

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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NINTENDO CO., LTD., and  
NINTENDO OF AMERICA INC.,

Petitioners,

v.

ANCORA TECHNOLOGIES, INC.,  
Patent Owner.

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PTAB Case No. IPR2021-01338

Patent No. 6,411,941 B1

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**PETITIONERS' REPLY TO PATENT OWNER RESPONSE**

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## I. INTRODUCTION

Nintendo challenged the '941 Patent's claims on two grounds: obviousness over Hellman/Chou (Ground 1); and obviousness over Hellman/Chou/Schneck (Ground 2). (Paper 1 ("Petition").) The combination in Ground 1 is strikingly simple. Hellman discloses nearly all of the features of claim 1, including using an agent to store a license record in EEPROM. Hellman does not disclose that the EEPROM is BIOS EEPROM. However, Chou discloses BIOS EEPROM and motivates storing sensitive information in BIOS EEPROM to discourage tampering.

The Patent Owner Response (Paper 23 ("POR")) focuses almost exclusively on Ground 1, arguing that the combination lacks the "using an agent . . ." step, as well as other issues. While apparently not disputing that Hellman has an "agent," Ancora argues that Hellman does not have *the right kind* of agent because the claimed agent must be "OS-level software." This position is remarkable for two reasons.

First, the '941 Patent never even mentions an "agent." Ancora points to statements during prosecution as disclaiming any broader scope of "agent." Curiously though, the single office action response to which Ancora points also never mentions "agent."

Second, over 14 years of litigation, 15+ district court cases, and 10+ Patent Office proceedings, it was only with the preliminary response in this proceeding that Ancora argued for the first time that “agent” should be construed as “OS-level software.” In fact, Ancora has always previously argued that “agent” should be construed much more broadly as a “software process or routine.”

Ancora's new, narrow construction for “agent” is best viewed in historical context. TCL first presented the Hellman/Chou combination in its IPR in 2020. Ancora sought to avoid institution with a narrowing construction of “license record.” The Board spotted and rejected that improper narrowing. [REDACTED]

[REDACTED] When Sony filed a copycat petition, Ancora sought to avoid institution by narrowing “agent” to software only. The Board spotted and rejected that improper narrowing. [REDACTED]

[REDACTED] Only after termination of that IPR did Ancora sue Nintendo—later that same day.

[REDACTED] it knows that the Hellman/Chou combination is fatal to the challenged claims. [REDACTED]

[REDACTED] Ancora has turned to another, new, and improper narrowing of the claims. The Board should again reject Ancora's attempt.

## II. ARGUMENT

### A. Patent Owner's Narrowing Construction of "Agent" Is Unsupported, and Hellman Discloses the Claimed "Agent" Even Under that Construction.

Ancora argues that "agent" should be construed as "OS-level software program or routine." This construction contains two separate limitations: (1) that the agent be software only, i.e., that it cannot include hardware (POR, 32 (paragraph beginning "At minimum...")); (2) that the agent be "OS-level" software (POR, 33 (paragraph beginning "Remarks made...")).

#### 1. The "OS-Level" Requirement

##### a. There is no basis for limiting "agent" to "OS-level" software.

While Ancora never mentions "disclaimer" or "disavowal," that is the legal theory that Ancora is applying for at least the "OS-level" limitation. A claim term is given its plain and ordinary meaning absent lexicography or disavowal. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Ancora has repeatedly argued not only that "agent" should be construed as "software process or routine," but that "software program or routine" is the plain and ordinary meaning of the term: "The term 'agent' is a well-defined and understood term in the computer industry. An agent is a software program or routine." (EX2004, 1 (Ancora's expert).) "'Agent' has a defined meaning in the art as a 'Software Program or Routine.'" (EX1073, 12 (Ancora Claim Construction

Brief).) “‘Agent’ is a term known in the art to mean ‘software program or routine.’” (EX1074, 7 (Ancora Claim Construction Brief).) *See also* EX1070, 17 (Ancora Claim Construction Brief) at 17 (“As demonstrated by both the intrinsic and extrinsic evidence in this case, ‘agent’ is well understood to refer to a ‘software program or routine.’”); EX1071, 2-3 (Ancora Claim Construction Brief); EX1072, 8 (Ancora Claim Construction Brief); EX1012, 3 (court adopting Ancora construction of “agent” as “software program or routine”); EX1013, 28-36 (same); EX2013, ¶¶ 93-94 (Ancora expert in Sony IPR); EX1075, 3 (Ancora Claim Construction Disclosure (Jan. 2022)). Hence, a narrowing of “agent” to only “OS-level” software can only be justified on the basis of disavowal.

Ancora does not rely on the specification for disavowal; in fact the specification never once mentions “agent” or “operating system.” (*See generally* ’941 Patent; EX1035, 133:22-134:15.) Instead, Ancora relies on a single office action response during prosecution as allegedly establishing the disclaimer. (POR, 33-35; EX2018, ¶¶ 77-79 (same for Ancora’s expert).)

However, the statements that Ancora relies on do not meet the exacting standard for disavowal. “The party seeking to invoke prosecution history disclaimer bears the burden of proving the existence of a ‘clear and unmistakable’ disclaimer that would have been evident to one skilled in the art.” *Mass. Inst. of Tech. v. Shire Pharms., Inc.*, 839 F.3d 1111, 1119 (Fed. Cir. 2016). “There is no

‘clear and unmistakable’ disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term.” *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1380 (Fed. Cir. 2018). Here there is nothing clear or unmistakable about the alleged disavowal, and the more reasonable interpretation is that the “OS-level” descriptor was being applied to an entity *different from* the agent.

Ancora premises the alleged disavowal on a single office action response, and the examiner's alleged adoption of the arguments contained in that response. (POR, 34 (citing Feb. 5, 2005 office action response at EX2011, ANCC000149-156).) As Ancora alleges, the applicant argued in the office action response that the claims differed from the prior art cited by the examiner because “Misra and Ewertz are an OS program and a BIOS program, respectively, that cannot run at the same time,” and “there is no teaching or suggestion to combine these programs.” (EX2011, ANCC000153.) Ancora emphasizes the following statement: “Software license management applications, such as the one of the present invention, are operating system (OS) level programs.” (*Id.*; POR, 34 (quoting same).) However, far from establishing a clear and unmistakable disavowal of the scope of “agent,” *the office action response never once mentions the “agent.”* In six pages of arguments explaining why a POSA would not have

combined an OS-level reference with a BIOS-level reference, the applicant never once said that the **agent** had to be “OS-level” software.

The more reasonable reading of the applicant's arguments, and the one adopted by the Federal Circuit, is that the applicant was describing the **unrecited** “software license management applications” that **perform** claim 1. In one of the appeals addressing the '941 Patent, the Federal Circuit considered whether the prosecution arguments disclaimed the scope of “program” to be only “application programs” (i.e., excluding OS programs). *Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, (Fed. Cir. 2014). The court distinguished between the “program” recited in the claims—the “to-be-verified program”—and the **unrecited program** that “when run, **performs** the claimed verification steps”—the “verifying software” in the court's language. *Id.* at 735 (emphasis added). The court explained that the office action in question, and the examiner's notice of allowance, “are focused on the verifying software, not clearly (or in any event relevantly) on the to-be-verified program.” *Id.* “[T]he applicants were clear that the OS-level language referred to the verifying software.” *Id.* at 737.

Thus, the applicant's arguments characterizing the “verifying software” did not, and cannot, disclaim the scope of “agent.” As indicated by the Federal Circuit, the “verifying software” performs the steps of the claimed invention. *Id.* at 735. Hence, this alleged “OS-level” software is the “verifying software” that **uses**

*an agent*; it is not the agent itself. This is consistent with the examiner's explanation that the "*present invention* overcomes this difficulty [in the prior art] *by using an agent* to set up a verification structure" in the BIOS memory. (EX2011, ANCC000162 (emphasis added).) This also explains why in the applicant's lengthy arguments it never once mentioned the "agent," and why in interpreting these same arguments the Federal Circuit never once discussed the "agent." This prosecution history simply does not speak to the meaning of "agent."

Ancora cannot establish a clear and unmistakable disavowal that never even mentions the claim term allegedly the subject of disavowal, and where the most reasonable interpretation of the arguments is that the applicant was characterizing an entirely different entity.

**b. It is not even clear what Ancora means by "OS-level" software.**

An additional reason why Ancora cannot establish a clear and unmistakable disavowal of "agent" to "OS-level" software is that it is not even clear what "OS-level" means and thus what scope would be disavowed.

In describing the *verifying software* as "operating system (OS) level programs," the applicant appeared to imply that "OS-level" meant *anything that ran after BIOS finished setup* and the OS began operating:

BIOS is a configuration utility. Software license management applications, such as the one of the present invention are operating system (OS) level programs. Therefore, BIOS programs and software licensing management applications do not ordinarily interact or communicate because when BIOS is running, the computer is in a configuration mode, hence OS is not running. Thus, BIOS and OS level programs are normally mutually exclusive.

(EX2011, ANCC000153; *id.* (“Thus, the systems described in Misra and Ewertz are an OS program and a BIOS program, respectively, that cannot run at the same time.”).)

The examiner seems to have understood “OS-level” in a similar way. (EX2011, ANCC000162 (containing similar discussion, including: “However, the key distinction between the present invention and the closest art, is that the Misra et al., and Ginter et al. systems and the Ewertz et al. system run at the operating system level and BIOS level, respectively.”).)

In the POR and accompanying declaration, Ancora characterized “OS-level” in a similar but slightly different way, as meaning anything *separate from* the BIOS. (POR, 32 (“...in view of file history that firmly establishes that the claimed ‘agent’ runs separate from the BIOS.”); EX2018, ¶131 (“The claimed ‘agent’ would be understood as a software program or routine separate from the BIOS.”).)

In his declaration, Mr. Mullor characterized “OS-level” differently, as “a software element that *operated on the OS of the device.*” (EX2030, ¶4; EX1034, 57:6-58:12 (connecting this language to the claimed “agent”).)

At deposition, Mr. Mullor characterized “OS-level” consistent with the POR as separate from the BIOS:

Q: So the question is, what do you mean by a software element that operated on the OS?

A: It's a way to describe code that runs in the context of the operating system and not in the context of the BIOS.

(EX1034, 59:7-12.) But the inventor also used the characterization from the file history as anything that runs after the BIOS setup is complete. (EX1034, 59:14-60:3 (“*At that point the operating system runs and the BIOS program doesn't.* The agent that we developed with AMI was *running after the operating system has started to run*, so that's the definition in context.” (emphasis added)).) “OS-level” software does *not* mean the operating system software itself. “It was not the operating system. Obviously, we did not develop Windows.” (EX1034, 61:2-5 (describing allegedly embodying software).)

At deposition, Ancora's expert provided more varying characterizations of what “OS-level” means. Dr. Martin at one point used the “OS-level” characterization from the file history of anything running after the BIOS setup

completes. (EX1035 at 94:11-95:19 (explaining that BIOS is “activity that [precedes]<sup>1</sup> the running of the operating system”).) At another point, Dr. Martin provided an entirely new characterization of “OS-level” as “relat[ing] to programs that are running that *use the running operating system services*, as part of their operation.” (EX1035, 100:8-22 (emphasis added).) On another occasion, Dr. Martin merged the preceding two characterizations: “the software in question is relying on operating system services and is doing so after the operating system is running.” (EX1035, 101:19-102:9; *id.* at 103:9-104:2.) On another occasion, Dr. Martin explained that “OS-level” “can be thought of as running through the operating system.” (EX1035, 101:19-102:4.) On another occasion, Dr. Martin explained that “OS-level” was “foreshadow[ed]” by the ’941 Patent’s reference to the use of EEPROM manipulation commands. (EX1035, 138:7-17 (discussing ’941 Patent, 2:65).)

Collectively, it is unclear what Ancora proposes that “OS-level” even means. Is an agent that runs after the BIOS finishes setup sufficient to be an “OS-level” agent? Is an agent that runs separate from the BIOS sufficient to be an “OS-level” agent? Or is something more required? Ancora cannot establish its burden

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<sup>1</sup> The transcript identifies this word as “perceives,” though undersigned counsel believes the witness spoke “precedes.”

of showing a clear and unmistakable disavowal of claim scope to the bounds of “OS-level,” because Ancora has not even shown with any degree of clarity what the bounds of “OS-level” are. (EX1033, ¶¶4-5.)

**c. Hellman discloses or at least renders obvious an “OS-level” agent.**

While there is no basis for the “OS-level” disclaimer that Ancora seeks, Hellman nonetheless discloses an “OS-level” agent.

Hellman, *like the '941 Patent*, does not explicitly mention an operating system. Dr. Martin testified that an operating system was nonetheless discernible in the disclosure of the '941 Patent, at least because it discloses an application program (e.g., Lotus 1 2 3) that would run at the “OS level.” (EX1023, 102:20-103:8; 105:11-106:11.) In other words, if the disclosure includes some software application that would generally rely on an OS to run, then the disclosure also discloses an OS.

Hellman contains the same type of disclosure, disclosing a “software package 17” that runs on a “software player 42.” (Hellman, 10:33-11:3.) Further, “if the software is a computer program, then the software player 42 would be a microprocessor or central processing unit (CPU).” (Hellman, 11:1-3.) A POSA would thus have understood that when the base unit 12 is a computer with a CPU running a computer program, that base unit 12 has an operating system on which the computer program (i.e., software package 17) runs. (EX1033, ¶¶27-30.)

As to an “OS-level” agent, Hellman discloses or at least renders obvious that feature regardless of the interpretation of “OS-level” being used.

First, while Ancora has presented various other interpretations of “OS-level,” the only discernible meaning of that term in the prosecution history is that the agent is able to write to the BIOS memory device, while also being available to be used by the OS-level “verifying software.” The applicant argued that “[s]oftware license management applications, such as the one of the present invention, are operating system (OS) level programs.” (EX2011, ANCC000153.) The applicant went on to explain that “[t]here is no OS support whatsoever to write data to the system BIOS.” (*Id.* at ANCC000154.) The examiner apparently agreed with this “two worlds divided” view of BIOS and OS, explaining that “the closest prior art systems, singly or collectively, do not teach licensed programs<sup>2</sup> running at the OS level interacting with a program verification structure stored in the BIOS...” (*Id.* at ANCC000162.) The examiner explained that “[t]he present invention overcomes this difficulty by using an agent to set up a verification structure in the erasable, non-volatile memory of the BIOS.” (*Id.*)

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<sup>2</sup> The Federal Circuit later recharacterized this reference to “licensed programs” to instead be referring to the “verifying software” that runs at the OS-level. *Ancora v. Apple*, 744 F.3d at 736-37.

The meaning of “OS-level” in the prosecution history thus only requires that the agent is capable of being used by an OS-level “verifying software” and capable of writing to the BIOS memory.

Hellman's update unit 36 meets those requirements. The update unit 36 is capable of—even provided specifically for—writing licensing data to the specialized EEPROM (non-volatile memory 37). (Hellman, 9:64-10:13, 10:33-11:3, Fig. 6, Fig. 8; Petition, 24-29, 40-41.) The update unit 36 is capable of being used by the OS-level “verifying software” to set up the license record in the EEPROM and also to update it when the user attempts to run the software package 17. (*Id.*; EX1033, ¶¶30-31.) When Hellman was modified based on the teachings of Chou, Hellman's EEPROM was the BIOS EEPROM disclosed in Chou. (Petition, 30-35, 40-41.)

Hellman also discloses, or at least renders obvious, Ancora's other characterizations of “OS-level.”

First, Hellman's update unit 36 runs separate from the BIOS. Dr. Martin agreed that Hellman does not even disclose a BIOS. (EX2018, ¶143.) Hellman's update unit 36 thus cannot be provided as part of the BIOS. (EX1033, ¶¶39-40.)

Second, Hellman's update unit 36 runs after the BIOS setup has completed and the OS has started running. The update unit 36 reads/writes from the EEPROM every time the user attempts to run the software package 17. (Hellman,

10:33-11:3, Fig. 8; Petition, 41-42.) This is an activity that would be performed by the OS, not the BIOS, and thus the update unit 36 is still running after the BIOS setup is complete and the OS is running. (EX1033, ¶¶39-40.)

Third, Hellman discloses or renders obvious that update unit 36 runs “through an OS,” using OS resources, and executing EEPROM manipulation commands. As discussed above, a POSA would have understood that Hellman disclosed, or at least rendered obvious, that the base unit 12 includes an OS at least where software player 42 executes a software program on a microprocessor or CPU. (Hellman, 10:33-11:3; EX1033, ¶¶27-30.) Similarly, a POSA would have at least found it obvious that the update unit 36 uses “OS services” and runs “through” an OS at least because update unit 36 provides access to non-volatile memory, reads and writes data from that memory, and performs arithmetic and comparison operations, which a POSA would have found obvious to use OS resources. (EX1033, ¶¶27-31.) Further, the update unit 36 executes EEPROM manipulation commands and performs memory operations. (Hellman, 9:64-10:13, 10:33-11:3, Fig. 6, Fig. 8; Petition, 40-42; EX1033, ¶¶32-38.)

## **2. The Software-Only Requirement**

As with “OS-level,” Ancora's software-only construction is both overly narrow and also fully disclosed by Hellman.

**a. There is no basis for limiting “agent” to only software.**

If Ancora's software-only construction is based on prosecution disclaimer, then the Board should reject that position for the same reasons discussed for OS-level. The applicant's prosecution statements did not characterize “agent.”

To the extent that Ancora argues that the plain and ordinary meaning of “agent” is software-only, that position is incorrect. (EX1033, ¶¶5-8.) Ancora provided dictionary definitions referencing software in the definition of “agent.” But other dictionaries explain a broader definition, saying it “*may be software, hardware, or both.*” (EX1038, 11 (Oxford Dictionary of Computing).) Patent literature close to the time of invention disclosed hardware agents for managing software licenses. (EX1039; EX1033, ¶5 (discussing same).) The plain and ordinary meaning did *not* exclude hardware.

The Board previously observed the error in construing “agent” as software-only. (Institution Decision (Paper 17) at 27-29, *Sony Mobile Commc 'ns AB v. Ancora Techs., Inc.*, IPR2021-00663 (June 10, 2021).) Construing “agent” to be software-only is effectively a negative limitation excluding hardware. (*Id.* at 28-29.) The '941 Patent has no support such a negative limitation: “Apart from the claims, the Specification of the '941 patent does not use the term ‘agent,’ much less sets forth a definition for the term ‘agent’ that excludes an implementation of software and hardware.” (*Id.* at 28-29.) That is legally insufficient: “While a

negative limitation need not be recited in the specification *in haec verba*, there generally must be something in the specification that conveys to a skilled artisan that the inventor intended the exclusion, such as a discussion of disadvantages or alternatives.” *Novartis Pharms. Corp. v. Accord Healthcare, Inc.*, No. 2021-1070, --- F.4th ---, 2022 WL 2204163, \*2 (Fed. Cir. June 21, 2022).

Construction of “agent” as software-only is also inconsistent with, and narrower than, Ancora’s own past infringement allegations. In its complaints for infringement against Nintendo and Roku, Ancora alleged that “one or more OTA servers owned or controlled by [Nintendo / Roku] set up a verification structure,” which is the activity performed by the claimed “agent.” (EX1076, ¶44; EX1077, ¶34.) Ancora apparently felt no need to clarify that it was only accusing the software on those servers and excluding their hardware.

Ancora’s software-only construction is also a blatant and arbitrary line-drawing exercise, as demonstrated by the deposition testimony of its expert witness. Dr. Martin was repeatedly asked the simple question of whether a combined software/hardware entity could be an agent. (EX1035, 117:7-123:10.) Instead of answering “No,” Dr. Martin repeatedly evaded. (*Id.*) When pressed further, Dr. Martin exposed the meaninglessness of the software-only distinction: “However, a mixed software/hardware entity does have a software component. And it may be possible to analyze the software component without the hardware,

but it depends on the specific circumstance.” (*Id.* at 123:6-10.) In other words, while a combined software/hardware entity would allegedly not be a software-only agent, one could simply draw the line around just the software portion and call that the “agent.” (EX1033, ¶26.)

**b. Hellman discloses or at least renders obvious a software only agent.**

Dr. Wolfe explained in his opening declaration that a POSA “would have recognized that the update unit 36 would have been implemented by software, hardware, or some combination of the two.” (EX1003, ¶¶137A-137B.) Dr. Wolfe explained that because Hellman did not require either a hardware or a software implementation, and because *the activities performed by update unit 36* could be performed in either hardware or software, a POSA would have recognized that update unit 36 could be implemented in hardware, software, or both. (*Id.*)

Dr. Wolfe explained that a POSA would have been motivated to implement the update unit 36 in software in particular, because that would allow updates in the field. (*Id.*)

Dr. Martin argues that Hellman would not be modified from a hardware-only implementation to a software-only implementation. (EX2018, ¶¶168-176.) But Dr. Martin does not respond to Dr. Wolfe’s opinion that Hellman already disclosed a software implementation, and thus would not need any modification. (EX1033, ¶¶17-18.)

In any case, to the extent that some modification of Hellman's update unit 36 were needed to achieve a software-only implementation, a POSA would have found it obvious to make such a change. Dr. Wolfe already explained one such motivation for doing so—allowing update of the implementation logic in the field. (EX1003, ¶¶137A-137B.) Dr. Martin's implication that the reference to "wires, switches, and glue" in Hellman discourages software implementation is inapposite; any computer, including those with software, would have such components. (EX1033, ¶19.) The record player embodiment in Hellman is also irrelevant, given that record players included software and Hellman has a separate computer embodiment. (Hellman, 10:67-11:3; EX1033, ¶¶20-21.) The existence of security vulnerabilities would also not discourage a software-only implementation, as a POSA would have known techniques for reducing the risk of such vulnerabilities. (EX1033, ¶¶22-25.) *See also Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) ("[A] given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.").

**B. Hellman Discloses the Claimed "Verification Structure"**

Ancora alleges that the Petition fails to identify the claimed "verification structure" separate from the claimed "memory of the BIOS." (POR, 62-63.) But the POR overlooks or misunderstands the mapping of that feature in the Petition.

(EX1033, ¶¶42-47.) Ancora's expert for his part simply does not address this issue.

The Petition explained that the update unit 36 in Hellman set up a “verification structure” in the non-volatile memory 37 when it stored the license count value for the software program 17 at the memory location determined by the hash value H (which was calculated using the contents of the software program 17). (Petition, 41.) As Dr. Wolfe's elaborated, this memory structure in the non-volatile memory 37 storing at least one value M at memory addresses defined by at least one hash value H was a “verification structure.” (EX1003, ¶135.) In other words, Hellman disclosed a data structure—effectively a table—stored in the non-volatile memory 37 that used a specific algorithm for allocating memory addresses. (EX1033, ¶¶42-47.)

It is not clear what more Ancora believes is required by the “verification structure.” The '941 Patent for its part only describes a process for setting up or interacting with the “verification structure,” but no details on its content or format. ('941 Patent, Abstract, 1:59-62, 2:62-3:3, 3:51-52, 6:18-21.) The '941 Patent mentions in a single instance an “E<sup>2</sup>PROM database” that may be intended as a “verification structure” (*Id.* at 2:20-26), but Ancora does not explain why a “database” would qualify as a “verification structure” and Hellman's data structure would not. (EX1033, ¶¶42-47.)

Similarly, the '941 Patent's inventor (and Ancora's owner), Mr. Mullor, was unable to provide any detail on what was required by a "verification structure" that he alleged was embodied in a product he developed. Mr. Mullor declared that the product had a "verification structure." (EX2033, ¶4.) But he could not provide any details as to how he knew there was a verification structure, what characteristics it had, or what format it had. (EX1034, 69:2-78:11.) He simply knew it was there because of the effects of its use. (*Id.* at 69:21-70:7, 74:2-75:19.)

Hellman has at least the "verification structure" required by the claims. Indeed, with its specific addressing algorithm, Hellman provides more details on the "verification structure" than does the '941 Patent. (EX1033, ¶¶42-47.)

**C. Patent Owner's Attacks Fail to Undermine Any of the Petition's Motivations to Combine.**

Ancora attacks the Petition's four distinct motivations to combine Hellman's EEPROM with Chou's BIOS EEPROM (Petition, 30-35; POR, 52-56), but none of the attacks are well placed. (EX1033, ¶¶48-61.)

First, Ancora alleges that Chou does not address tamper prevention. (POR, 52, 53.) Chou discloses that storing sensitive information in the BIOS memory means that any attempt to modify or delete the sensitive information would result in disabling the boot process of the computer, rendering it unusable. (Chou, 1:63-2:7) Even if Chou does not use the word "tampering," a POSA would have

understood that introducing the risk of disabling the entire computer would have discouraged tampering. (EX1003, ¶115; EX1033, ¶56.)

Second, Ancora alleges that the possibility of having more than one EEPROM module in the computer meant that there was no motivation to use Hellman's EEPROM as the BIOS EEPROM (disclosed in Chou). (POR, 53.)

First, while Dr. Wolfe testified that a late-90s computer could have more than one EEPROM module, *Hellman* discloses a computer with only one. (EX1033, ¶57.)

Second, while Dr. Wolfe testified that there could be multiple EEPROM modules in a computer, this is consistent with his original opinion that there would generally be a small number, such as "less than five." (EX1003, ¶114; EX1033, ¶¶50-57.)

Third, Ancora argues that implementing Hellman's technique would require adding a "switch," which would apparently eliminate any concern about the cost/size of adding an extra EEPROM module. (POR, 54.) First, the "switch" in Hellman could have been implemented with existing hardware, such as a processor. (EX1033, ¶58.) Second, even if Hellman's implementation required an extra "switch," this does not undermine the fact that a POSA would still have been motivated to reduce the overall cost/size of the implementation. (Petition, 34; EX1003, ¶ 116.)

Fourth, Ancora argues that there is no motivation for “storing the value ‘M’ in the memory area that is ‘used by the BIOS.’” (POR, 55-56.) This argument appears to be based on a construction of “memory of the BIOS” that Ancora presented in the POPR but abandoned in the POR. (*Compare* POPR, 35-40 *with* POR, 32-36.) For that reason, the Board can and should disregard this argument. *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (a patent owner waives an issue presented in its preliminary response if not renewed in the response after trial is instituted).<sup>3</sup>

The argument should also be rejected on the merits. The Petition relies on Chou's explicit disclosure of storing sensitive information (e.g., passwords, keys) in the “BIOS Memory.” (Chou, Fig. 3, Fig. 7, 4:6-27, 7:15-27; EX1033, ¶¶59-61.) Chou explicitly discloses that this sensitive information—the license values M when combined with Hellman—are stored in the BIOS memory, and no further showing is needed. (*Id.*)

Further, Ancora's argument is inconsistent with the '941 Patent. The '941 Patent itself does not explain how the verification structure is “used by” the BIOS. The patent describes a “license-record area (9)” in the “second non-

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<sup>3</sup> If Ancora had included the “memory of the BIOS” claim construction arguments in its POR, it would have exceeded the word limit by 1,000+ words.

volatile memory area (5)” of the BIOS. ('941 Patent, 5:12-16, 5:25-27, Fig. 1.)

But the '941 Patent never says that the BIOS program continues to use the portion of memory allocated to the “license-record area.” (*See generally* '941 Patent.)

According to Ancora's expert, such an arrangement would be inoperable in any case. (EX2013, ¶¶106-107.)

**D. Patent Owner's Arguments Against Ground 2 Fail to Show Any Alleged Non-Functionality of the Combination.**

Ancora attacks the application of Ground 2 to various dependent claims as allegedly being inoperable. (POR, 64-65.) Ancora's argument seems to be that when the encrypted data structure “A” is stored in the EEPROM, two problems arise: M cannot be incremented/decremented; and M is not contained in A (and thus not stored in the EEPROM). (*Id.*)

In describing the modification in Ground 2 of storing A in the EEPROM, the Petition observed:

A POSA would have found this especially useful where M was the default value representing “unlimited number of uses of a software package,” Hellman at 10:55–65, *given that M would not need to be incremented or decremented.*

(Petition, 48 (emphasis added).) Thus, the Petition already explained that the modification of Ground 2 would work best in Hellman's scenario where M does not need to be incremented/decremented. (*Id.*; EX1033, ¶¶62-64.) Further, it is

apparent that in this scenario of an unlimited number of uses, the value N (number of requested uses) contained in A is the same as the value M (number of remaining uses), because it is a fixed, predefined value. (*Id.*; Hellman, 10:55-65 (“all 1’s pattern”).) Ancora’s arguments are obviated by the very embodiment relied on in the Petition.

**E. The Objective Evidence Further Confirms the Obviousness of the Claims.**

**1. The Alleged “Industry Praise” Was a Joint Press Release Written by Ancora.**

Ancora attempts to establish industry praise with the AMI joint press release. (POR, 66-68.) This was a *joint* press release between AMI and Ancora. (EX2027.) Ancora itself authored the press release with AMI. (EX1034, 47:17-49:7.) Mr. Mullor described the press release as “a marketing piece that described what we wanted to tell the world back then about what we’re doing.” (*Id.*) The joint press release was not industry praise, so much as it was self-praise.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**2. The Only Two Licenses with Clear Connections to the Hellman/Chou/Schneck Grounds**

Ancora attempts to establish objective indicia of non-obviousness based on various litigation settlement agreements. (POR, 69-70.)

Ancora's narrative does not hold water.

First, while Apple apparently was aware of the Hellman and Chou prior art, there is no indication Apple contemplated combining those references. (EX2022 (45 claim charts, but no Hellman/Chou combination).)

Second,

Finally,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Thus,

[REDACTED]

[REDACTED] This

objectively demonstrates the *strength* of the Hellman/Chou combination, not its weakness.

### III. CONCLUSION

For the foregoing reasons, the Board should cancel the challenged claims.

Dated: July 22, 2022

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**CERTIFICATION OF WORD COUNT UNDER 37 C.F.R. § 42.24(d)**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing *Petitioner's Reply to Patent Owner's Response* of U.S. Patent No. 6,411,941 totals 5,588 excluding the parts exempted by 37 C.F.R. § 42.24(a). Accordingly, this Petition is under the word count limit of 5,600 words.

This word count was calculated by using the built-in word-count tool in Microsoft Word 2016, the software used to prepare the document.

Dated: July 22, 2022

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**CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))**

I certify that the above-captioned **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** was served in its entirety on July 22, 2022 upon the following parties via electronic mail:

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