

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ORACLE AMERICA, INC.  
Petitioner

v.

REALTIME DATA LLC  
Patent Owner

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Case IPR2016-00376  
Patent 7,415,530

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**PATENT OWNER'S PRELIMINARY RESPONSE  
PURSUANT TO 37 C.F.R. § 42.107**

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Patent Trial and Appeal Board  
U.S. Patent and Trademark Office  
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**EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Description</b>
<b>2001</b>	McDaniel, G., ed., <i>IBM Dictionary of Computing</i> , International Edition, New York: McGraw Hill, 1994; 704.
<b>2002</b>	<i>Microsoft Press Computer Dictionary</i> , 2nd Edition, Redmond, WA: Microsoft Press, 1994; 396.
<b>2003</b>	<i>Microsoft Press Computer Dictionary</i> , 5th Edition, <i>Microsoft Press Computer Dictionary</i> , 2002; 528.
<b>2004</b>	Parker, S., ed., <i>McGraw-Hill Dictionary of Scientific and Technical Terms</i> , 5th Edition, New York: McGraw Hill, 1994; 2058.
<b>2005</b>	<i>Dictionary of Computing</i> , 4th Edition, Oxford, UK: Oxford University Press, 1996; 34.

## **I. Introduction**

### **A. Ground of Challenge**

Oracle appears to assert a single Ground but with different theories that are internally redundant. In particular, Oracle alleges:

**Ground 1:** Kawashima (Ex. 1103) in view of Sebastian (Ex. 1104) and Chu (Ex. 1105) (“applied references”) renders obvious claim 24 of the ’530 Patent.

### **B. Summary of Argument**

First, Oracle erroneously relies on Sebastian’s transmission channel bandwidth between an encoder and decoder, which relates to the **transmission of encoded data**, to teach “wherein a bandwidth of the received data stream is determined” (“claimed determining a bandwidth of the received data stream”). But the claimed determining a bandwidth of the received data stream relates to an **uncompressed data stream** that is received by the claimed “data accelerator” for compression, which has no relevance to Sebastian’s transmission channel bandwidth between an encoder and decoder.

Second, Oracle erroneously conflates Kawashima’s concept of shorter transfer time in FIG. 43 by imposing on text for FIG. 43 the definition of “transmission” only applicable to embodiments in FIGs. 2-3. Oracle’s argument hinges on its allegation that “transmission” covers data storage. But, all discussions

of FIG. 43 in Kawashima demonstrate that the transfer time is the time of using the **communication line**.<sup>1</sup> So, Oracle cannot impose such alleged definition of “transmission,” almost twenty columns away, to the concept of shorter transfer time in Kawashima’s FIG. 43.

Third, no person having ordinary skill in the art at the time of the invention (“POSA”) would ever have thought to combine Kawashima, Sebastian, and/or Chu. This is demonstrated by Oracle’s failure to adequately explain how and why technologically incompatible systems of Kawashima, Sebastian, and Chu could be combined. Instead, Oracle resorts to uncorroborated conclusory statements in their Expert Declaration and generic rationales to combine Kawashima, Sebastian, and Chu that bear no relation to the alleged combination of components. Additionally, to achieve Kawashima’s shorter transfer time in FIG. 43, “it is necessary to compress the data rapidly to reduce the time [] required for data compression/expansion” (“Kawashima’s necessity”). However, in all embodiments of Sebastian, including the embodiments cited by Oracle, the preferred encoder always encodes, *i.e.*, compresses the source data, which requires substantial amount of time, because Sebastian’s system must perform at least five steps before

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<sup>1</sup> All emphasis added unless otherwise noted.



compression, where at least one of the steps “does not have to be fast, because it is done off-line.” Chu is also inapposite, because the alternative embodiment of Chu relied upon by Oracle is concerned with “provid[ing] [a] normal rate of data compression during the CPU’s idle time, but increasing rate of data compression when the CPU is preparing to process another task.” Thus, Kawashima’s necessity is clearly of no concern to both Sebastian’s or Chu’s teachings. By impermissibly picking and choosing only portions of the Kawashima, Sebastian, and Chu that support their position while ignoring incompatible teachings, Oracle’s alleged combination could have only been the result of hindsight reconstruction.

Fourth, Oracle improperly asks the Board to ignore the claimed relationship between data descriptor-compression technique-data block in order for Sebastian’s filter ID, which corresponds to multiple compression techniques, to teach “a first data descriptor . . . indicative of said first compression technique” (“claimed data descriptor”). But the same claim also recites “compressing said first block with a first compression technique.” Only through ignoring the relationship between data descriptor-compression technique-data block can Oracle allege Sebastian’s filter ID can meet the claimed data descriptor. But taking into account the combination of claimed terms, Sebastian cannot teach this claim feature.

Fifth, Oracle fails to clearly delineate even single ground but instead asserts, deep within their substantive arguments, that the claimed data blocks and different

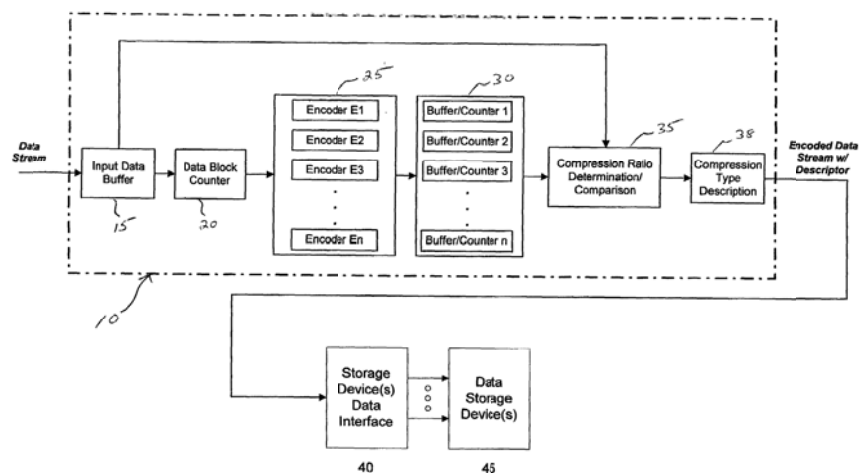
compression techniques “is obvious in view of Kawashima and Sebastian, **as well as** Kawashima and Chu.” Effectively, Oracle shifts their burden to the Board and Realtime to identify and then analyze their confusing combination of alternative theories for invalidity. Oracle’s alternative theories are also internally redundant and because Oracle fails to provide any explanation as to why Kawashima and Chu is preferred, the Board should only consider Kawashima and Sebastian.

Finally, Oracle fails to provide proper claim construction. For example, for the term, “said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form” (“claimed faster storage”), Oracle’s construction fails to account for **on which device** the claimed faster storage occurs.

With at least these failings, Oracle’s Petition must be denied.

### C. Summary of the ’530 Patent

The ’530 Patent describes systems and methods “for providing accelerated data storage and retrieval utilizing lossless data compression and decompression.” (Ex. 1101, Abs.) To deal



with shortcomings in the conventional technology, the '530 Patent provides a system comprising “a data accelerator . . . coupled to [a] memory device” that receives “a data stream . . . in received form,” (*id.*, claim 24; data storage accelerator 10 of FIG. 8 reproduced herein), “wherein a bandwidth of the received data stream is determined” (*i.e.*, the claimed determining a bandwidth of the received data stream). (*Id.*) As the '530 Patent explains, the determination of the bandwidth of the received data stream is enabled by, for example, timing and counting. (*Id.* 9:23-28, 38-41.)

The “data stream” further includes “a first data block and a second data block” that is “compressed by said data accelerator to provide a compressed data stream.” (*Id.*) To compress the data stream, the “data accelerator [compresses] said first data block with a first compression technique and said second data block with a second compression technique” where “said first and second compression techniques are different” (“claimed data blocks and different compression techniques”). (*Id.*) But, the compression of the first data block with the first compression technique and the second data block with the second compression technique does not need to occur in any particular order. Indeed, as the '530 Patent explains, the compression process “may be performed either in parallel or sequentially.” (*Id.*, 11:62-64.) Once the data stream is compressed, the “compressed data stream is stored on said memory device.” (*Id.*, claim 24.)

To ensure bandwidth compatibility, the '530 Patent requires that “wherein a data rate of the compressed data stream is adjusted, by modifying a system parameter, to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device” (“claimed bandwidth adjustment to make bandwidths compatible”). (*Id.*) For example, “the input bandwidth may be adjusted by either not accepting input data requests, lowering the duty cycle of input data requests, or by signaling one or more of the data sources that transmit the input data stream to request or mandate a lower data rate.” (*Id.*, 9:43-47.)

To deal with shortcomings of memory storage devices at the time, such as, for example, slow performance of memory storage devices (*id.*, 2:20-33), the '530 Patent also requires that the “compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form” (“claimed faster storage”). (*Id.*, claim 24.) The Examiner found at least the claimed faster storage, the claimed determining a bandwidth of the received data stream, and the claimed bandwidth adjustment to make bandwidths compatible patentable over the cited references during the reexamination of the '530 Patent. (Ex. 1107, 6-14.)

To ensure proper decompression, the '530 Patent also requires that “a first data descriptor is stored on said memory device indicative of said first compression technique,” where “said first data descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block” (“claimed

storage and use of the first data descriptor”). (Ex. 1101, claim 24.) As the ’530 Patent explains, a description module may “append[] a corresponding compression type descriptor to each encoded data block . . . so as to indicate the type of compression format of the encoded data block.” (*Id.*, 12:33-38.) As the ’530 Patent further explains “compression type descriptor identifies the corresponding encoding technique applied to the encoded data block, not necessarily the specific encoder” because “encoders of the identical type may be applied in parallel to enhance encoding speed.” (*Id.*, 12:41-46.)

While the claimed invention has been described above with reference to the data storage accelerator 10 of FIG. 8, the ’530 Patent explains that the data storage accelerator 10 of FIG. 8 is just an example of a preferred compression system, and that other compression systems and methods may be employed for providing accelerated data storage. (*Id.*, 13:16-22.) For example, “it is not a requirement that the data storage accelerator 10 utilize data compression with a ratio that is at least the ratio of the input data stream to the data storage access rate.” (*Id.*, 5:51-54.) Further, “to achieve optimum throughput, the rate that data blocks from the input data stream may be accepted by the data storage accelerator 10 is a function of the size of each input data block, the compression ratio achieved, and the bandwidth of the target storage device.” (*Id.*, 5:32-37.)

**D. Summary of Deficiencies of Kawashima**

Oracle relies on Kawashima as the primary reference for the majority of the claimed features. However, Kawashima addresses a different technical issue from the '530 Patent. Kawashima is directed to using a “data transmitting apparatus” to prevent the problem of data compression without meaningful space saving. (Ex. 1003, Abs.) One cause of this problem is that data is stored as blocks (*e.g.*, blocks of 512 bytes). (*Id.*, 2:39-41.) For example, “if 1 Kbytes of data are stored in the external memory device, then they are stored over two blocks [of 512 bytes].” (*Id.*, 2:41-43.) But, if the compressed data has a data length greater than 512 bytes (*i.e.*, more than one block), then the compressed data still has to occupy two blocks. (*Id.*, 2:51-57.) In such a case, compression provides no meaningful storage space saving, and “the entire system only causes a wasteful expenditure” of time required for data compression. (*Id.*, 2:58-67.)

To prevent the problem of data compression without meaningful space saving, Kawashima teaches systems that use a data transmitting apparatus. For example, the data transmitting apparatus can compress a portion of the stream to calculate a predicted compression ratio. (*Id.*, 34:33-35-15.) If the predicted compression ratio is equal to or greater than a preset value, then compressed data is transferred; otherwise, uncompressed data is transferred. (*Id.*, 38:50-64.) Contrary to Oracle’s assertion that the Kawashima system “is designed to compress data and

transmit/store the compressed data more quickly” (Pet., 18-19), Kawashima repeatedly emphasizes that the purpose of using the data transmitting apparatus, is to prevent the problem of data compression without meaningful space saving. (Ex. 1003, Abs.; 5:50-54; 9:5-8; 13:49-53; 14:63-62; 15:66-16:2; 30:63-67; 39:53-58.)

In a separate embodiment in the “Background Art” section, Kawashima mentions that FIG. 43 shows that compression can “shorten a time required to transfer data between a computer and an external memory device” for the purpose of “**using communication lines** more effectively” (hereinafter “Kawashima’s shorter transfer time”). (*Id.*, 3:8-24.) But, Kawashima is unclear as to how to achieve such shorter transfer time. Kawashima seems to imply that the compression ratio is a factor. (*Id.*, 3:25-31.) Kawashima also indicates that compression speed is another necessary factor. (*Id.*, 3:22-24 (“In order to shorten the transfer time, it is necessary to compress the data rapidly”).) However, as it was well known that higher compression ratio could mean slower compression speed and vice versa (Ex. 1105, 3:18-22, 5:51-59), Kawashima does not disclose whether and how to balance the conflicting needs between the compression ratio and compression speed to achieve FIG.43’s shorter transfer time.

In short, Kawashima targets to a different technical issue: space saving by compression. Further, Kawashima’s discussion of shorter transfer time in FIG. 43 relates to effective use of communication lines, not faster storage of data.

Moreover, Kawashima is unclear regarding how to achieve shorter transfer time discussed in FIG. 43. Finally, Kawashima does not show how its systems, using the data transmitting apparatus for meaningful space saving, can incorporate such shorter transfer time in FIG. 43.

### **E. Summary of Deficiencies of Sebastian**

Oracle relies on Sebastian as the secondary reference to cure the deficiencies of Kawashima. However, Sebastian's compression system addresses two technical issues that are distinct from the claims of the '530 Patent and teachings of Kawashima, which include: (1) format-specific compression systems that are limited to merely a few individual file formats; and (2) inability of the format-specific compression systems to build or encode models of data that include a large number of components. (Ex. 1104, 1:23-27, 30-33, 36-40.)

To solve these technical issues, Sebastian is directed to a unique coding

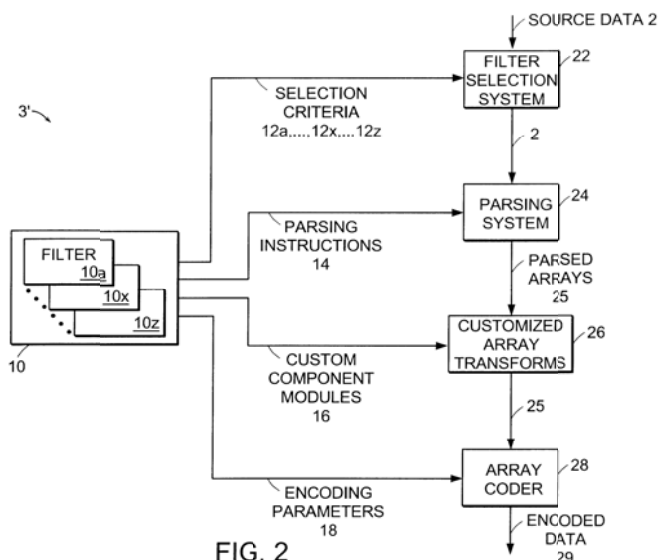


FIG. 2

architecture or encoder, called a Base-Filter-Resource (BFR) system, which is used for data compression. (*Id.*, 3:56-59, 3:66-4:1.) Before any encoding or compression can occur on source



data 2, Sebastian's BFR system must perform, among other steps and sub-steps:

(1) checking the selection criteria of all filters installed in the system to see if any installed filters support the source data's format (*id.*, 4:9-15, FIG. 2); (2) selecting an appropriate filter based on the file format of the source file and the selection criteria of the filter (*id.*, 4:9-15; 5:26-30); (3) parsing the source file into a large number of parsed blocks, also known as parsed Arrays 25, or component Arrays 25 ("Arrays" or "parsed Arrays"), which each include all instances of a particular component in the source data (*id.*, 2:28-32, 4:24-26, 56-59); (4) using an automated analysis system to build a model for each Array 25 that is used to encode each parsed Array 25 (*id.*, 4:33-36); and (5) performing customized array transforms that transform the parsed Arrays 25 into a different set of parsed Arrays 25 for encoding (*id.*, 4:36-37, 16:21-25).

After these steps and sub-steps have been performed, the parsed Arrays 25 are encoded using an array coder 28 (FIG. 3), which encodes each parsed Array using a variety of coders based on the Array type. (*Id.*, FIG. 3.) To facilitate decompression of the encoded data stream, the encoded data stream includes an identification (ID) code indicating which filter was used to encode the source data. (*Id.*, 5:14-17.)

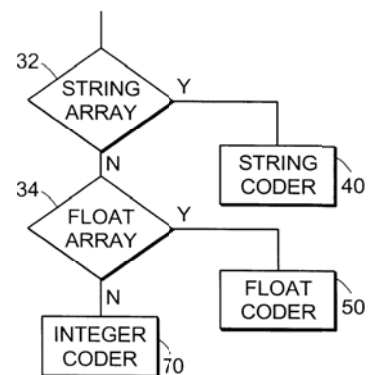
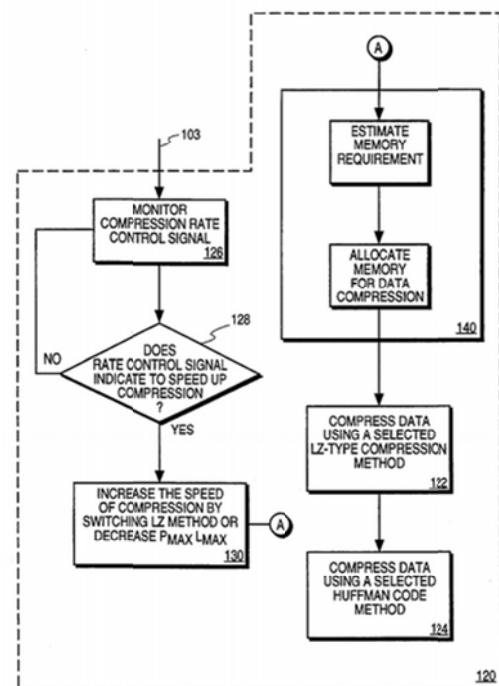


FIG. 3

In the BFR system, the parsing system 24 creates a large number of parsed Arrays 25, where “[e]ach Array 25 requires a **different compression model** and the **number of entries** in each Array can change significantly.” (*Id.*, 6:38-40.) According to Sebastian, the “preferred embodiments of the invention employ new approaches in how the low-level coding is handled such as . . . **the use of a processing network instead of fixed coding algorithms.**” (*Id.*, 6:38-45, 17:29-32.) “Consequently, the preferred coder system has to support **thousands of different ways to encode each Array.**” (*Id.*, 17:65-66.) Thus, “[t]he processing system is not a fixed algorithm, but rather a dynamic network and each path through this network creates a different encoding algorithm.” (*Id.*, 17:66-18:2.) And “at the end of each path is the low-level coder, such as the Huffman coder or arithmetic coder.” (*Id.*, 17:29-35, 18:52-59, 18:62-19:6, 19:31-37, 44-47, 62-66.)

In summary, Sebastian discloses a BFR system that uses a selected filter to parse source data into a plurality of parsed Arrays where each parsed Array is encoded by the array coder 28. The array coder 28 encodes each parsed Array using a coder or compression algorithm that is selected based at least partially on the Array type. Thus, in Sebastian’s BFR system, a



**FIG. 6**

single filter corresponds to multiple parsed Arrays 25 and multiple compression algorithms.

And while Sebastian may recognize that an optimal algorithm is affected by availability of memory and desired tradeoff between speed and compression performance (*id.*, 17:49-52), the necessity of compressing the source data 2 rapidly is of no concern to Sebastian's BFR system. Indeed, Sebastian discloses that the automated analysis performed by the BFR system (step (4)) to find the best compression model of each component of Arrays 25 of that component "does not have to be fast, because it is done off-line." (*Id.*, 4:33-36; 19:15-21, 24-25.)

#### **F. Summary of Deficiencies of Chu**

Oracle further relies on Chu to cure the deficiencies of Kawashima and Sebastian. Chu's system addresses two technical issues: (1) maximizing the data compression ratios according to the input data type detected; and (2) maximizing the usage of the CPU by providing a controlling means to increase or decrease the system's rate of data compression. (Ex. 1105, 3:53-63.)

To address these technical issues, Chu provides a "data type identification process 114 [that] detects the input data type [of an input data stream 101]." (*Id.*, 5:1-6.) According to the identified input data type,  $p_{\max}$  and  $l_{\max}$  values that provide an optimal LZ-1 data compression ratio is selected, where varying the  $p_{\max}$  and  $l_{\max}$  values produces a different compression time and a different compression ratio.

(*Id.* 5:44-51, 57-59.)

To allow the system or user to control the amount of system memory allocated for data compression, Chu provides a system memory allocation process 140 that estimates the necessary memory requirement and allocates the estimated amount of system memory. (*Id.*, 6:19-23; FIG. 6.) Contrary to Oracle's assertion that Chu teaches "modifying a system parameter ... to adjust the data rate of the compressed stream . . . to account for **changes in availability of the system memory** to process this compression" (Pet., 51), Chu's "memory allocation process 114 estimates the memory requirement in accordance to the identified input data type, a selected compression ratio, a selected speed of data compression, a selected  $p_{\max}$  and  $l_{\max}$  value, or a selected combination of these features." (Ex.1105, 6:23-28.) Once the system memory is allocated, the input data stream 101 is first compressed using a LZ-type data compression method and then the compressed data is further compressed using a Huffman-type compression method. (*Id.*, 6:40-46.)

In an alternative embodiment, Chu teaches that "a compression rate control signal 103 is provided to data compression process 120." (*Id.*, 6:48-50.) But Chu is silent on which component actually generates the compression rate control signal 103 and how the compression rate control signal 103 is generated. Nonetheless, according to Chu, a "data compression rate adjustment process 130 adjusts the

values of  $l_{\max}$ ,  $p_{\max}$ , or both  $l_{\max}$  and  $p_{\max}$  to increase or decrease the compression process speed in response to data compression rate control signal 103.” (*Id.*, 6:48-54.) Alternatively, the “adjustment process 130 indicates to LZ-type compression process 122 whether to use LZ-1 or LZ-2 compression in accordance with data compression rate control signal 103 to adjust the compression time for compressing data.” (*Id.*, 6:54-59.)

According to Chu, “data compression rate adjustment process 130 provides data compression process 100 with the flexibility to adjust the compression speed during data compression.” (*Id.*, 6:59-62.) “This flexibility provides compression system 100 means to maximize the CPU’s idle time to do data compression and means to increase the data compression speed when the CPU is in preparation to begin another process.” (*Id.*, 6:62-66.)

## **II. Oracle does not adequately explain its Ground.**

Oracle makes several fatal errors when attempting to articulate its Ground, and in doing so fails to comply with 35 U.S.C. § 312(a)(3) and 37 C.F.R. §§ 42.104(b), 42.65(a). The statute and rules require particularity, clarity, and underlying factual support of what is being asserted by Oracle so the Board and Realtime can properly respond. Here, many of Oracle’s assertions are inconsistent (establishing two different definitions of POSA, changing what is relied on in Kawashima for each occurrence of a claim feature), or just factually and legally

incorrect (claim construction, A-APA<sup>2</sup>, the *Graham* factors, and the Expert Declaration). Even if each defect on its own is not fatal, when viewed together, institution should be denied.

**A. Oracle fails to clearly delineate a single ground as required but instead asserts alternative theories that are internally redundant.**

Oracle fails to clearly delineate a single ground in their Petition, but instead asserts, deep within their substantive arguments, that the claimed data blocks and different compression techniques “is obvious in view of Kawashima and Sebastian, **as well as** Kawashima and Chu.” (Pet., 42.) Oracle’s failure to clearly delineate even a single ground is further compounded by the fact that Oracle also failed to ascertain the differences between Kawashima and several features recited in the challenged claim as explained in Section II.D. Effectively, Oracle places their burden on the Board and Realtime to identify and then analyze their confusing combination of alternative theories for invalidity. This shift in burden only underscores Oracle’s failure to support their asserted Ground.

Oracle’s confusing combination of alternative theories is also internally redundant. A petition with redundant theories should expressly explain “why [one reference] is more preferred for satisfying some elements, while [another

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<sup>2</sup> Alleged Applicant Admitted Prior Art or Alleged Admitted Prior Art (“A-APA”).

reference] is more preferred for satisfying some other elements.” *Oracle Corp. v. Clouding IP*, IPR2013-00088, Paper 13,3 (P.T.A.B. Jun. 13, 2013). Here, Oracle’s Petition is entirely silent on why Kawashima and Chu is preferred over Kawashima and Sebastian. Accordingly, because Oracle fails to provide any explanation as to why Kawashima and Chu is preferred, the Board should only consider Kawashima and Sebastian.

**B. Oracle fails to provide a proper claim construction.**

Oracle requests construction of the claim term: “said compression and storage occurs faster than said data stream is able to be stored **on said memory device** in said received form” (*i.e.*, the claimed faster storage). However, Oracle’s construction is legally incorrect because Oracle’s construction fails to account for **on which device** the claimed faster storage occurs.

Claim 24 specifically set forth that the claimed faster storage that occurs on a single memory device: the claimed “memory device.” Oracle’s proposed construction, “wherein the time to compress and store the received data stream is less than the time to store the received data stream without compressing it,” omits the claimed “on said memory device” language in the constructed term, such that Oracle’s construction fails to specify where the claimed faster storage occurs. (Pet., 15-16.) Oracle’s proposed construction, ignoring the “on the memory device” claim language, is improper because a claim should be constructed so that each

word in the claim has meaning. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006); *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”).

The Board has held that a Petitioner fails to demonstrate a likelihood of prevailing on a claim when the proper claim construction is later determined by the Board to be different than the construction proposed and relied upon by the Petitioner. For example, in *Microsoft Corp. v. Proxyconn*, the Board held that “[a]s this argument [of unpatentability] is premised on Petitioner’s erroneous claim construction we are not persuaded of a reasonable likelihood of prevailing [on this claim].” IPR2012-00026, Paper 17, 24 (P.T.A.B. Dec. 21, 2012); *CaptionCall, LLC v. Ultratec, Inc.*, IPR2015-01885, Paper 23, 12 (P.T.A.B. Mar. 16, 2016) (denying institution because petitioner’s erroneous claim construction is inconsistent with the specification). Thus, because Oracle erroneously construed the claimed faster storage, this Board should also deny institution.

**C. Oracle improperly changes what it identifies in Kawashima for the claimed “memory device” for each occurrence of the term.**

Oracle inconsistently cites to multiple components, *e.g.*, Kawashima’s “data RAM 64,” “external memory device” located at “data destination 3,” and “memory 22,” but does not explain whether it means each is an alternative device or all need to be used in combination to meet the term. (Pet., 36-37.) So the Board and



Realtime need to play archeologist and guess whether Oracle means to map each of the internal “data RAM 64,” the “external memory device,” and “memory 22,” or a combination of them (if combinable) for the claimed “memory device.” “A brief must make all arguments accessible to the judges, rather than ask them to play archaeologist with the record.” *DeSilva v. DiLeonardi*, 181 F.3d 865, 867 (7th Cir. 1999). But Oracle’s failures render its precise argument inaccessible, and force the Board and Realtime to guess whether Oracle means to map each of the internal “data RAM 64,” the “external memory device,” and “memory 22,” or a combination of them (if combinable) to the claimed “memory device.”

**D. Oracle’s obviousness analysis fails to specify deficiencies of Kawashima before discussing what is taught in Sebastian and/or Chu as required by the second *Graham* factor.**

The Supreme Court made ascertaining the differences between the prior art and the claims at issue (“second *Graham* factor”) a requirement for an obviousness analysis. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). The Board has also recognized that a failure to ascertain the differences between the prior art and the claims at issue is a reason to deny institution. *Universal Remote Control v. Universal Electronics, Inc.*, IPR2014-01082, Paper 9, 8-9 (P.T.A.B. Dec. 18, 2014). Here, Oracle failed the second *Graham* factor with respect to at least four key claimed features:

- “a first data descriptor is stored on said memory device

indicative of said first compression technique,” (Pet., 55);

- “said first data descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block” (Pet., 57-58);
- “wherein a bandwidth of the received data stream is determined” (Pet., 40-41); and
- “wherein a data rate of the compressed data stream is adjusted, by modifying a system parameter, to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device” (Pet., 48-52.)

Accordingly, this Board should deny institution just like *Universal*.

**E. Oracle alludes to needing A-APA, but never proves that the A-APA is an admission nor asserts the A-APA in combination with the applied references.**

Implicitly admitting that Kawashima and Sebastian may be insufficient to teach or suggest claimed storage and use of the first data descriptor, Oracle tries to fill gaps in its Ground by alluding that the ’530 Patent includes A-APA (Pet., 56-57, 59 citing Ex. 1101, 14:5-10 (hereinafter “compression type descriptor disclosure”).). In the context of *inter partes* reviews, the Petitioner, *i.e.*, Oracle carries a non-shifting burden of proving unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); *Dynamic Drinkware v. National Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Therefore, Oracle carries the burden of proving that the ’530 Patent includes any A-APA. *Id.*, at 1379 (citing *Tech. Licensing Corp. v. Videotek Inc.*, 545 F.3d 1316, 1327-28 (Fed. Cir. 2008)).

But, Oracle never proved that the compression type descriptor disclosure is an admission and therefore, A-APA for at least two reasons. First, the courts have recognized that only a manifest admission may be binding upon the patent owner or applicant. *In re Nomiya*, 509 F.2d 566 (C.C.P.A. 1975). But here, unlike *In re Nomiya*, there is no admission because nowhere does the '530 Patent state teachings are “prior art,” “background art,” “traditional art,” “related art,” and/or “conventional art.” Second, it is axiomatic that the A-APA “doctrine is inapplicable when the subject matter at issue is the inventor’s own work” as it is in the '530 Patent. *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346 (Fed. Cir. 2003). Here, Oracle failed to provide any evidentiary support that suggests the A-APA is the work of another.

Nor did Oracle properly assert the A-APA in combination with the applied references or provide any rationale as to why it would be combinable with the applied references. Moreover, to the extent Oracle intended to rely on the A-APA in combination with the applied references to render the claimed storage and use of the first data descriptor obvious, Oracle never actually provided a statement in its Ground that asserts the A-APA in any combination with the applied references. (Pet., 7, 31.) Nor did Oracle articulate any reason as to why it would have been obvious to combine A-APA with any of the applied references to fill the admitted gaps. Rather, in every instance Oracle alludes to the A-APA, Oracle summarily

concludes that it would not only have been obvious, but completely expected for a compression system to generate, store, and even append to a compressed data block a descriptor indicative of the compression algorithm applied, for use during decompression. (*Id.*, 57, 59.) Such conclusory statements are clearly insufficient to support any conclusion of obviousness, *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

**F. Oracle's expert, Dr. Storer, merely parrots attorney arguments in the Petition and fails to adequately support his obviousness analysis with documentary evidence.**

Dr. Storer's statements in "Motivation to Combine Kawashima, Sebastian, and Chu" are essentially a verbatim copy of the corresponding section in the Petition. (*Cmp. Ex. 1102, ¶¶ 74-75 with Pet.*, 31-34.) Also, Dr. Storer provides exactly the same footnote as the Petition regarding the alleged equating transmission to writing data in Kawashima. (*Cmp. Ex. 1102, 26, FN2 with Pet.*, 21, FN4.) Further highlighting this copying is the Expert Declaration, which is not constrained by any page limitations, but nonetheless carries over the same abbreviated generic and conclusory motivations to combine as the Petition. (*Cmp. Pet.*, 51-52 *with Ex. 1102, ¶ 109.*) Finally, Dr. Storer also fails to provide required corroborating documentary evidence as to the source of his conclusory parroting statements. For example, despite making several substantial assertions, Dr. Storer's Declaration is entirely silent as to the source of these conclusory parroting

statements:

- “a [POSA] would understand that data storage, retrieval, and transmissions, applications may adjust compression and decompression system parameters according to other ‘systems conditions’ and ‘bandwidths’ such as the bandwidth of the memory device” (Ex. 1102, ¶ 103);
- “[r]ate control’ is a standard term of the art, and is understood by [a POSA] to refer to the issue of making two bandwidths compatible” (*id.*, ¶ 106);
- “Chu teaches that this modification can be made to adjust compression speed and performance to account for rate control considerations and to account for changes in the availability of system memory to process this compression” (*id.*, ¶ 108); and
- “[i]t would have been obvious to a [POSA] to practice this teaching in Chu to adjust compression speed and performance to account for restrictions or limitations in other types of memory – for example, to account for differences in the bandwidth of the compressed data stream and the bandwidth of the memory device to which the compressed data is to be stored” (*id.*, ¶ 106).

**G. Oracle does not make clear who a skilled artisan is.**

In the Petition, Oracle defines the POSA as a person with an “undergraduate degree in computer science and two years’ experience or a graduate degree in the field of data compression.” (Pet., 5.) However, their expert, Dr. Storer, applies a different standard of “a person who has an undergraduate degree in computer

science and two years' industry experience or a graduate degree in the field of computer science.” (Ex. 1102, ¶ 20.) The rules require that Oracle identify “how the construed claim is unpatentable.” 37 C.F.R. § 42.104(b)(4). Here, Oracle's inconsistent definition of a POSA is fatal to its arguments in the Petition, because resolving the level of ordinary skill of a POSA is a required threshold inquiry for several of their obviousness arguments. *KSR Int'l Co.*, 550 U.S. at 406 (citing *Graham*).

### **III. The Ground Fails to Teach or Suggest Each and Every Claimed Feature.**

#### **A. Oracle erroneously relies on Sebastian's transmission channel bandwidth between an encoder and decoder to teach the claimed determining a bandwidth of the received data stream.**

Claim 24 recites, in relevant part, “a data stream is received by said data accelerator in received form, wherein a bandwidth of the received data stream is determined” (“claimed determining a bandwidth of the received data stream”).

Claim 24 further recites “said data stream is compressed by said data accelerator to provide a compressed data stream.” Thus, the “received data stream” is a data stream that is received by the claimed “data accelerator” for compression. But Sebastian's transmission channel bandwidth relates to the bandwidth of **transmitting encoded data**, *i.e.*, compressed data that was already encoded by an encoder, which has no relevance to the claimed determining a bandwidth of the received data stream for at least two reasons.

First, as admitted by Oracle, “Sebastian teaches that after Sebastian’s system compresses data, that **[encoded] data** may be stored in memory or **transmitted elsewhere**, in which case it would be ‘**transmitted faster when the transmission channel bandwidth is limited.**’” (Pet., 40 citing Ex. 1104, 3:31-36 and FIG. 1.) Indeed, Sebastian further teaches that “[w]hile the applications 1,7 that store/retrieve or transmit/receive **the encoded data** are not part of the compression system, [the applications 1,7] may adjust **encoding and decoding operations** according to system conditions **such as available transmission channel bandwidth.**” (Ex. 1104, 3:51-55; FIG. 1.)

Thus, Sebastian explicitly explains that the transmission channel bandwidth relates to the **transmission of encoded data**, such as, for example, when the encoded data is transmitted from encoder 3 to the decoder 5. (*Id.*, 3:31-41, FIG. 1.) In contrast, the claimed “bandwidth of the received data stream” is with respect to “the received data stream,” *i.e.*, a data stream that is received for compression by the claimed “data accelerator.” Stated differently, the claimed “received data stream” is an uncompressed data stream that is received by the claimed “data accelerator” for compression by the claimed “data accelerator”: **not** a data stream that has already been compressed or encoded by the claimed “data accelerator.”

Second, not only is Sebastian’s transmission channel bandwidth not at all related to “bandwidth of the received data stream,” Sebastian is also entirely silent

regarding the claimed “wherein a bandwidth . . . is determined.” In fact, nowhere does Sebastian teach or suggest that any bandwidth is determined.

Accordingly, Oracle’s reliance on Sebastian’s transmission channel bandwidth is clearly misplaced.

**B. Oracle erroneously conflates Kawashima’s concept of shorter transfer time in FIG. 43 with the definition of “transmission” only applicable to embodiments in FIGs. 2-3.**

Claim 24 recites “said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form” (*i.e.*, the claimed faster storage). Oracle relies on Kawashima’s shorter transfer time for data transmission in FIG. 43 for this feature. (Pet., 20-22, 41-43.) But Kawashima states that transfer time in FIG. 43 is the time of data transportation along a **communication line**, not claimed faster storage.

To conflate the meaning of data transfer time for **transmission** in FIG. 43 to cover the claimed “storage” time, Oracle imposes the alleged definition of “transmission” from the embodiments of FIGs. 2-3 to the context of FIG. 43. (*Id.*, 21, FN4.) But Oracle’s imposing of the alleged definition of transmission (to cover data writing) into the embodiment of FIG. 43 fails for a multitude of reasons. First, the alleged definition in embodiments of FIGs 2-3 is inapplicable to FIG. 43. Extending such definition beyond embodiments of FIGs. 2-3 contradicts FIG. 43’s explicit teaching regarding communication lines, and also is inconsistent with how



the relevant terms were generally understood. Second, Oracle incorrectly combines incompatible features from disparate embodiments in FIGs. 2-3 and FIG. 43 of Kawashima. Third, Oracle fails to show that Kawashima would enable a POSA to combine data transmitting apparatus in FIGs. 2-3 with the shorter transfer time in FIG. 43. For any of these reasons, the Petition fails.

**1. Kawashima is explicit that the shorter transfer time regarding FIG. 43 is shorter transportation time for more effective use of a communication line between a computer and an external memory device, not the claimed faster storage.**

Oracle improperly tries to equate Kawashima's shorter transfer time for transmitting data in FIG. 43 ("Kawashima's shorter transfer time") to the claimed faster storage. (Pet., 17-20, 41-43.) But its attempts should fail because all discussion of FIG. 43 in Kawashima demonstrates that transfer time for data transmission is the time that data is sent along the communication line.

The discussion of FIG. 43, in Kawashima's "Background Art" section, states that "a transfer time  $t_{AC1}$  required for transmitting the compressed data is shorter than a transfer time  $t_{A1}$  required for transmitting the uncompressed data." (Ex. 1103, 3:8-15.) A transfer time  $t_{AC1}$  for transmitting the compressed data could include actual data transfer time  $t_{C1}$  and data compression time  $t_{B1}$ . (*Id.*, 3:16-18.)

But, Kawashima states that the transfer time required for transmitting data is the time for data transportation over a communication line between a computer and an external memory device. The time for data transportation is the time that data is

sent along the communication line. FIG. 43 applies to the specific setting of “transfer[ring] data between a computer and an external memory device.” (*Id.*, 3:8-15.) Specifically, Kawashima explains that the shorter transfer time for transmitting data, within the context of FIG. 43, is for achieving “the purpose of **using communication lines more effectively.**” (*Id.*) Effective use of a communication line between a computer and an external memory is not the same as effectively storing data on the memory as claimed. So Kawashima’s shorter transfer time for transmitting data does not teach the claimed faster storage.

The claimed faster storage and Kawashima’s shorter transfer time regarding FIG. 43 are targeted to two different technical issues. The claimed faster storage aims at improving data storage delays of memory devices. For example, “magnetic disk mass storage devices currently employed . . . suffer from significant **seek-time access delays** along with profound read/write data rate limitations.” (Ex. 1101, 2:23-27.) In contrast, Kawashima’s shorter transfer time does not address delays caused by memory devices, such as seek-time access delays, but at “**using communication lines** more effectively.” (Ex. 1103, 3:11-12.)

**2. The alleged definition of transmission in FIGs. 2-3 is inapplicable to Kawashima’s shorter transfer time in FIG. 43.**

In a failed attempt to ask the Board to blur the line between “transfer time for transmitting data” in FIG. 43 and the claimed “storage” time, Oracle alleges that Kawashima treats data “transmission” as covering not only the actual

transportation of data, but also the accessing (reading) and storing (writing) of data. (Pet., 21, FN4.) In so doing, Oracle erroneously conflates the concept of shorter transfer time with the claimed faster storage. And more fatal to its Petition, Oracle ignores that Kawashima's discussion of transmission and writing data only applies to the context of FIGs. 2-3 – disparate embodiments to FIG. 43.

Oracle fails to bridge the gap between writing data and storing data. Oracle does not explain or cite from Kawashima as to what kind of operations the cited data writing involves: for example, whether the cited data writing deals with any delays caused by data storage in a memory device. Without such explanation, the cited data writing with respect to FIGs. 2-3 could simply mean outputting data to the data bus, which is separate from storing data. Indeed, the '530 Patent suggests that storing data involves more than just writing data. (*See* Ex. 1101, 2:23-27 (discussing seek-time access delays **along with** write data rate limitations).)

Second, even assuming writing data equates to storing data, the alleged definition of “transmission” regarding FIGs. 2-3 is not applicable to the disclosure in the disparate embodiment of Kawashima's shorter transfer time in FIG. 43. Kawashima's shorter transfer time for transmitting data in FIG. 43 is specifically directed to “transfer[ring] data between a computer and an external memory device,” and is for “the purpose of **using communication lines** more effectively.” (Ex. 1103, 3:8-15.) The alleged defining transmission for covering data storage in

the embodiments of FIGs. 2-3 cannot override the explanation, explicitly set forth within the context of the embodiment of FIG. 43, that transfer time is the time of using a communication line. Extending the alleged definition of transmission beyond FIGs. 2-3 would contradict to the explicit discussion regarding communication lines in FIG. 43.

Kawashima discloses six different “mode[s] of use of a **data transmitting apparatus**” in FIGs. 2-6. (*Id.*, 18:51-67.) The alleged equating transmission to storage only appears in two modes of operations in FIGs. 2-3, but not the other four modes. (*Id.*, 21:39-40; 22:10-11.) FIGs. 2-3 are directed to transmission of data to internal memories through **data buses** (*Id.*, 21:44-46, 22:17-29), not through **interface buses** over communication lines to external memories as in FIG. 43. (*Id.*, 3:8-11, 24:51-55.) In contrast, the embodiment of FIG. 6 is more relevant to Kawashima’s shorter transfer time in the embodiment of FIG. 43. FIG. 6 provides a separate mode of operation directed to “transmit[ting] data between a host computer 51 and an external memory device 52.” (Ex. 1103, 24:14-16.) But, in FIG. 6’s mode of operation, Kawashima does not equate data transmission to data writing or suggest that data transmission includes data writing.<sup>3</sup> (*Id.*, 24:14-

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<sup>3</sup> The embodiment of FIG. 7 of Kawashima also shows another mode of operation involving an external memory. But FIG. 7 is irrelevant to the embodiment of FIG.

57.) Instead, Kawashima describes data writing as a separate operation with respect to FIG. 6. As Kawashima explains, data transmitting apparatus 1 “transmits the data to the external memory device, ... [and the] data which is outputted from the data transmitting apparatus 1 is supplied through the interface bus 55 to the external memory device 52 as the data destination, where the data is written in a storage medium.” (*Id.*, 24:38-55.)

Third, the alleged definition of “transmission” should be limited to embodiments of FIGs. 2-3 because data transmission and data storage were generally understood as different operations at the time of the ’530 Patent. The difference is evidenced by multiple dictionaries and Sebastian:

Sebastian: discusses data transmission and data storage separately: “[t]he output of the encoder is encoded data 4, which can be **stored** in memory..., **or transmitted** to the decoder.” (Ex. 1104, 3:31-33.)

Microsoft Computer Dictionary defines transmission only from the

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43 because data transmitting apparatus resides in the external memory. (Ex. 1103, 24:60-62.) So compressed data cannot travel over the communication line from the computer to the external memory because the computer needs the data processing apparatus to compress the data. In any event, FIG. 7 does not equate transmission to storage.

perspective of how data is transported over a communication line or a circuit, not how a receiving device (*e.g.*, a memory device) stores or processes it. (Ex. 2002, 396 (defining “transmission” as “sending of information **over a communications line** or a circuit”).) This Microsoft Computer Dictionary definition had not changed at least until 2002. (Ex. 2003, 528.)

Other dictionaries in the electronic art similarly define “transmission: from the perspective of data transportation over a communication medium. Specifically, the IBM Dictionary of Computing emphasizes that transmission “implies **only** the sending of data; the data may or may not be received.” (Ex. 2001, 704.) (Ex. 2004, 2058 (defining transmission as the “process of transferring a signal, message ... **by means of wire lines, radio, light beams, infrared beams, or other communication systems**”).)

In short, Kawashima, within the context of the embodiment of FIG. 43, explicitly clarifies that the shorter transfer time is about effective use of communication lines, not effective storage. Kawashima’s supposed definition of transmission to cover storage in the embodiments of FIGs. 2-3, almost twenty columns away from the discussion of FIG. 43, should be limited to FIGs. 2-3 because it is inconsistent with general understanding of relevant terms. And in any event, it cannot override the clear teaching, within the context of FIG. 43, that the faster transfer time is the time of effective use communication lines.

**3. Oracle erroneously combines incompatible features from disparate embodiments of Kawashima in FIGs. 2-3 and FIG. 43.**

A single prior art reference can render a claim obvious. *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000); *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582 (Fed. Cir. 1996). But Oracle was required to provide a rationale to modify the different embodiments in Kawashima. *B.F. Goodrich*, 72 F.3d at 1582. This Board has denied institution when a Petition lacked explanation for how or why a POSA would have combined two disparate embodiments in a single reference even when “two figures for different embodiments are adjacent each other.” *National Env’t. v. Dri-Steem Corp.*, IPR2014-01503, Paper 16, 11-12 (P.T.A.B. Apr. 1, 2015).

Here, Oracle attempts to use disparate embodiments in FIGs. 2-3 and FIG. 43 for a critical claim term: the claimed faster storage, without explaining why and how the two disparate embodiments would obviously be used together.

**4. Kawashima does not enable a POSA to combine the data transmitting apparatus in FIGs. 2-3 and the shorter transfer time in FIG. 43 because the disparate embodiments have conflicting requirements.**

Even under obviousness law, the combined teachings of FIGs. 2-3 and FIG. 43 must enable a POSA to make and use the claimed combinations. “The issue of prior art enablement is inherent in the determination of obviousness.” *In re Payne*, 606 F.2d 303, 309 (C.C.P.A. 1979). The prior art references relied upon “must

provide an enabling disclosure, *i.e.*, they must place the claimed invention in the possession of the public.” *Id.* at 314. The claimed invention “is not ‘possessed’ absent some known or obvious way to make it.” *Id.*; *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1289, 1297 (Fed. Cir. 2010), *vacated in part on other grounds*, 649 F.3d 1276 (Fed. Cir. 2011) (*en banc*) (“In order to render a claimed apparatus or method obvious, the cited prior art as a whole must enable one skilled in the art to make and use the apparatus or method.”).

Oracle appears to argue that a high compression ratio for a data transmitting apparatus (FIGs. 2-3) can ensure the shorter transfer time in FIG. 43. (Pet., 20-24, 53-55.) But Oracle mischaracterizes the teaching of FIG. 43. Kawashima does not say that a high enough compression ratio alone is sufficient to ensure shorter transfer time. (Ex. 1103, 3:8-24.) To the contrary, Kawashima points out that “[i]n order to shorten the transfer time, it is **necessary to compress the data rapidly** to reduce the time  $T_{B1}$  required for data compression/expansion.” (*Id.*, 3:21-23.) So, compression speed is a necessary factor for the shorter transfer time in FIG. 43.

Kawashima does not enable a POSA to incorporate its shorter transfer time of FIG. 43 into the data transmitting apparatus in FIGs. 2-3, or vice versa. FIG. 43 and FIGs. 2-3 relate to different types of systems. FIG. 43 is directed to “shorten a time required to transfer data between a computer and an external memory device.” (Ex. 1103, 3:8-10.) In contrast, FIGs. 2-3 are directed to transmission of data to



internal memories through **data buses**. (*Id.*, 21:44-46, 22:17-29.) Further, FIG. 43 and FIGs. 2-3 achieve different goals. FIG. 43 is for the purpose of “**using communication lines** more effectively.” (*Id.*, 3:11-12.) On the other hand, FIGs. 2-3, are concerned about the problem of data compression without meaningful space saving. (*Id.*, Abs., 15:66-16:2.) Consequently, FIG. 43 and FIGs. 2-3 have different requirements. FIGs. 2-3 do not consider compression speed, while FIG. 43 requires so. FIG. 43 and FIGs. 2-3 could require different compression ratio threshold values because these disparate embodiments have different goals.

As discussed above in Section I.D, Kawashima is unclear about how to achieve the shorter transfer time in FIG. 43. Kawashima does not discuss how high the compression ratio or how fast the compression speed is required. And Kawashima is silent regarding whether and how to balance the conflicting needs between compression ratio and speed for achieving the shorter transfer time. Higher compression ratio could mean slower compression speed, and vice versa. (Ex. 1105, 3:18-22, 5:53-57.) Oracle even admits that a faster rate of compression came at the expense of having a lower compression ratio and a higher compression ratio came at the expense of a lower rate of compression. (Pet., 30.)

Given the conflicting needs of compression speed and compression ratio for achieving the shorter transfer time in FIG. 43, Kawashima provides no additional guidance that would enable to a POSA to combine disparate embodiments in FIGs.

2-3 and FIG. 43. While FIG. 43 requires balancing the compression ratio with the compression speed, such balancing could result in a compromised compression ratio insufficient to achieve the space saving goal of the FIGs. 2-3. Oracle offers no explanation for how Kawashima would enable a POSA to resolve the conflicting requirements of FIGs. 2-3 and FIG. 43 such that combining incompatible features of disparate embodiments could maintain both goals of space saving and effective use of communication lines.

**C. Oracle improperly conflates Sebastian’s transmission channel bandwidth with claimed “bandwidth of the memory device” and misconstrues Chu’s system allocation process and compression rate control signal concepts to teach the claimed bandwidth adjustment to make bandwidths compatible.**

To teach the claimed bandwidth adjustment to make bandwidths compatible, Oracle first implicitly admits that Kawashima is insufficient to teach these claimed features and then looks to Sebastian and/or Chu to teach these features. But Oracle’s attempt to fill these admitted gaps should fail because Oracle improperly asks the Board to equate Sebastian’s transmission channel bandwidth with claimed “bandwidth of the memory device” and misconstrues Chu’s system memory allocation process and compression rate control signal to teach these features.

**1. Oracle improperly conflates Sebastian’s transmission channel bandwidth with claimed “bandwidth of the memory device.”**

To teach these features, Oracle first relies on Sebastian allegedly explaining that “[the applications 1,7] may adjust certain compression and decompression

operations (system parameters) according to ‘system conditions such as available transmission channel bandwidth.’” (Pet., 48.) Oracle then attempts to equate Sebastian’s transmission channel bandwidth with “bandwidth of the memory device” by relying on Dr. Storer’s uncorroborated conclusory parroting statement (Section II.F) that “a [POSA] would understand that . . . applications may adjust compression . . . system parameters according to . . . ‘bandwidths’ such as the bandwidth of the memory device.” (*Id.*) Sebastian’s transmission channel bandwidth does not teach these features for two reasons.

First, the claimed “bandwidth of the memory device” is the speed, *i.e.*, **data storage rate** of the claimed “memory device.” Indeed, the ’530 Patent specifically teaches that the claimed bandwidth adjustment to make bandwidths compatible is directed to solving data congestion and backup that may occur when “the **maximum data storage rate** of the data storage device 45 is [] less than the data rate output from the data storage accelerator 10.” (Ex. 1101, 9:55-62.)

However, as discussed in Section III.A, Sebastian’s transmission channel bandwidth relates to the **transmission of encoded data** from encoder 3 to decoder 5, which is entirely distinct from **data storage rate** of a memory device. (Ex. 2005, Dictionary of Computing, 4th Edition, “bandwidth of a transmission channel,” *i.e.*, **transmission channel bandwidth** is a “measure of the **information-carrying capacity of a channel**, usually the range of frequencies

passed by the channel.”).

Thus, to equate Sebastian’s transmission channel bandwidth with the “bandwidth of the memory device” would be to improperly conflate the concept of data transmission with data storage. And, as discussed in Section III.B.2, data storage and data transmission were understood as different operations at the time of the ’530 Patent, which even Sebastian recognizes. (Ex. 1104, 3:31-36 (discussing data transmission and data storage as separate operations).)

Second, Sebastian is silent with respect to “a data rate of the compressed data stream is adjusted . . .to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device.” There is no suggestion that Sebastian’s adjustment of encoding/decoding operations “make[s] a bandwidth of the compressed data stream compatible with a bandwidth of the memory device.”

## **2. Oracle misconstrues Chu’s system memory allocation process and compression rate control signal concepts.**

Oracle’s reliance on Chu’s to fill admitted gaps of Kawashima and Sebastian is also misplaced for several reasons. (Pet., 48-52 citing Ex. 1105.)

First, while Chu explains that a system memory allocation process 140 enables the system or user to control the amount, *i.e.*, the **quantity**, of system memory to be allocated for data compression (Ex. 1105, 6:15-19), Chu is entirely silent with respect to the **speed**, *i.e.*, number of bits per second, that data can be **stored on the memory device** as required by the claimed “bandwidth of the

memory device.”

Second, while Chu explains adjusting the speed of compression or compression time for compressing data in accordance with a compression rate control signal (*id.*), Chu is entirely silent with respect to “a data rate of the compressed data stream is adjusted . . . to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device.” In fact, nothing in Chu indicates that any adjustment of “data rate of the compressed data stream” is to make two bandwidths compatible. Nor does Chu teach or suggest that such an adjustment is “to make a bandwidth of the compressed data stream **compatible with a bandwidth of the memory device**” also required by the claimed feature.

To further fill these gaps, Oracle relies on Chu’s system memory allocation process 140 which estimates the memory required in accordance with selected compression related settings and identified input data types. (Pet., 50-51.) Oracle also relies on Chu’s Background Section to allegedly teach that the adjustment of  $p_{\max}$  and  $l_{\max}$  values allows for faster rate of compression at a lower compression ratio or lower rate of compression at a higher compression ratio. (*Id.*) Based on this, Oracle then alleges that “Chu teaches modifying a system parameter . . . to adjust the data rate of the compressed stream.” (*Id.*) And according to Oracle, Chu teaches that the modification of the compression process is “to account for changes in the **availability of system memory to process this compression.**” (*Id.*)

Not only do cited portions of Chu fail to teach these claimed features, Oracle also misconstrues Chu's teachings, because in the context of estimating memory required for compression, the availability of system memory is of no concern for Chu. As explained in Section I.F, Chu's system memory allocation process 140 only "estimates the memory required in accordance to the identified input data type, a selected compression ratio, a selected speed of data compression, a selected  $p_{\max}$  and  $l_{\max}$  value, or a selected combination of these features." (Ex. 1105, 6:23-28), which is the opposite of what Oracle asserts. Accordingly, Chu fails to teach or suggest the claimed bandwidth adjustment to make bandwidths compatible.

**D. Oracle improperly asks the Board to ignore the claimed relationship between data descriptor-compression technique-data block in order for Sebastian's filter ID to teach the claimed data descriptor.**

Oracle ignores the context of "first data descriptor" to concoct their Ground. Moreover, claim 24 recites "a first data descriptor is . . . indicative of said **first compression technique**" ("claimed data descriptor") (Ex. 1101, claim 24.) But claim 24 also recites "compressing said first block with a first compression technique." (*Id.*). Only through ignoring the relationship between data descriptor-compression technique-data block can Oracle allege Sebastian's filter ID meets the claimed data descriptor. (Pet., 55-59.)

Sebastian's filter ID cannot indicate the compression technique for compressing a specific data block, as claimed. Oracle admits Sebastian teaches

using multiple techniques on a data stream. (Pet., 43 citing Ex. 1104, Abs., 19:31-48.) So Sebastian's filter ID correlates to multiple compression techniques.

As explained in Section I.E, Sebastian's encoder uses a filter to parse a source data stream into a plurality of Arrays and encode the Arrays. So, a single filter ID corresponds to multiple Arrays and multiple compression techniques. Thus, Oracle has utterly failed to show how the filter ID can indicate a specific compression technique used for a data block. Indeed, as further explained in Section I.E, different Arrays use multiple different compression techniques, and the compression algorithms used are not fixed. Consequently, Sebastian's "preferred coder system has to support **thousands of different ways to encode each Array** [where the] processing system is [] a **dynamic network** and **each path** through this network creates a **different encoding algorithm**." (Ex. 1104, 17:65-18:2, 18:51-52.)

Because Sebastian's single filter corresponds to multiple component Arrays, each corresponding to one or more compression techniques, the filter ID at best corresponds to a plurality of compression techniques. So Sebastian's filter ID cannot indicate the compression technique for a specific block, as claimed.

**E. Oracle fails to meet their burden to establish that the A-APA teaches the claimed storage and use of the first data descriptor.**

Even ignoring the fatal errors discussed in Section II.E, Oracle failed to meet their burden to establish that the A-APA teaches the claimed storage and use of the

first data descriptor for at least two reasons. First, even if the A-APA is considered an admission, the A-APA is limited to only methods to extract information, which is insufficient to teach the claimed features. Second, Oracle's conclusory statements cannot meet *KSR* to show that A-APA teaches the claimed features.

**1. The A-APA, even if considered as an admission, is limited to only methods to extract information, which is insufficient to teach the claimed storage and use of the first data descriptor.**

Even if what Oracle alludes to in the '530 Patent is considered an admission, such admissions must be narrowly and strictly construed. *Reading & Bates Construction Co v. Baker Energy Resources Corp.*, 748 F.2d 645 (Fed. 1984) (holding that the admission is limited to only its disclosure, and not an admission that the disclosure is also enabling). To ensure a proper and reasonable determination of these alleged admissions, the Board has compared the alleged admissions with the rest of the patent specification and the prosecution history. *Ex Parte Hidaka*, 2013 WL 4546196, at \*2 (P.T.A.B. Aug. 22, 2013) ("We agree with Appellant ... that a prior art admission should be established by reviewing the Specification and record as a whole.")

While the '530 Patent discloses "using methods known by those skilled in the art" to extract information ("methods to extract information"), such as "the data compression type descriptor associated with the data block," (Ex. 1101, 14:5-10), it does **not** use any of the typical catch phrases to suggest that the "data compression



type descriptor” described in the ’530 Patent was known by those skilled in the art.

*In re Nomiya*, 509 F.2d at 571 (finding APA only because “an application contain[s] Figs. [] labeled prior art [] and statements.”). Nowhere does the ’530 Patent indicate the “data compression type descriptor” is prior, background, traditional, related, and/or conventional art. (*Id.*, 14:10-15, 12:34-46.) (discussing the “data compression type descriptor” without any of the typical catch phrases).

Nor has Oracle alleged that the “data compression type descriptor” is the work of another. *Riverwood Int’l Corp.*, 324 F.3d at 1354-55 (the APA Doctrine is inapplicable to inventor’s own work). Quite the contrary, the text surrounding the ’530 Patent A-APA indicates the “data compression type descriptor” is a feature of the ’530 Patent and consequently, ***the inventor’s own work***. For example, not only is the “data compression type descriptor” used for decoding, but it may also be used to: (1) indicate the applied encoding technique(s) or lack of any encoding technique(s); and (2) enable “encoders of the identical type [to] be applied in parallel to enhance encoding speed.” (Ex. 1101, 14:10-15, 12:34-46.)

Accordingly, because the “data compression type descriptor” is part of the ’530 Patent and therefore, ***the inventor’s own work***, the A-APA is limited to only the methods to extract information. Such limited admission cannot teach or suggest the claimed storage and use of the first data descriptor.

**2. Oracle’s conclusory statement, without more, cannot meet *KSR* to show that the A-APA teaches or suggests the claimed storage and use of the first data descriptor.**

Each time Oracle alludes to the A-APA, Oracle summarily concludes that the claimed storage and use of the first data descriptor would not only have been obvious, but expected. (Pet., 57, 59.) Specifically, Oracle merely concludes that it would have been expected for a compression system to do things like generate, store, and even append to a compressed data block a descriptor indicative of the compression algorithm applied, for use during decompression. (*Id.*) But Oracle never provides any required factual underpinning on how the A-APA directed to **extracting** the data compression type descriptor, could actually teach “a first data descriptor is **stored** on said memory device” or that “said data accelerator **stores** said first descriptor,” or even “first descriptor is **utilized to decompress** the portion of said compressed data stream associated with said first data block.”

**IV. Oracle fails to meet its threshold showing that the applied references could be combined to teach all the features of claim 24.**

Oracle fails to meet its threshold showing by failing to provide “rational underpinning” in support of their conclusion of obviousness. This is demonstrated by Oracle’s failure to adequately explain how technologically incompatible systems of Kawashima, Sebastian, and Chu could be combined or why the combination of such technical incompatible systems could be accomplished without resorting to impermissible hindsight. Instead, Oracle resorts to

uncorroborated conclusory statements in their Expert Declaration and generic rationales to combine Kawashima, Sebastian, and Chu that bear no relation to the alleged combination of components.

**A. Oracle fails to meet their burden to provide “rational underpinning” in support of their alleged obviousness combination of the applied references.**

Oracle failed their burden of persuasion to prove unpatentability by a preponderance of the evidence. *Dynamic Drinkware* 800 F.3d at 1379 (citing *Tech. Licensing Corp.*, 545 F.3d at 1326-27). Oracle also failed to provide articulated reasoning with rational underpinning to support their conclusions obviousness. *In re Biedermann*, 733 F.3d 329, 335-36 (Fed. Cir. 2013) (“The articulated reasoning and factual underpinnings of an examiner's rejection [*i.e.*, Petitioner’s Ground] are, thus, essential elements of any stated ground of rejection . . . .”). Nor did Oracle make their analysis for establishing obviousness explicit. *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009) (holding “the analysis that ‘should be made explicit’ refers **not** to the teachings in the prior art of a motivation to combine, but to the court’s analysis [*i.e.*, Oracle’s explanations]”). Instead, Oracle relies on series of inaccurate and uncorroborated conclusory statements, as a replacement for documentary evidence for core factual findings, which lacks substantial evidence support. *K/S HIMPP v. Hear-Wear Technologies, LLC.*, 751 F.3d 1362, 1366 (Fed. Cir. 2014).

**1. Oracle fails to explain how Kawashima's data transmitting apparatus could be combined with Sebastian's Base-Filter-Resource system or Chu's system to teach the claimed data blocks and different compression techniques.**

A properly articulated reasoning with “rational underpinning” must not only explain why a POSA would have combined the elements from the specific references in the way the claimed invention does, *Ball Aerosol*, 555 F.3d at 993, but also **how** a POSA would have combined the teachings from specific references to teach the claimed features. *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012) (holding expert's testimony was conclusory and factually unsupported, because the expert, in part, failed to explain how and why specific references could be combined); *TRW Automotive US LLC v. Magna Electronics Inc.*, IPR2014-00869, Paper 8, 24-26 (P.T.A.B., Dec. 1, 2014) (citing *ActiveVideo Networks*). Thus, “[a] patent composed of several elements is not proved obvious by merely demonstrating that each of its elements was, independently, known in the prior art.” *ActiveVideo Networks, Inc.*, 694 F.3d at 1327 (citing *KSR*).

Here, while Oracle characterizes several portions of Kawashima and Sebastian (Pet., 44-45), Oracle never explains just **how** a POSA would have combined different Filters of the Sebastian's BFR system, which always transfers a compressed data stream that is compressed using potentially thousands of different encoding techniques, with Kawashima's data transmitting apparatus, which

transfers compressed or uncompressed data based at least partially on a preset value.

Similarly, while Oracle also characterizes portions of Chu (*id.*, 46), Oracle again fails to explain just how a POSA would have combined Chu's data compression rate adjustment process 130, which always encodes and outputs a compressed data stream using a LZ-type compression method followed by a Huffman-type compression method (Ex. 1105, 6:3-7, 6:13-15, 6:54-59, FIGs. 5-6), with Kawashima's data transmitting apparatus, which transfers compressed or uncompressed data based at least partially on a preset value.

As recognized by the courts, "[a] patent composed of several elements is not proved obvious by merely demonstrating that each of its elements was, independently, known in the prior art." *ActiveVideo Networks, Inc.*, 694 F.3d at 1327 (citing *KSR*). Therefore, without the required explanation as to how a POSA would have combined the selected portions of Sebastian, Kawashima, and Chu, Oracle fails to meet their burden to provide the required "rational underpinning."

**2. Kawashima and Sebastian are technologically incompatible because Kawashima's blocks of fixed length conflicts with Sebastian's parsed blocks of variable size.**

Even more fatal to Oracle's "rational underpinning" analysis (or lack thereof) is their failure to provide any explanation as to how and why a POSA would be able to resolve and combine inconsistent teachings between Kawashima

(blocks of fixed length) and Sebastian (Arrays of variable size). For example, Sebastian's parsed blocks discussed in the "Abstract" and "Summary of the Invention" and cited by Oracle are the exact opposite of Kawashima's "blocks of fixed length." Moreover, Sebastian's parsed blocks are actually parsed Arrays of variable size. Indeed, as Sebastian explains, "a parsing system 24 parses the source data 2 into a large number of parsed Arrays 25, which each include all the instances of a particular component in the source file." (*Cmp.* Ex. 1104, 4:24-26 discussing Sebastian's parsed Arrays *with* Abstract and 2:33-42 discussing Sebastian's parsed blocks; *Id.*, 4:50-54; 5:38-41). As discussed in Section I.E, depending on the source data, the number of parsed Arrays and the number of entries in each parsed Array could change significantly.

Thus, the size of Sebastian's parsed blocks/Arrays are not fixed, but variable. (*Id.*, 17:51-54)("The number of entries in each Array also varies widely, and different coding approaches can work better at different Array counts.")( *Id.*, 5:38-42)("Each parsed Array 25 includes all instances of a particular component in a file. A separate component is created for each member of each defined structure type."); (*Id.*, 6:36-40)(" This approach creates a large number of Arrays 25. Each Array 25 requires a different compression model, and the number of entries in each can change significantly from file to file."); (*Id.*, 5:63-65) ("The parsing system 24 creates parsed Arrays 25 for each of the four components of this record. Each time

an RK record is found, an entry is added to each array.”); (*Id.*, 8:38-40).

So while Oracle provides numerous generic conclusory rationales on why a POSA would combine Kawashima and Sebastian, none of these rationales could explain how and why a POSA would be able to resolve and combine these inconsistent teachings between Kawashima and Sebastian.

**3. Oracle incorrectly concludes that the applied references recognize “the significance of analyzing incoming data . . . in order to optimally compress such data.”**

In support of the alleged combination of Kawashima and Sebastian, as well as the apparently alternative Kawashima and Chu, Oracle incorrectly asserts the combinations “[analyze] incoming data to determine data type and teach systems and methods of efficiently determining the data type of incoming data . . . **in order to [optimally/best] compress such data.**”(Pet., 45, 47.) But, Kawashima does not “[recognize] the significance of analyzing incoming data to determine data type and teach systems and methods of efficiently determining the data type of incoming data . . . **in order to optimally compress such data**” as alleged by Oracle (*Id.*, 45, 56, 58). Rather, the cited portions of Kawashima relied upon by Oracle actually teach that “[t]he type of data contained in the header of pre-compression data transferred from the data source 2 is referred to, and the quotient is multiplied by the weighting coefficient C corresponding to the type of data to produce a predicted compression ratio.” (Ex. 1103, 36:23-27).

Moreover, according to Kawashima, “[i]f the predicted compression ratio is at least the preset compression ratio  $\beta$ , *i.e.*, is equal to or greater than the preset compression ratio  $\beta$ , then control goes to a next step S109 in which the data compressing means 96 is operated, *i.e.*, a data compressing subroutine is executed.” (*Id.*, 36:43-47; FIG.13; claims 9 and 24.) Otherwise, “[i]f the predicted compression ratio is smaller than the preset compression ratio  $\beta$  in the step S108, then control goes to a step S112 in which the transfer request data generating means 98 generates transfer request data for the pre-compression data.” (*Id.*, 38:60-64; FIG. 13; claims 9 and 24.)

In short, the portions of Kawashima relied upon by Oracle teach the use of the data type to determine a predicted compression ratio, which is further used to determine whether to: (1) compress the pre-compressed data; and (2) transfer either the compressed data or the pre-compressed or uncompressed data. However, Kawashima’s use of the data type to determine a predicted compression ratio is clearly not directed to “optimally compress such data.” Rather, in the embodiment relied upon by Oracle, Kawashima does not compress the pre-compression data and transfer the compressed data, if the predicted compression ratio is smaller than the preset compression ratio  $\beta$ . (*Id.*, 36:43-47, 38:50-59, FIG. 13.)



**4. Oracle incorrectly states the combination of Kawashima and Sebastian “would accomplish Kawashima’s fundamental objective of compressing data at a high ratio in order to compress data and transmit/store the compressed data more quickly.”**

Oracle’s conclusion (Pet., 39 citing Ex. 1102 and Ex. 1103, 3:8-32 discussing FIG. 43) mischaracterizes the teachings of Kawashima FIG. 43 and ignores Kawashima’s explicit teaching that “[i]n order to shorten the transfer time, it is necessary to compress the data rapidly to reduce the time [] required for data compression/expansion” (*i.e.*, Kawashima’s necessity). (Ex. 1103, 3:21-24.) Nor would the alleged “Kawashima’s fundamental objective of compressing data at a high ratio” lead to compressing data more quickly (Pet., 45). To the contrary, as discussed in Section III.B.4 and even admitted by Oracle, “compressing data at a high ratio” could mean slower compression speed (*id.*, 30), which is also contrary to Kawashima’s necessity.

**5. Oracle’s alleged rationales to combine rests on a series of inaccurate and uncorroborated conclusory statements.**

Oracle attempts to bridge several evidentiary gaps using uncorroborated conclusory statement that “a [POSA] would understand that data storage, retrieval, and transmissions applications may adjust compression and decompression system parameters according to other ‘system conditions’ and ‘bandwidths’ such as the bandwidth of the memory device.” (Pet., 48 citing Ex. 1102, ¶ 106.) However, Oracle provides no “rational underpinning” as to why a POSA would equate

Sebastian's applications 1,7 that may adjust encoding/decoding operations according to the available transmission channel bandwidth with the claimed "bandwidth of the memory device." Nor does Oracle explain why Sebastian's adjustment of encoding/decoding operations by applications 1,7 according to the available transmission channel bandwidth would teach the claimed "a data rate of the compressed data stream is adjusted . . . to make a bandwidth of the compressed data stream compatible with a bandwidth of the memory device."

In fact, Sebastian's BFR system is not at all directed to fill these gaps, because Sebastian admits "applications 1,7 that store/retrieve or transmit/receive the encoded data are not part of the compression system," and the "descriptions to follow will mostly cover the encoder . . . [and] a description of the encoder is sufficient to describe the overall encoding/decoding system." (Ex. 1104, 3:51-53; 56-59.) Indeed, applications 1,7 are not discussed at all with respect to the remaining embodiments of Sebastian.

To further bridge these gaps, Oracle also relies on the uncorroborated conclusory statement that "[r]ate control" is a standard term of the art, and is understood by [a POSA] to refer to the issue of making two bandwidths compatible." (Pet., 50 citing Ex. 1102, ¶ 106.) Again, Oracle provides no "rational underpinning" as to why a POSA would equate Chu's "rate control" in the context of Chu's "data compression rate control signal" with the issue of making two

bandwidths compatible.

Instead, Oracle's alleged definition of "rate control" is inconsistent with Chu's "compression rate control signal." Chu explains that "the data compression rate adjustment process 130 provides data compression process 100 with the flexibility to adjust the compression speed during data compression," by either: (1) adjusting  $l_{\max}$  and/or  $p_{\max}$  values in response to the compression rate control signal; or (2) indicating whether to use LZ-1 or LZ-2 compression in accordance with the compression rate control signal. (Ex. 1105, 6:51-62.) According to Chu, "[t]his flexibility provides compression system 100 means to maximize the CPU's idle time to do data compression and means to increase the data compression speed when the CPU is in preparation to begin another process" ( "Chu's processing flexibility"). (*Id.*, 6:62-66.)

Thus, Chu's "compression rate control signal" and therefore, "rate control" actually relates to Chu's processing flexibility. And contrary to Oracle's uncorroborated conclusory statement, Chu's processing flexibility of providing means to maximize CPU's idle time to perform data compression and to increase data compression with respect to other processes, is far from Oracle's alleged definition that "'rate control' . . . [refers] to the issue of making two bandwidths compatible." (Pet., 50.)

In another attempt to bridge these gaps, Oracle relies uncorroborated

conclusory statement that “Chu teaches that this modification can be made to adjust compression speed and performance to account for rate control considerations and to account for changes in availability of system memory to process this compression.” (*Id.*, 51 citing Ex. 1102, ¶ 108.) Again, Oracle does not explain why a POSA would understand “that this modification can be made to adjust compression speed and performance . . . to account for changes in availability of system memory to process this compression.” Instead, as discussed in Section I.F, Chu’s system only “estimates the memory required in accordance to the identified input data type, a selected compression ratio, a selected speed of data compression, a selected  $p_{\max}$  and  $l_{\max}$  value, or a selected combination of these features,” (Ex. 1105, 6:24-28), which is the opposite of Dr. Storer’s uncorroborated conclusory statement.

Accordingly, because Oracle relies on inaccurate and uncorroborated conclusory statements, Oracle’s obviousness conclusion is also legally insufficient.

**6. Oracle’s alleged rationales to combine are generic conclusory statements that fail to explain how and why the applied references could be combined to arrive at the claimed bandwidth adjustment to make bandwidths compatible.**

In support of Oracle’s motivation to combine the applied references to teach the claimed features, Oracle first asserts that it would have been obvious to combine, because: (1) all are in the field of data compression, (2) all are not only concerned with optimizing compression process but also overall system process,

(3) all recognize importance of efficiently analyzing for different data types in order to optimally compress the data; and (4) all are directed towards achieving optimal compression and high compression ratios. (Pet., 41.) Oracle also relies on motivations to combine discussed in Section XI.A.1 of their Petition, which include being in the same technical field, use of the same type of compression techniques, and solving the problem of compressing different types of data. (*Id.*, 31-34.)

But, Oracle's rationales to combine are merely generic conclusory statements that bear no relation to specific combination of components selected from Kawashima, Sebastian, and Chu. *ActiveVideo Networks, Inc.*, 694 F.3d at 1328 (holding that expert's opinion regarding motivation to combine the references was insufficient because the "testimony is generic and bears no relation to any specific combination of prior art elements" which "also fails to explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does.*") (emphasis in original). Such generic rationales could be alleged for almost all computer based algorithms and/or compression techniques, which are insufficient to explain how and why a POSA would select specific elements from Kawashima, Sebastian, and Chu to arrive at the claimed bandwidth adjustment to make bandwidths compatible.

Highlighting these deficiencies is Oracle's reliance on alleged benefits of

Sebastian's BFR system as a motivation to combine Kawashima, Sebastian, and Chu. (Pet., 31-32 citing, in part, Ex. 1104, Abs, 5:26-28, 17:15-40, 4:46-54) But, to teach or suggest the claimed "bandwidth of the memory device," Oracle cites to Sebastian's adjustment of encoding/decoding operations by applications 1, 7, which has no relation to Sebastian's BFR system. In fact, as discussed in Section IV.A.5, applications 1,7 are not even part of Sebastian's BFR system nor were they discussed by Sebastian in the context of Sebastian's BFR system.

Oracle's reliance on Section XI.A.1 of their Petition is also unavailing, because the additional generic conclusory rationales are not only relied upon for the claimed bandwidth adjustment to make bandwidths compatible, but also relied upon for several other claimed features. (Pet., 41, 44, 51-52, 56.) Yet, none of Oracle's generic conclusory rationales explain how and why a POSA would have combined specific elements from the applied references in the way the claimed invention does.

Instead, Oracle's motivation to combine merely amounts to the motivation to solve alleged problems, rather than motivation to combine Kawashima, Sebastian, and Chu to arrive at the claimed bandwidth adjustment to make bandwidths compatible. *ActiveVideo Networks, Inc.*, 694 F.3d at 1328 (quoting *Innogenetics v. Abbot Lab.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008 )("[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine")).

**B. Oracle ignores incompatible motives behind the Kawashima's system, Sebastian's system, and Chu's system.**

Despite Oracle's extensive reliance on FIG. 43 of Kawashima (Pet., 19-20, 33, 42), Oracle inexplicably ignores the inapposite teachings between Kawashima, Sebastian, and Chu. As discussed in Sections III.B.4 and IV.A.4, to achieve Kawashima's shorter transfer time with respect to FIG. 43, "it is necessary to compress the data rapidly to reduce the time [] required for data compression/expansion" (*i.e.*, Kawashima's necessity). (Ex. 1103, 3:22-24.) However, in all embodiments of Sebastian, including the embodiments cited by Oracle, the preferred encoder always encodes, *i.e.*, compresses the source data (Ex. 1104, 3:24-26, 31-36, 4:9-16; FIGS. 1-2, and 3) without any consideration that compression may require substantial time.

Additionally, even before any encoding or compression occurs, Sebastian's BFR system must perform at least five steps (Section I.E), where at least one of the steps "does not have to be fast, because it is done off-line." (*Id.*, 4:33-36; 19:15-21, 24-25.) In short, these steps show that Kawashima's necessity to "compress the data rapidly to reduce the time [] required for data compression/expansion" is clearly of no concern in Sebastian's teachings.

Similarly, in all embodiments of Chu, Chu encodes and transmits the encoded input data type stream. (Ex. 1105, 3:37-41, 4:23-28, 6:7-13, 6:41-47, 7:27-36, FIGS. 3-6, 8.) Moreover, while the title of Chu's Patent recites "High

Speed Lossless Data Compression System,” Chu’s alternative embodiment relied upon by Oracle is substantially directed to providing “means to maximize CPU’s idle time to do data compression and means to increase the data compression speed when the CPU is in preparation to begin another process.” (*Id.*, 6:59-66.) Thus, Kawashima’s necessity is also not Chu’s concern. Instead, Chu is concerned with “provid[ing] [a] normal rate of data compression during the CPU’s idle time, but increasing rate of data compression when the CPU is preparing to process another task.” (*Id.*, 3:56-60.)

Oracle’s failure to consider the inapposite teachings in the combination demonstrates that Kawashima, Sebastian, and Chu are not obvious to combine.

**C. Oracle ignores the references incompatible technologies by impermissibly picking and choosing portions of the references to support their position.**

The courts have repeatedly held that “[i]t is impermissible...to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965). The Board has also concurred. *LG Display Co. v. Innovates Display Techs. LLC*, IPR2014-01362 Paper 12, at 17 (P.T.A.B. Mar. 2, 2015) (“When evaluating claims for obviousness, ‘the prior art as a whole must be considered’”) (quoting *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986)).



Oracle ignored the law by ignoring the incompatible teachings between the references. Had Oracle considered the entirety of the references, Oracle would have realized that Sebastian's parsed blocks are actually parsed Arrays that are incompatible with the Kawashima's "blocks of fixed length." Oracle would have also realized that the combination of Kawashima and Sebastian as well as Kawashima and Chu also do not share the "[recognition of] the significance of analyzing incoming data . . . in order to optimally compress such data." (Pet., 45.) Nor would the combination of Kawashima and Sebastian "accomplish Kawashima's fundamental objective of compressing data at a high ratio in order to compress data and transmit/store the compressed data more quickly." (*Id.*) Instead, Oracle would have further realized that the motives behind the Kawashima's system are very different and incompatible with Sebastian's BFR system and Chu's memory allocation process and compression rate control signal.

**D. Oracle's alleged combination of the applied references could have only been the result of hindsight reconstruction.**

Oracle's failure to consider incompatible teachings is strong evidence that their analysis was hindsight reconstruction. Indeed, impermissible picking and choosing only portions of the applied references to support Oracle's position, while disregarding incompatible teachings without any explanation, is exactly the type of hindsight reconstruction the courts have cautioned against. *Grain Processing Corp. v. Am. Maize-Products Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) ("Care must be

taken to avoid hindsight reconstruction by using ‘the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.’”) (quoting and paraphrasing *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012 (Fed.Cir.1983)); *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011) (“This type of piecemeal analysis is precisely the kind of hindsight that the Board must not engage in.”); *Oracle Corp. et al. v. Crossroads Systems Inc.*, IPR2014-01197, Paper 77, 15 (P.T.A.B. Jan. 28, 2016). Thus, Oracle’s alleged combination of the applied references could have only been the result of using the claimed invention as a “blueprint,” which necessarily constitutes impermissible hindsight. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).

## **V. Conclusion**

In sum, Oracle has not adequately explained its ground in its Petition. Putting the failings aside, Oracle still does not establish a reasonable likelihood to prevail on any ground. For these reasons, the Petition should be denied.

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**CERTIFICATION OF SERVICE (37 C.F.R. §§ 42.6(e), 42.105(a))**

The undersigned hereby certifies that the above-captioned “**PATENT OWNER’S PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. § 42.107**” and all associated exhibits were served electronically in their entireties on April 11, 2016, upon the following parties by email:

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