long-distance services. My experiences with TDX included learning about voice encoding over various telephone networks.

7. In the mid- to late-1980s, I ran a consulting company in the DC area, where we took various contracts for contract programming services. I was one of the skilled staff that provided these services to customers. In this role, I worked with a number of voice and data transmission systems, including developing techniques for voice and video encoding and decoding, compression, signaling, and related technologies. I also led and managed a team of developers that fulfilled the projects that the company was engaged in. This team included senior, mid-level, and junior developers. As mentioned above, some of these projects involved voice and data transmission systems.

8. In the 1990s, I was chief scientist for Electric Publishing Resources (later Intertrust). In that role, I worked on designs for digital rights management (DRM) systems, which included developing digital rights management as applied to digital content, including video and audio content, in both streaming and discrete (file) formats. I ceased to be a full-time employee of Intertrust in 1995, though I returned full-time in 2000 as a consultant. I focused on enterprise applications of DRM. I left Intertrust again in 2001, though I was retained as a periodic consultant to them on topics around the patent portfolio developed during my previous tenures.

9. In the 2000s, I acted as a consultant to several companies about how to apply DRM techniques in various applications, including audio and video content, as well as its integration within networking protocols. I was a consultant to SIAC, the technology subsidiary of the New York Stock Exchange. In that role, I was responsible for the development of numerous features, including protocols, encoding and decoding of image files between the backend system, the wireless infrastructure, and the wireless handheld devices being deployed on the trading floor.

10. Since the mid-2000s, I have started and managed two IP consultancies. Part of my work within these consultancies involved the technical analysis of existing patents, patent disclosures, and similar materials. The subject

matter of these applications included techniques for the transmission and/or processing of audio and video content. I have also continued my consulting practice, working on various projects of technical interest.

III. Relevant Legal Standards

11. I am not an attorney and I have no opinions on the law. Patent Owners' legal counsel has provided me with legal standards and asked me to apply those standards to the facts and to my opinions in the present IPR.

12. I understand that the validity analysis involves two steps. First, one must construe the terms of the patent claims to understand what meaning one of ordinary skill in the art would give the terms (which process may conclude that a term should be given its plain and ordinary meaning). Second, after the claim terms have been construed, one may then assess validity by comparing a patent claim to the "prior art." I understand that the teaching of the prior art is viewed through the eyes of a person of ordinary skill in the art ("POSITA") at the time the invention was made.

A. Obviousness

13. I understand that Petitioner has asserted that the challenged claims are invalid as being obvious under 35 U.S.C. § 103 in light of certain references. I understand that in an IPR, a claim may be invalid under § 103 if the Petitioner establishes by a preponderance of the evidence that the claimed invention as a

whole would have been obvious to a POSITA at the time the invention was made. I understand that obviousness is a legal conclusion. I do not offer a legal conclusion, but rather provide testimony herein regarding the relevant facts underlying the legal conclusion. This includes the relevant art, the scope and content of the prior art, the motivation to combine the art, and the differences between the prior art and the claims.

14. I understand that even though an invention may not have been identically disclosed or described before it was made by an inventor, in order to be patentable, the invention must also not have been obvious to a POSITA in the field of technology of the patent before the priority date of the patent.

15. I understand that in determining whether a claimed invention is obvious, one must consider the level of ordinary skill in the field of the invention that someone would have had as of the patent's priority date, the scope and content of the asserted prior art, any differences between the prior art and the claimed invention, whether a POSITA would have been motivated to combine the prior-art references, and, if present, objective evidence or secondary considerations.

16. I understand that it is not permissible to use hindsight or *ex post* reasoning in assessing whether a claimed invention is invalid for obviousness. For example, an invention should not be considered in view of what a POSITA would

know today, nor can it be reconstructed after the fact by reading into the prior art the teachings of the patent at issue.

17. I understand that obviousness cannot be proven merely by showing that an invention is a combination of elements that were previously known in the prior art. Rather, in an IPR, a patent challenger must further establish by a preponderance of the evidence that there were apparent reasons that would have prompted a POSITA to have combined these known elements in the fashion claimed by the patent. Such reasons might include, for example, teachings, suggestions, or motivations to combine that would have been apparent to a POSITA.

18. I also understand that one should keep in mind that the existence of each and every element of the claimed invention in the prior art does not necessarily prove obviousness. Most, if not all, inventions rely on building blocks of prior art. In considering whether a claimed invention is obvious, I understand that one should consider whether, at the time of the patent's priority date, there was a reason that would have prompted a POSITA to combine the prior art in the manner proposed, taking into account such factors as (1) whether the claimed invention was merely the predictable result of using prior art elements according to their known function(s); (2) whether the claimed invention provides an obvious solution to a known problem in the relevant field; (3) whether the prior art teaches

or suggests the desirability of combining elements claimed in the invention; (4) whether the prior art teaches away from combining elements in the claimed invention; and (5) whether it would have been obvious to try the combinations of elements, such as when there is a design incentive or market pressure to solve a problem and there are a finite number of identified, predictable solutions. To find that the asserted combination of prior art rendered the claimed invention obvious, one must find that the asserted combination of the prior art provided a reasonable expectation of success.

19. I also understand that “obvious to try” is not sufficient in unpredictable technologies.

B. Independent and Dependent Claims

20. I understand that a dependent claim incorporates by reference all the limitations of the independent claim (and any intervening claims) from which it depends. Therefore, I understand that to prove that a dependent claim is obvious, a prior art reference, combination of references, and/or general knowledge in the art must disclose each and every claim limitation of the dependent claim, in addition to each and every limitation of the claims from which it depends.

IV. Definition of a Person of Ordinary Skill in the Art

21. Based on my review of the '648 patent and my understanding of the art (including the references cited by Petitioner), a POSITA in the field of the '648

patent as of July 25, 2002, would have had a Bachelor's degree in Computer Science, Computer Engineering, Electrical Engineering, or a related field in computing technology, and at least two years' experience in wireless communication and mobile devices, or equivalent education, research, experience, and knowledge.

22. I have reviewed Petitioner's proposed definition of a POSITA. While Apple's expert asserts that "most workers of ordinary skill in the art as of the earliest possibility priority date of July 25, 2002, would have had a master's degree in computer engineering, electrical engineering, or a related field, with at least 2 years of experience with wireless communications," I note that he cites no evidence for his assertion that most workers of ordinary skill would have had a master's degree other than a generic reference to his experience. Based on my decades of experience, including the management of developers at the time with credentials closely matching a Bachelor's degree and a few years of development experience (including in fields akin to the subject matter of the '648 patent), I do not believe that most workers of ordinary skill in the art of the '648 patent would have had a master's degree. Indeed, some skilled programmers I was familiar with in the 1980-2002 period had not completed a college degree (in many cases, they were still in school or had dropped out to pursue work opportunities).

23. I understand that information provided by the National Center for Education Statistics indicate that in 1999-2000, there were 2.8 times the number of bachelor's degrees award versus master's degrees in engineering and engineering technologies (73,323 bachelor's versus 26,648 master's). EX2010. In 2000-2001, it was 2.7 times (72,869 bachelor's versus 27,187 master's). EX2010. In 2001-2002, it was 2.8 times (74,588 bachelor's versus 26,987 master's). *Id.* In 2002-2003, it was 2.5 times (77,231 bachelor's versus 30,583 master's). *Id.* I understand that the statistics are similar for degrees award in computer and information sciences: In 1999-2000, 2.5 times the number of bachelor's degrees versus master's degrees (37,788 bachelor's versus 14,990 master's). EX2011. In 2000-2001, it was 2.6 times (44,142 bachelor's versus 16,911 master's). *Id.* In both 2001-2002 and 2002-2003, it was 2.9 times (50,365 bachelor's versus 17,173 master's in 2001-02 and 57,433 bachelor's versus 19,509 master's in 2002-03). *Id.* These numbers are consistent with my understanding that most people working in the art of the '648 patent did not have a master's degree.

24. My opinions provided in this declaration would not change in view of minor modifications to the definition of the level of ordinary skill described above.

25. As of July 25, 2002, as set forth above and as reflected in my CV, I had more than ordinary skill in the art. I am, however, familiar with the skills and

knowledge possessed by those I would have considered to be of ordinary skill in the art as of that date.

V. Claim Construction

A. Claim Construction Standard

26. I have been informed and understand that claims are construed from the perspective of a POSITA at the time of the claimed invention (i.e., the effective filing date of the patent). I also understand that claims are construed in an IPR proceeding using the same claim-construction standard used by federal courts.

27. Under this standard, “the Office will construe patent claims . . . by taking into account the claim language itself, the specification, the prosecution history of the patent, and extrinsic evidence, among other things, as briefed by the parties.” 83 Fed. Reg. 51340, 51343 (Oct. 11, 2018), available at <https://www.federalregister.gov/d/2018-22006/p-24>.

28. I understand that “[t]he ‘words of a claim are generally given their ordinary and customary meaning,’ which is ‘the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.’” 83 Fed. Reg. at 51343 (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc)).

29. I understand that *Phillips* stated that the specification is “the single best guide to the meaning of a disputed term and . . . acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” 83 Fed. Reg. at 51343 (quoting *Phillips* at 1321 (internal quotation marks omitted)).

30. I also understand that *Phillips* stated that the prosecution history “is another source of intrinsic evidence that can ‘inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution.’” However, I also understand that “the prosecution history ‘often lacks the clarity of the specification and thus is less useful [than the specification] for claim construction purposes.’” 83 Fed. Reg. at 51343 (quoting *Phillips* at 1317).

31. Finally, I understand that “[e]xtrinsic evidence, such as expert testimony and dictionaries, may be useful in educating the court regarding the field of the invention or helping determine what a person of ordinary skill in the art would understand claim terms to mean.” 83 Fed. Reg. at 51343 (quoting *Phillips* at 1318-19). I also understand, however, that “extrinsic evidence in general is viewed as less reliable than intrinsic evidence.” 83 Fed. Reg. at 51343 (quoting *Phillips* at 1318).

32. I have provided an opinion below regarding the meaning of certain claim terms. As to the other terms that I do not address, I will simply apply the ordinary and customary meaning of those terms, which may be further addressed in my discussion of particular claims. In reaching my conclusions regarding the meaning of the claim terms, I considered the specification and its prosecution history.

B. Claim 1

33. Claim 1(b) of the '648 patent recites, *inter alia*, “identifying one or more available devices compatible to handle the media content and connected to the LAN.” Claim 1(d) recites “wirelessly signaling *the one or more available devices* indicating an availability of a media content at the mobile device.”

34. I understand that claim 1(d)’s reference to “the one or more available devices” relies on claim 1(b) for antecedent basis with respect to the phrase “one or more available devices.”

35. I am also informed that “a claim requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written, or the specification directly or implicitly requires an order of steps.” *Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014).

36. I understand that, during prosecution, claim 1(d) at one point recited “wirelessly signaling *the* one or more devices.” I understand that the Examiner rejected the claim under 35 U.S.C. § 112, asserting that it was not clear whether this phrase referred to “the *one or more available devices* [recited earlier in the claim] or different one or more devices.” EX1002, 240 [Feb. 6, 2019, Office Action at 7]. In response, I understand that the inventors noted that the Examiner stated that it was “not clear whether the claimed ‘*one or more devices*’ indicates the one or more available devices or different one or more devices.” EX1002, 262 [June 6, 2019, Amendment at 7]. They also stated that they “amended the claim to recite ‘*one or more available devices*’ and not ‘*one or more devices.*’” *Id.*

37. In my opinion, a POSITA would have understood this exchange to indicate that the inventors were confirming that the language in this claim element (corresponding to claim 1(d) of issued claim 1) referred to the one or more available devices identified in claim 1(b). Stated differently, a POSITA would have understood that the inventors’ amendment confirmed that in claim 1(d), the wireless signaling is directed specifically at the one or more available devices identified in claim 1(b).

38. It is also my opinion that this understanding is consistent with the remainder of the specification. For example, the specification provides the

following example in which the mobile device is plainly described as identifying an available device before signaling that device about content:

5. Option B:

- a. While ringing, the cell phone indicates on its display that a nearby phone is available
- b. The person approves the routing of the call to that nearby phone
- c. The nearby phone rings, or flashes to indicate the rerouted call

EX1001, '648 Patent, 11:62-67.

39. I understand that Petitioner has argued that claim 1(d) could be performed before claim 1(b) because “[t]he claims do not preclude identifying or signaling additional unavailable devices, and there is no logical reason a device must be identified as available before being signaled.” Paper 12, 4. For the reasons discussed above, it is my opinion that this argument overlooks the logical reading of the claim as actually recited (and the specification’s examples). I also believe Petitioner’s argument overlooks the significance of the inventors’ amendment and response to the Examiner in response to the initial rejection of claim 1.

40. I believe that a POSITA would have understood that if the inventors had intended the claim to reflect Petitioner’s reading, there would have been no point for the inventors to respond to the Examiner’s rejection by amending the claim to recite “one or more available devices.” Instead, the inventors could have simply removed the word “the” so that the claim recited “wirelessly signaling one

or more devices.” That would have accomplished the reading the Institution Decision applied to the claims. Since the inventors instead specifically amended the claim to recite “wirelessly signaling the one or more *available* devices,” it is my opinion that a POSITA would have understood that the one or more devices that are wirelessly signaled are the device(s) that were identified as available earlier in the claim. A POSITA would have understood this flow to be logical—a POSITA would have found it logical to signal one or more devices that are available (and compatible) about the availability of content at the mobile device (and not to broadcast signal all devices that were known).

41. I understand that the Institution Decision stated that the specification does not require claim steps 1(b) and 1(d) to be mutually exclusive. I also understand that Petitioner has since applied this to the claim language, arguing that “there can be no order mandated of steps that may be performed simultaneously.” Paper 12, 2. I do not believe that a POSITA would have understood that these steps could be performed simultaneously for the reasons discussed above. That is, the one or more devices that are wirelessly signaled are those that were the one or more available devices identified by the mobile device. Nor am I aware of anything in the specification expressly indicating or even hinting that those actions could be simultaneously performed.

42. I understand that the Institution Decision also stated that, “[a]ccording to its plain meaning, limitation 1b does not appear to require identifying devices *as available*; the claim merely requires identifying ‘available devices.’ . . . In other words, the claim does not appear to require identifying (i.e., determining) whether devices are available but merely requires identifying devices that happen to be available.” Institution Decision, 19. I do not believe that this reflects how a POSITA would have understood the claim.

43. It appears that the Institution Decision interprets claim 1(b) as though it said, “identifying one or more devices that may or may not be available.” This would effectively nullify the term “available” and make its use superfluous. For example, to use an analogy, consider a parking lot attendant who is told to go into the lot and identify a blue car. If he looked off into a dark corner of the lot and said, “I can tell there’s a car over there, but I have no idea if it’s blue or not,” he would surely not have fulfilled the task. He would not have actually *identified* a blue car (even if the car happened to be blue).

44. Moreover, it is my opinion that a POSITA would not understand claim 1(b) to have the meaning proposed by the Institution Decision given the inventors’ amendment to claim 1(d). Had the inventors not intended claim 1(b) to mean identifying one or more devices as being available, there would have been no need for the inventors to amend claim 1(d) to specifically recite wirelessly

signaling the one or more available devices. They could have instead amended the claim to recite “wirelessly signaling one or more devices.” While the inventors chose *not* to phrase claim 1(d) that way, that appears to be how the Institution Decision interpreted the claim when it applied Zhang to claim 1(d) by stating that Zhang “1) discovers (identifies) connective available and unavailable helper servers, and *then* 2) sends (wirelessly signals) service requests to compatible available and unavailable helper servers.” Institution Decision, 19. Thus, it is my opinion that the Institution Decision’s interpretation does not reflect how a POSITA would have understood the claim.

C. Claim 15

45. Claim 15(b) recites “a controller adapted to identify one or more available devices connected to a local area network (LAN) and compatible to handle the media content.” Claim 15(d) recites “wherein the controller is adapted to wirelessly signaling the one or more available devices indicating an availability of the media content at the mobile device.”

46. Because claim 15(d) relies on claim 15(b)’s recitation of “one or more available devices” for antecedent basis, it is my opinion that a POSITA would have understood that claim 15(d) requires that the controller be adapted to wirelessly signal the one or more available devices that were identified by the controller.

47. In my opinion, that is confirmed by the back-and-forth between the Examiner and the inventors during prosecution discussed above with respect to claim 1. I understand that the Examiner initially rejected claim 15 (application claim 19) on the same grounds as claim 1, and the inventors responded by amending claim 15 similarly to the amendment to claim 1 discussed above. EX1002, 240, 262. It is my opinion that a POSITA would have understood that claim 15(d) requires that the controller be adapted to wirelessly signal the one or more available devices already identified by the controller. It is my opinion that this understanding is also consistent with the specification, as also discussed regarding claim 1. *See, e.g.*, EX1001, '648 Patent, 11:62-67.

48. Moreover, for the same reasons discussed regarding claim 1, it is my opinion that the Institution Decision's preliminary understanding that claim 15 does not require identifying whether devices are available is inconsistent with how a POSITA would have understood the claim.

VI. Obviousness Analysis of Challenged Claims

A. Claim 1

1. The Proposed Combination Does Not Account for All Elements of Claim 1

49. Claim 1(b) of the '648 patent recites, *inter alia*, "identifying one or more available devices compatible to handle the media content and connected to

the LAN.” Claim 1(d) recites “wirelessly signaling *the one or more available devices* indicating an availability of a media content at the mobile device.”

50. As I addressed above regarding claim construction, it is my opinion that the one or more available devices that are wirelessly signaled in claim 1(d) are the same one or more available devices identified in claim 1(b).

51. It is my opinion that Petitioner’s proposed combination does not teach or suggest at least claim 1(d).

52. I understand that the Petition asserts that Zhang teaches both claim 1(b) and claim 1(d). In setting out its assertion, Petitioner states that “*Zhang’s* mobile device performs the following key steps:

(1) Device discovery: The handheld device identifies the nearby helper servers.

(2) Service query: The handheld device queries the identified helper servers to determine if they are capable of providing the helper service.

(3) Request transfer: The handheld device selects a helper server and delegates the task to it.

(4) Remote control: The helper server returns a remote control interface description to the handheld device.

Petition, 22 (citing *Zhang*, 3:44-56, 6:40-44).

53. With respect to claim 1(b), I understand that Petitioner asserts that Zhang’s mobile device satisfies this claim element based on information it receives

from helper servers in Zhang's steps 2 and 3. In particular, Petitioner relies on a helper server's *response* to a service request in Zhang's step three in asserting that Zhang teaches claim 1(b):

In Zhang's third step, "request transfer," a helper server responds the service query, indicating its availability to handle the requested service. Specifically, in response to the service query¹, the helper "server makes the admission decision S648 and informs the client whether its service request can be granted right away, has to be queued[,] or is denied (e.g. not enough total resource on the server or authentication failure) S646." Zhang, 7:22-25, 7:58-60 . . .

In sum, Zhang's mobile device performs this process to identify helper servers (devices) that are both available and compatible to handle the media content.

Petition at 15-16 (emphasis added). Thus, in Petitioner's mapping, the proposed combination completes claim 1(b) only *after* the helper device responds to the

¹ I note that Petitioner incorrectly refers to a "service query" in this passage. In Zhang, a "service query" refers to the process of discovering whether a particular device offers a particular service. This service query is performed before a service request is made. Petitioner's error is clear from the two passages it cites (Zhang at 7:22-25 and 7:58-60). This is expressly indicated in Petitioner's quotation of 7:58-60: "Once a **service request** is accepted by a helper server S650, the client is notified S610 and can start transferring service data to the server S612." Petition, 15 (quoting Zhang, 7:58-60) (emphasis added).

mobile device's service request (Zhang's step three) by providing information about the helper device's availability.

54. I understand that Petitioner argues that claim 1(d) is met by the service request itself that is sent by a mobile device to a helper device during Zhang's step 3:

In general, Zhang teaches several "essential steps" the mobile device takes to interact with helper servers. First, the mobile device performs device discovery and "identifies the nearby helper servers." Zhang, 3:44-48. Second, Zhang performs a "service query," where the mobile device "queries the identified helper servers to determine if they are capable of providing the helper service." Zhang, 3:49-51. Zhang teaches that if a located helper server "does offer the needed helper service, the handheld device requests the helper service S404." Zhang, 4:1-8.

Regarding wirelessly signaling a helper server indicating an availability of a media content at the mobile device, Zhang teaches transmitting a service request to a helper server, and when a server accepts, a session is set up between a "helper client" (mobile device) and helper server using TCP. ***A POSITA would have understood that wirelessly signaling a service request would have indicated the availability of media content at the mobile device.***

'648 Petition at 23 (emphasis added).

55. In sum, it is my understanding that Petitioner argues that claim 1(d) is met by Zhang's mobile device sending a service request, while the aspect of claim

1(b) relating to identifying one or more available devices is satisfied when Zhang's helper server responds to a service request. Thus, the action that Petitioner relies on for claim 1(d) is performed *prior to* an action Petitioner relies on for claim 1(b).

56. It is my opinion that Petitioner's mapping does not account for the claim's recitations. As addressed above, in claim 1(d), the device(s) that are wirelessly signaled are the device(s) that were *already* identified in claim 1(b). Thus, claim 1(d) cannot be performed before claim 1(b) is performed.

57. Petitioner's argument is that Zhang wirelessly signals "the one or more *available* devices" before actually determining if they are available. In my opinion, this does not account for the claim language. Since the mobile device has not identified an available device before sending the service request, the service request itself cannot (as Petitioner argues) constitute "wirelessly signaling the one or more *available* devices indicating an availability of a media content at the mobile device," as recited in claim 1(d).

58. In its Institution Decision, I understand that the Board preliminarily concluded that even if claim 1(b) must precede claim 1(d), Zhang nonetheless satisfies these steps because it "1) discovers (identifies) connected available and unavailable helper servers, and then 2) sends (wirelessly signals) service requests to compatible available and unavailable helper servers." Institution Decision, 19. This mapping of Zhang to claim 1 relies on Zhang's first two steps (alone) as

satisfying claim 1(b), apparently taking the position that nothing in Zhang's third step is necessary to map Zhang onto claim 1(b). This is not the mapping presented by Petitioner, as Petitioner asserted that a helper server's response to a service request is how Zhang satisfied claim 1(b)'s language requiring identifying one or more available devices. For the reasons discussed regarding claim construction, it is my opinion that the Institution Decision's interpretation of the claim language is incorrect.

2. Petitioner Failed to Adequately Explain How the Proposed Combination Would Operate

59. I understand that the Petition states that "*Zhang* does not expressly describe an arrangement in which media is first streamed to the mobile device and is then re-routed to a helper server." Petition, 18. And furthermore, I understand that for claim 1(e), Petitioner asserts that "a POSITA would have been motivated to modify *Zhang* pursuant to *Pasanen* to receive a telephone call on the mobile device (from the telephone network) and to reroute the audio to a helper server (e.g., a wireless speaker/microphone)." *Id.*; EX1003, ¶123. I also understand that Petitioner asserts that "a POSITA would have been motivated to implement *Zhang* pursuant to *Fillebrown's* use of a wireless router to indirectly route messages or media content to one or more available devices." *Id.*, 19. Specifically, I understand that Petitioner asserts that the combination would have involved routing the phone

call from the mobile device to a helper server “using IEEE 802.11 or HomeRF.”

Petition, 22; EX1003, ¶96.

60. I understand that Petitioner asserts that Pasanen teaches a mobile device that can receive a phone call over a GSM cellular network. EX1003, ¶132. I understand that Petitioner also asserts that Pasanen teaches that the mobile device may transmit a phone call to a wireless audio interface 12 with a microphone and an earpiece. *Id.*, ¶122.

61. Pasanen teaches that the mobile device communicates with peripheral devices over a personal local area network. EX1006, 3:39-48. In my opinion, a POSITA would have understood this as a reference to a wireless personal area network (PAN or WPAN), which can be characterized by typically having a master server and a plurality of associated devices as described in IEEE standard 802.15 (WPAN/Bluetooth), part of which was initially approved in March of 2002. EX2015, § 6.2.3.3, p. 42 (*see* Fig. 12).² Consistent with this, Pasanen’s mobile device is referred to as a server. EX1006, 4:20-26. A modern example utilizing a PAN is a phone using Bluetooth to send data to Bluetooth-enabled devices.

² EX2015 contains a true and correct excerpt from IEEE Std 802.15.1, published June 14, 2022. I obtained a copy of this standard, including the excerpt contained in EX2015 through the IEEE’s website.

62. The server 1 of Pasanen has a server device that is connected to a “long distance link” such as a GSM network used in some cellular telephony systems at the time. The server 1 also utilizes a “short range radio network,” which is described as a two-channel (uplink and downlink) frequency-linked pair (duplex separated). EX1006, 5:16-35. In this context, “frequency-linked” means that a first channel is assigned a radio frequency and the second channel is assigned a second frequency that is offset a fixed amount from the first channel. Content may be received by the server from an external network and forwarded to a personal local area network device. EX1006, 9:28-30 (telecopy), 13:51-55 (call).

63. In my opinion, a POSITA would have understood that Pasanen does not disclose transmitting data from a mobile device to a peripheral device using 802.11 or HomeRF. As a first example, Pasanen describes wireless local area networks as generally having “star” or “ring” topologies (from the server). EX1006, 2:1-6. However, a ring topology is not compatible with 802.11 or Home RF because 802.11 and HomeRF both operate using transmissions on one or more radio frequency(ies) that can be received by any receiver tuned to those radio frequency(ies).

64. As a second example, Pasanen describes a full-duplex transmission technique (EX1006, 5:17-32), whereas 802.11 and HomeRF utilize half-duplex techniques. In Pasanen, each personal local area network is assigned a frequency

pair, and a device may participate in more than one personal local area network at a time. EX1006, 6:62-67.³ Alternatively, devices are assigned a unique frequency pair with the server. EX1006, 14:37-40. Devices of a particular personal local area network may share a frequency pair and operate using a collision avoidance mechanism. EX1006, 8:51-56, 9:10-21, 14:37-42. Pasanen describes a receiver and a frequency-linked transmitter which operates on a plurality of frequency pairs. A POSITA would therefore have understood that Pasanen describes a full-duplex technique and not the very different half-duplex technique. EX1006, 5:16-21.

65. In contrast, 802.11 and HomeRF utilize a half-duplex technique in which uplink and downlink time slots are interleaved on the same frequency. For example, 802.11 operates as a “party line” controlled by the hub (or wireless access point) where all devices receive and transmit on the same frequency (a channel in 802.11 parlance) once they join the network. The hub mediates joining the network. In 802.11, each transceiver of a device can only be joined to/participate in a single 802.11 local area network at a time (i.e., it is not possible for a device to simultaneously be associated with multiple networks simultaneously as in the IEEE standard 802.15). A device using 802.11 would

³ While Pasanen discloses that certain devices may only belong to a single network, that is described as a characteristic of the device, not the network. EX1006, 6:62-67.

utilize a transceiver tuned to one channel frequency at a time, listening and transmitting on the same channel. A modern implementation for this limitation is where a user wanting to connect to an 802.11 (WiFi) network selects the SSID of the network that he wishes to associate with, authenticates (if required), and then is associated with, and may participate in the network. Thus, 802.11 is a half-duplex technique that uses CSMA/CA techniques for collision detection and avoidance. HomeRF is likewise a half-duplex scheme, utilizing a combination of 802.11 FH and DECT transmission schemes. EX2016, p. 2 (top left slide).⁴ 802.11 is discussed above, and DECT is a variant of TDMA (Time Division Multi-Access). *Id.*

66. As a third example, Pasanen describes using analog transmission over infra-red (IR) or wireless (AM or FM) transmission technologies. EX1006,12:36-46. A POSITA would have understood Pasanen's analog nature based on, for example, the following statement: "The demodulated signal is obtained from the audio line of the short-distance link module of the peripheral device." EX1006, 11:62-64. A POSITA would also have understood that Pasanen discloses a full-

⁴ EX2016 is a true and correct copy of a "Technical Overview" of HomeRF provided by the HomeRF Working Group, which I obtained from the website of Wayne Caswell, the former Marketing & Communications Chairman of the HomeRF Working Group.

duplex analog transmission mechanism from the paired receive and transmit channels and the circuit descriptions disclosed in Pasanen.

67. For example, Pasanen's Fig. 4a is a circuit diagram showing an analog signal going from the receiver/detector directly to the speaker of server 1 (element 1b). Speakers of such devices were analog devices that converted an analog waveform into sound, so the signal from the detector to the speaker would therefore likewise be analog. The detector is not identified as a D/A converter, so the input to the detector from the receiver is likewise analog. Moreover, that Pasanen is describing a full-duplex analog transmission mechanism is apparent from the description of Pasanen's Fig. 4b, which states that "a frequency modulated signal is formed, led to the first input of the mixer **49** of the transmitter. The frequency of the local oscillator **16c** of the short-distance link module of the peripheral device is led to the second input of the mixer **49**. Thus, from the output of the mixer, a frequency-modulated signal with the frequency of the transmission channel of the short-distance link module of the peripheral device is obtained and further amplified by the high-frequency amplifier **50**." EX1006, 12:22-30.

68. IR, AM, and FM technologies were used in devices such as TV remote controls. Pasanen expressly describes using frequency modulation to encode an analog signal. EX1006, 11:15-17. As discussed above, Pasanen is clear that it supports analog radio using an analog frequency modulation (FM) scheme.

EX1006, 12:43-46. Analog transmissions encode the signal directly in the transmitted waveform without framing, packetizing, or other overhead. IR, AM, and FM techniques typically use a continuous signal waveform. An FM wireless microphone is an example of an audio signal sent over RF, where the signal is encoded directly in the waveform. Some wireless microphones use the 2.4Ghz band, which directly interferes with 802.11 channels in the same band.

69. In contrast to Pasanen's approach, 802.11 and Home RF utilize digital frames (802.11) or time slices (Home RF) rather than continuous analog transmission techniques. Neither Pasanen's infrared transmissions nor its analog RF transmissions are compatible with 802.11's or HomeRF's utilization of digital frames. Were someone to attempt to do so, Pasanen's analog transmissions would interfere with the digital transmissions of the 802.11 network, causing the network to change channels to avoid the interference. For example, a POSITA would have been familiar with the fact that wireless microphones—analogue RF devices—often cause interference in the 2.4 GHz band utilized by 802.11. While HomeRF is more resilient to interference than 802.11 because of its frequency hopping, it still involves a digital signal that requires sharing the communications frequency between participants rather than an analog signal. Nor does Pasanen disclose a transceiver of the type used by 802.11 or HomeRF. Pasanen's full-duplex, analog

technique for transmitting a cellular phone call to a wireless audio interface is thus incompatible with 802.11 or HomeRF.

70. Modifying Zhang in the manner proposed by Petitioner and its expert (see EX1003, ¶¶123-24) would require a technique called transcoding, in which a signal is converted from one format to another. A white paper titled, “Transcoding free voice transmission in GSM and UMTS networks” describes GSM encoding and the technical challenges involved in transcoding. EX2017, Section 2, ¶1 (“Because of different supported voice encoding schemes when passing from the radio to the core network and reverse, transmitted voice must be transcoded.”) (available at <https://www.eventiotic.com/eventiotic/files/Papers/URL/a0f286ed-6b5d-471a-8f8d-d38bf2728af7.pdf>).⁵

71. For example, a widely used standard for encoding digital audio is G.711. In G.711, the input is sampled and converted to a digital signal (pulse code modulation). G.711 encodes audio into digital audio at 64kb/s. The over-the-air encoding used by GSM is different from G.711. GSM uses a telephony-compatible

⁵ EX2017 is a true and correct copy of a paper titled, “Transcoding free voice transmission in GSM and UMTS networks,” by Stan Sančin, Grega Jakus, Sašo Tomažič (available at <https://www.eventiotic.com/eventiotic/files/Papers/URL/a0f286ed-6b5d-471a-8f8d-d38bf2728af7.pdf>). I understand this paper was presented at the International Conference on Information Society 2011. <https://www.semanticscholar.org/paper/Transcoding-free-voice-transmission-in-GSM-and-UMTS-Stan%C4%8Din-Jakus/19d66c470a7e82d4821fae1a5da29306bf7389f1>

encoding scheme (e.g. full rate, half rate, enhanced full rate, and adaptive multi-rate) for compression and adaptation to over-the-air signal conditions. EX2017, Section 2, ¶1. When a GSM phone call is received at a cellular phone, the GSM stack identifies the voice packets being sent and converts them to an analog audio stream. The demodulated analog audio stream is what is routed to a cell phone speaker (e.g., Pasanen's speaker 1b in Figure 4a). Analog audio signals would be directly compatible with Pasanen's analog transmission network layer and require no transcoder.

72. However, in order for a GSM phone call to be sent digitally over an 802.11 or HomeRF network (as is the case under Petitioner's proposed combination), raw digital signals from the GSM receiver (which would be encoded in their telephony encoding scheme) would require transcoding to a digital audio format compatible with the intended recipient. Thus, the rate-sensitive encoding of the voice transmission over GSM would have to be transcoded into a format recognizable by the receiving device. For example, the analog audio output of the phone call that would normally go to the speaker would have to be sampled into digital form and transcoded to a desired media format (e.g., G.711 or MP3).

73. While Petitioner's expert asserts that "modifying *Zhang-Fillebrown* per *Pasanen's* teachings would have utilized *Zhang-Fillebrown's* existing hardware" (EX1003, ¶124), neither Zhang nor any of the other references in the

proposed combination refer to such a transcoding process nor provide the necessary hardware/software. This is not surprising since none of the references contemplates receiving a cellular call on a mobile phone and routing it over an 802.11 or HomeRF network. Thus, I disagree with Petitioner's expert to the extent he suggests that either Zhang or Fillebrown discloses a mobile device that contains hardware configured to receive a cellular call and perform the necessary transcoding such that it could be sent out over an 802.11 or HomeRF network.

74. I note that Petitioner's expert also states that "a POSITA would have been able to utilize and implement *Pasanen's* teachings in a WLAN with hardware already utilized by the *Zhang-Fillebrown* combination." EX1003, ¶124. As discussed above, Pasanen does not teach that its mobile device includes the necessary hardware/software to transcode a cellular phone call and send it over an 802.11 or HomeRF network. Moreover, Pasanen's structures are not compatible with an 802.11 or HomeRF implementation.

75. In summary, modifying a mobile device to receive a cellular phone call and send it over an 802.11 or HomeRF network would require something that (1) decoded the over-the-air encoding of a GSM module into audio, and (2) reencoded the audio into a digital form for transmission within an 802.11 or HomeRF frame (in other words, transcode it).

76. Neither the Petition nor Petitioner's expert addresses this shortcoming in the cited references or otherwise attempts to explain how the cited references could have been combined such that the proposed combination would actually work.

77. I am informed that "[a]n invention is not obvious just because all of the elements that comprise the invention were known in the prior art; rather a finding of obviousness at the time of invention requires a plausible rational [sic] as to why the prior art references would have worked together." *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013) (internal quotation omitted).

78. Given that the Petition does not explain how Zhang-Fillebrown-Pasanen would have worked together to permit a mobile device to receive a cellular phone call and send it to another device over 802.11 or HomeRF, it is my opinion that Petitioner has failed to establish that claim 1 is obvious.

B. Claim 5

79. Claim 5 depends from claim 1. It is therefore my opinion that Petitioner's proposed combination fails for the reasons discussed regarding claim 1.

80. Moreover, it is my opinion that Petitioner's proposed combination fails to render obvious the additional recitations of claim 5: "The method of claim 1, wherein the media content is a phone call; further comprising routing the phone

call to the one or more available devices in response to a receipt of a response to the signaling received from the one or more device.”

81. Petitioner states that “[a] POSITA would have understood that a phone call would have been routed to an available device after receipt of a response to the signaling received from the one or more available devices (e.g., wireless audio interface 12) in accordance with the mapping above.” Petition, 32-33. Petitioner cites its analysis of claim 1 and Paragraph 126 of the declaration of its expert in support of this statement. I note that Petitioner’s section on claim 1 spans about 23 pages and Petitioner provides no identification of what passage(s) in that analysis it asserts to support its assertion on claim 5.

82. In my opinion, Paragraph 126 of Petitioner’s expert declaration does not show that the proposed combination satisfies the additional recitations of claim 5. It appears that this paragraph contains a single sentence that attempts to specifically address claim 5’s requirement of “routing the phone call to the one or more available devices in response to a receipt of a response to the signaling received from the one or more device.” That sentence in Paragraph 126 of Petitioner’s expert declaration states: “A POSITA would have understood that Zhang’s signaling is provided through several ‘essential steps’ that the mobile device takes to interact with helper servers, where in one step Zhang performs a

‘service query,’ where the mobile device ‘queries the identified helper servers to determine if they are capable of providing the helper service.’” EX1003, ¶126.

83. In my opinion, Zhang’s service query fails to account for the additional recitation of claim 5 because Zhang’s mobile device did not route content to a helper server in response to a receipt of a response to a service query. Rather, Zhang discloses that its mobile device would use the various helper servers’ responses to a service query to determine where to send a service request. EX1004, 3:48-54, 6:40-44. Petitioner’s Expert himself acknowledges this. *See* EX1003, ¶100.

84. For this additional reason, it is my opinion that Petitioner’s proposed combination fails to show that claim 5 would have been obvious.

C. Claim 6

85. Claim 6 depends from claim 1. It is my opinion that Petitioner’s proposed combination fails for the reasons discussed regarding claim 1.

86. Moreover, it is my opinion that Petitioner’s proposed combination fails to render obvious the additional recitations of claim 6: “The method of claim 1, wherein the media content is a phone call; further comprising routing the phone call to the one or more available devices while the phone call is ongoing using the mobile device.”

87. I understand that Petitioner relies on the combination of Zhang-Fillebrown-Pasanen for the additional recitations of claim 6, stating that “[a] POSITA would have been motivated to provide the user an option to invoke the helper server when the phone call is ongoing, providing the user control of whether and when to use the wireless speaker/microphone, rather than the mobile device’s native input/output.” Petition, 33.

88. However, in discussing claim 8, I understand that Petitioner’s expert conceded that Zhang-Fillebrown-Pasanen did not disclose allowing the user to select which audio device to send a phone call to, and therefore proposed adding Rofheart to the combination. EX1003, ¶177 (“[I]n the case where the media content is a phone call, *Zhang-Fillebrown-Pasanen* would have been modified per *Rofheart*’s teachings to select a device to route the phone call to (e.g., wireless audio interface). . . . a POSITA would have understood that ***the ability to have the user select which audio device to send a phone call (e.g., wireless audio interface) would have advantageously improved the Zhang-Fillebrown-Pasanen combination.***”) (emphasis added); *see also id.*, ¶182 (“Modifying *Zhang-Fillebrown-Pasanen* in view of *Rofheart*’s teachings of user selection would have been the use of a known technique of selecting one or more of a plurality of helper servers or other remote devices to which to route media content (e.g., phone call) to improve *Zhang-Fillebrown-Pasanen* in the same way as *Rofheart*. ***A POSITA***

would have recognized the benefit of providing users control to select one or more of a plurality of devices, rather than always connecting to the first identified available compatible device, as taught by Zhang, beneficially permitting users control of which device will handle the call.”) (emphasis added).

89. Thus, Petitioner’s description of the proposed combination of Zhang-Fillebrown-Pasanen in its analysis of claim 8 indicates that the proposed combination of Zhang-Fillebrown-Pasanen by itself would not provide the user an option to invoke the helper server when the phone call is ongoing because Petitioner’s own characterization of this proposed combination of art references indicates that it did not provide the user control to select a helper server. Such functionality would need to be added to that proposed combination of Zhang-Fillebrown-Pasanen.

90. It is my opinion that Petitioner’s expert is incorrect in asserting that “[i]mplementing the proposed combination such that a phone call is ongoing when the user routes audio to a helper server is also necessary to support Zhang’s ‘seamless’ mobility embodiment, where ‘continuity’ is maintained across multiple devices while media is streamed.” EX1003, ¶127.

91. Zhang’s description of the seamless-mobility embodiment includes no statement that the user has control over the transition between helper servers; rather, Zhang’s description indicates that the transition between helper servers

happens as the user moves: “In an alternative embodiment supporting seamless mobility, state information is retained when the user moves causing a change in servers.” EX1004, 10:58-60. In my opinion, a POSITA would have understood that to mean that the transition between helper servers occurred without user intervention and instead occurred as a result of the user moving, for example, between rooms. Thus, it is my opinion that Petitioner’s expert was incorrect in asserting that Zhang’s seamless-mobility embodiment requires implementing the proposed combination in a way that provides the user an option to invoke the helper server when the phone call is ongoing.

92. For this additional reason, Petitioner’s proposed combination for claim 6 fails.

D. Claim 15

93. Claim 15(b) recites, *inter alia*, “a controller adapted to identify one or more available devices connected to a local area network (LAN) and compatible to handle the media content.” Claim 15(d) recites, “wherein the controller is adapted to wirelessly signal[] the one or more available devices indicating an availability of the media content at the mobile device.”

94. As I discussed regarding claim construction, it is my opinion that a POSITA would have understood that claim 15(d) requires that the one or more

available devices that are wirelessly signaled are the one or more available devices identified in claim 15(b).

95. I understand that Petitioner relies on its arguments regarding claim 1(d) for claim 15(d). *See* Petition, 43. It is my understanding that, under Petitioner's mapping, Petitioner asserts that Zhang's service request (step three of Zhang's process) satisfies claim 1(d) and therefore claim 15(d).

96. As I stated regarding claim 1, when Zhang sends out the service requests, it does not know whether the helper server(s) to which it sends the service request(s) are available or not. Thus, Petitioner's argument is that Zhang wirelessly signals "the one or more *available* devices" without having identified them as available. In my opinion, this does not satisfy the language of claim 15(d) because it does not involve wirelessly signaling *the one or more available* devices that were identified as available by the mobile device.

97. Since, under Petitioner's proposed combination, Zhang's mobile device has not identified a device as being available before sending the service request, the service request itself cannot (as Petitioner argues) constitute "wirelessly signaling the one or more ***available*** devices indicating an availability of a media content at the mobile device."

98. As I discussed regarding claim construction, I understand that during prosecution, the inventors amended claim 15 in response to the Examiner's § 112

rejection to clarify that the one or more devices that are wirelessly signaled are the one or more available devices that were identified by the mobile device. EX1002, 240, 262. In my opinion, Petitioner's mapping of its proposed combination to claim 15 incorrectly treats claim 15(d) as though the inventors had instead amended claim 15 to recite "wirelessly signaling one or more devices" without requiring that they be the one or more available devices that were identified by the mobile device. Thus, it is my opinion that the proposed combination does not satisfy claim 15(d) as actually presented by the inventors and issued by the USPTO.

99. Additionally, it is my opinion that Petitioner has failed to show that claim 15 is obvious because, for the reasons discussed regarding claim 1, it failed to adequately explain how the cited references could be combined such that the proposed combination would actually work.

E. Claim 18

100. I understand that claim 18 depends from claim 1 and includes each of its limitations. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 18 for the reasons discussed regarding claim 1.

F. Claim 7

101. I understand that claim 7 depends from claim 1 and includes each of its limitations. While I understand that Petitioner's proposed ground of invalidity for claim 7 involves an additional reference (Skinner), Petitioner's addition of that reference does not change my opinion regarding claim 1. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 7 for the reasons discussed regarding claim 1.

G. Claim 11

102. I understand that claim 11 depends from claim 1 and includes each of its limitations. While I understand that Petitioner's proposed ground of invalidity for claim 11 involves an additional reference (Skinner), Petitioner's addition of that reference does not change my opinion regarding claim 1. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 11 for the reasons discussed regarding claim 1.

103. Moreover, the recitations of claim 11 are similar to the recitations of claim 19(d). Thus, it is my opinion that Petitioner's proposed combination fails regarding the additional recitations of claim 11 for the same reasons discussed regarding claim 19(d).

H. Claim 16

104. I understand that claim 16 depends from claim 15 and includes each of its limitations. While I understand that Petitioner's proposed ground of invalidity for claim 15 involves an additional reference (Skinner), Petitioner's addition of that reference does not change my opinion regarding claim 15. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 16 for the reasons discussed regarding claim 15.

I. Claim 19

105. I understand that independent claim 19 is written from a different perspective than the '648 patent's other independent claims. For example, whereas claim 15 is directed to a "mobile apparatus for informing a device about an availability of media content," claim 19 is directed to "a device for informing a user about an availability of media content at a mobile device."

106. Thus, claim 15 focuses on a mobile device that informs another device about an availability of media content at the mobile device. Claim 19, on the other hand, focuses on the (secondary) device that is informed about availability of media content at the mobile device and, in turn, informs the user of the secondary device about such media content.

107. It is my opinion that a POSITA would have understood that, when claim 19 speaks of informing a user about the availability of media content at the mobile device, it indicates that the media content is available to be rerouted from the mobile device to the user's device. This is reflected, for example, in claim 19(b), which recites that the device includes instructions for "communicating information to an intermediate routing device connected to a local area network (LAN) for indirectly receiv[ing] messages or media content routed from one or more available devices connected to the LAN via the intermediate routing device." Stated differently, a POSITA would have understood that the user's device communicates information to an intermediate routing device that allows the device to receive media content routed from another device (e.g., the mobile device) connected to the LAN.

108. It is my opinion that this understanding is consistent with the specification. *See* '648 patent at 1:22-26; 4:26-46; 9:46-50.

109. Claim 19(c) recites instructions allowing the user's device to receive a signal from the mobile device indicating an availability of a media content at the mobile device. Claim 19(d), in turn, recites instructions by which the device informs its user about availability of media content at the mobile device.

110. It is my opinion that a POSITA would have understood that, since the user of the (secondary) device is informed about *availability* of media content at

the mobile device, the media content has not yet been rerouted to the user's device from the mobile device. In other words, the media content is *available* for rerouting to the user's device, but it has not yet been rerouted.

111. I note that such an arrangement provides practical benefits, including, for example, affording the device's user the opportunity to choose whether to accept the media content.

112. This understanding of the claim language is consistent with the specification, including, for example, the embodiment described at '648 patent col. 12, lines 1-10. In that embodiment, when a call comes into a cell phone (corresponding to the mobile device recited in claim 19), the nearby phone (corresponding to the user's device recited in claim 19) rings to indicate that a call is coming into the cell phone. The '648 patent also specifically discloses that such an arrangement allows the user of the secondary device the choice to accept media content (e.g., audio content comprising a phone call): "As a further example, an incoming phone call directed at a land/fixed line may be rerouted to a mobile device, thus, effectively using the mobile as a cordless phone. Such a technique may ease acceptance of a phone call in a hotel lobby, at a colleague's office, at a restaurant and in many other settings." *Id.* at 5:18-23.

113. I understand that Petitioner's proposed combination involved four references. I also understand that none of them seeks to inform the user of a device

about media content (such as a phone call) that is available for rerouting from another device.

114. I understand that Petitioner’s proposed combination relied on Zhang as its base reference. In discussing a different combination that also included the Rofheart reference (which is not part of the proposed combination for claim 19), Petitioner’s expert states that “*A POSITA would have recognized the benefit of providing users control to select one or more of a plurality of devices, rather than always connecting to the first identified available compatible device, as taught by Zhang*, beneficially permitting users control of which device will handle the call.” EX1003, ¶182 (emphasis added). This is consistent with the Petitioner’s description of Zhang’s helper server making the decision on whether to admit, deny, or queue a service request:

In Zhang’s third step, “request transfer,” a helper server responds the service query, indicating its *availability* to handle the requested service. Specifically, in response to the service query, the helper “server makes the admission decision S648 and informs the client whether its service request can be granted right away, has to be queued[,] or is denied (e.g. not enough total resource on the server or authentication failure) S646.” Zhang, 7:22-25, 7:58-60.

Petition, 15.

115. I also understand that Petitioner acknowledged that Zhang does not disclose claim 19(d)’s recitation of “third program instructions executable by the

processor to inform the user of said device about an availability of a media content at the mobile device with one or more of the following: flash light, ring, and play a loudspeaker sound.” Instead, I understand that Petitioner argued it would have been obvious to modify Zhang based on Skinner to achieve this claim element.

116. I understand that Skinner teaches using a sensor to “detect[] the occurrence of an event and notifying a user of the event as well as the nature of the event.” Skinner, Abstract. For example, the detected event could be “the receipt of a signal (as for example, a telephone ring signal).” Skinner at 4:13-20, 4:38-42.

117. I understand that Skinner teaches that the message could be sent to other communication devices by a controller associated with the sensor. Skinner at 5:9-31, 5:63-6:6. The messages can be presented to the communication devices by, for example, the following means: “audible (such as a series of beeps or audible speech); visual (such as a text message or a flashing light); mechanical (such as vibrations); and electrical (ESD) sensory-based.” Skinner, 6:34-39.

118. Thus, while Skinner teaches using a sensor to detect that a phone has rung, I am not aware that Petitioner has pointed to anything in Skinner disclosing that a phone call will still be available at the original phone when the notification is received by a communication device. I am also not aware of Petitioner pointing to anything in Skinner that teaches routing a phone call from a device that originally received the call to another device. Thus, I do not believe that Petitioner has

pointed to anything in Skinner disclosing that its notification indicates that a phone call is available at the original phone for routing to another communication device.

119. Accordingly, it is my understanding that in the proposed combination, when Zhang's mobile device sends a service request to a helper device asking it to accept routing of a phone call, the helper device would make the decision to accept, deny, or queue that request. The Petition does not state otherwise. Thus, in my opinion, according to the proposed combination, any flashing or ringing at the helper device (per Skinner's teaching) would not notify a user that media content is currently *available* at the mobile device. Rather, in the proposed combination, the flashing or beeping would be notifying the user that the phone call had *already been accepted by the user's device*. This is consistent with Petitioner's expert's acknowledgement that Zhang teaches "*always connecting to the first identified available compatible device*." EX1003, ¶182.

120. At that point, the media content would no longer be available at the mobile device—it would have already been routed to the user's device. Similarly, if the helper device denied the request, any flashing or beeping would not notify the user of the availability of the phone call because the device would have already turned down the service request and the phone call would no longer be available to the helper device.

121. Thus, in my opinion, the proposed combination does not teach or suggest “third program instructions executable by the processor to inform *the user of said device about an availability* of a media content at the mobile device.” Nor am I aware of Petitioner proposing to modify Zhang or the other references to provide this capability.

122. I understand that the Institution Decision included the following statement regarding claim 19:

We also note that Zhang teaches that the mobile device retains state information. Ex. 1004, 10:48–63. When the mobile device moves, causing a change in helper servers, state information is passed to the new helper server so that it can resume providing the helper service to the data indicated in the saved state information. *Id.* Thus, it appears that Zhang’s media content remains available at the mobile device, even after the media content has been routed to the first helper server, because other helper servers are able to later obtain the media content from the mobile device.

Institution Decision, 24.

123. In my opinion, the passage in Zhang referenced here does not undermine my opinion regarding claim 19(d). For example, the Institution Decision’s comment does not explain how the mobile device’s retention of “state information” would mean that the media content itself remained available at the mobile device. In my opinion, a POSITA would have understood Zhang’s

explanation of the seamless-mobility embodiment to describe an automatic process: “In an alternative embodiment supporting seamless mobility, state information is retained when the user moves causing a change in servers.” EX1004, 10:58-60. Thus, under Petitioner’s combination, any flashing or the like would indicate that the content had already been routed to the new helper server, not that content was available at the mobile device. It is my opinion that this does not account for the language of claim 19: third program instructions executable by the processor to inform *the user of said device about an availability of a media content at the mobile device*.

124. Additionally, it is my opinion that Petitioner has failed to show that claim 19 is obvious because, for the reasons discussed regarding claim 1, it failed to adequately explain how the cited references could be combined such that the proposed combination would actually work.

J. Claim 8

125. I understand that claim 8 depends from claim 1 and includes each of its limitations. While I understand that Petitioner’s proposed ground of invalidity for claim 8 involves an additional reference (Rofheart), Petitioner’s addition of that reference does not change my opinion regarding claim 1. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 8 for the reasons discussed regarding claim 1.

K. Claim 10

126. I understand that claim 10 depends from claim 1 and includes each of its limitations. While I understand that Petitioner's proposed ground of invalidity for claim 10 involves an additional reference (Rofheart), Petitioner's addition of that reference does not change my opinion regarding claim 1. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 10 for the reasons discussed regarding claim 1.

L. Claim 13

127. I understand that claim 13 depends from claim 1 and includes each of its limitations. While I understand that Petitioner's proposed ground of invalidity for claim 13 involves an additional reference (Angelo), Petitioner's addition of that reference does not change my opinion regarding claim 1. Therefore, it is my opinion that Petitioner failed to establish that the proposed combination teaches or suggests all elements of claim 13 for the reasons discussed regarding claim 1.

VII. Oath

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both,

under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the results of these proceedings.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 5, 2025

Karl Ginterl

Karl Ginter

APPENDIX A

Karl Ginter

Synopsis

Mr. Ginter has over forty years of experience in the computer industry, including research, product development, systems analysis, software design and development, and LAN design and installation. His areas of specialty include designing and integrating systems using disparate computer hardware and software; including networking, database, system security, and systems/applications development. Applications experience includes business automation, accounting, telephony, digital rights management, and fraud detection. Platforms include most Unix platforms and PC-based systems (DOS through Windows/NT/2000/XP), and embedded systems. He also consults on process engineering, configuration management, patents/patent process, and digital rights management issues.

Positions held (last 25 years)

Mentor-in-Residence, George Washington University, Sept 2016-present
Mentor, MERL program, Maryland Technology Development Corporation (TEDCO), 2013-present

President, Inspyris, LLC, 2008-present

Startup focused on intellectual property services to highly inventive startups. Built management team, established product direction and refinement, directed delivery of services to customers.

Advisor – SafetyNet Solutions, 2001-present

Turnaround situation. Part time advisory position with light management duties around company infrastructure, product and services research. Interview potential members of management, advise on potential M&A activity.

President, Cognition IP Solutions, Inc, 2003-2008

Startup focused on intellectual property services to startups and venture firms, built management team, established product direction, scoping, product refinement and delivery to customers.

Chief Scientist – Zone Products, Inc. 2002-2003

Architected distributed video analysis scheme for next generation of real-time video surveillance products. Analysis of existing patents, review and analysis of prior art, development of claim maps to support infringement analysis. Part time, company did not receive funding during market downturn.

CTO – MailWorX, Ltd – 2001-2002

E-mail startup. Product identification, research, market testing of product ideas. Patentability study. Recommended shutting down company after research indicated that product offerings would have little barrier to entry and that company resources were insufficient to meet near-term competition from concepts being worked on by Microsoft and Lotus research departments.

Sr. Consultant – Intertrust Technologies, Inc. 1999-2006

DRM consulting. Architected enterprise product entries, including market research, system architecture and design, and development of proof of concept components. Mapped company IP to new product offerings to determine IP coverage, recommended additional IP filings and claims. Developed additional patentable material. Assistance with litigation, including research and analysis of potential infringing technologies. Work included recommendations for approaches, documentation of infringement, and assistance with mapping claims to infringing technologies. Multiple M&A due diligence engagements. Consulting around current IP solutions.

Various consulting engagements – 1995-present

- ICRC/National Guard Bureau, PRECIS project for Office of CIO. Interface with ARNG development process, team CM, supervised requirements collection and documentation, documentation of team processes, troubleshooting, security issues, and QC of developed solution.
- Timken (IT security, configuration management, reproducible systems, y2k upgrades to all plant systems),
- SIAC/New York Stock Exchange (Development of handheld backend for trading floor system, “tinies” and decimalization conversions, general enhancements to trading floor system, develop and implement automated testing scheme for trading floor system),
- Performance Engineering/Internal Revenue Service – team lead on development project for automated fraud detection system; system admin lead, CM lead (lead team of 50 from CMM level 2 to level 3 in 18 months, managed team of 10 system administrators, produced baseline definitions for service wide deployments of application product, IT security analyst for project).

Chief Scientist, Electronic Publishing Resources, 1992-1995

Company became InterTrust Technologies. Lead team that invented significant aspects of Digital Rights Management and trusted computing. Developed and documented IP (subsequently involved in > \$US500M in licensing transactions), co-wrote patent applications, assisted with collection and documentation of invention

histories and collection/organization of invention documentation. Lead team of five in development of proof-of-concept code.

President, KL Ginter & Associates, Inc, 1984-present

Operated technology consulting company. Grew company to 30 people between 1984 to 1992. Reduced size to a three people in 1993 to pursue other ventures.

Details of experience prior 1992 available upon request.

Education

BS-Computer Studies-University of Maryland/University College, Degree awarded 1997

In the past five years, I have offered expert testimony, through declaration, report or testimony, in the following matters:

- 1) Sotat, LLC v. Infinova Corporation, 1:24-cv-912-JLH (D. Del.);
- 2) Google, LLC, LG Electronics, Inc., and LG Electronics U.S.A., Inc. v. Zipit Wireless, Inc., IPR2019-01567 (PTAB); and
- 3) Google, LLC, LG Electronics, Inc., and LG Electronics U.S.A., Inc. v. Zipit Wireless, Inc., IPR2019-01568 (PTAB).