

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SOPHOS INC.,  
Petitioner

v.

FINJAN, INC.,  
Patent Owner

U.S. Patent No. 8,677,494

Filing Date: November 7, 2011

Issue Date: March 18, 2014

Title: Malicious Mobile Code Runtime Monitoring System And Methods

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*Inter Partes* Review No.: IPR2015-01022

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**PETITIONER'S REQUEST FOR REHEARING OF  
DECISION DENYING INSTITUTION OF *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 8,677,494**

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Pursuant to 37 CFR §42.71, Sophos Inc. (“Petitioner”) respectfully moves for rehearing of the Decision Denying Institution of *Inter Partes* Review issued on September 24, 2015 (Paper 7) (the “Decision”), as to claims 1, 10, 14, and 18 (“challenged claims”) of U.S. Patent No. 8,677,494 (the “’494 patent”) (Ex. 1001).

## **I. Introduction**

Petitioner seeks reconsideration of the denial of two of the four grounds of unpatentability raised in the petition the grounds based on TBAV, Grounds 1 and 2. The Board denied institution on these two grounds because it found that TBAV did not disclose two claim elements. First, the Board found that TBAV did not disclose deriving a “list of suspicious computer operations” because the Board disagreed with Petitioner’s construction, finding that “‘instructions’ are not themselves ‘operations.’” However, the Board acknowledged that “operations” can be the result of executing “instructions,” and the Petition includes multiple statements that TBAV disclosed “instructions that perform ... operations.” Thus, the Board abused its discretion by finding that the Petition failed to establish that TBAV discloses deriving a “list of suspicious computer operations” through its identification in TBAV of suspicious instructions that perform suspicious operations.

The Board also denied institution on the Grounds 1 and 2 because it adopted a construction of “database” and found that TBAV did not disclose storing

downloadable security profile data in a “database” under that construction. This construction is legal error because it is not the broadest reasonable construction. The Board acknowledged that there was no evidence of any disavowal of claim scope in the intrinsic evidence, but then proceeded to select the narrowest of four definitions of “database” despite the fact that the other broader definitions were consistent with the specification. Under the correct broadest reasonable construction, TBAV discloses the storage of security profile data in a “database.” Accordingly, both reasons given by the Board for failing to institute trial based on the TBAV are faulty and Petitioner’s request for rehearing should be granted.

## **II. Factual Background**

Petitioner submitted its Petition on April 8, 2015. The Petition presented four grounds of unpatentability of the challenged claims based on four prior art references: *ThunderBYTE Anti-Virus Utilities User Manual*, ThunderBYTE B.V. (1995) (“TBAV”) (Ex. 1006), U.S. Patent No. 5,440,723 (“Arnold”) (Ex. 1008), U.S. Patent No. 5,623,600 (“Ji”) (Ex. 1009), and U.S. Patent No. 5,951,618 (“Chen”) (Ex.101). Petition at 4. Petitioner supported its petition with the Declaration of Paul Clark (“Clark Declaration”) (Ex. 1002).

Patent Owner filed its Preliminary Response to the Petition (Paper 6) on July 14, 2015. The Board, citing to several of Patent Owner’s arguments, denied institution of *inter partes* review on all grounds in the Petition.

### III. Legal Standard

In considering a rehearing request under 37 C.F.R. § 42.71(d), the Board reviews a prior decision “for an abuse of discretion.” 37 C.F.R. § 42.71(c). “The burden of showing a decision should be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” 37 C.F.R. § 42.71(d). “An abuse of discretion occurs when a ‘decision was based on an erroneous conclusion of law or clearly erroneous factual findings, or... a clear error of judgment.’” *Illumina, Inc. v. Trustees of Columbia University*, IPR2013-00011, Paper 44 at 2 (Patent Tr. & App. Bd. May 10, 2013) (citing *PPG Indus. Inc. v. Celanese Polymer Specialties Co. Inc.*, 840 F.2d 1565, 1567 (Fed. Cir. 1988)). When the Board misapprehends or overlooks issues establishing a reasonable likelihood of success for the Petitioner, an *inter partes* review should be granted. *Handi Quilter, Inc. v. Bernina International, AG*, IPR 2014-00720, paper 17 at 23-24. (Patent Tr. & App. Bd. December 30, 2014).

### IV. Argument

The Board, relying on Patent Owner’s arguments in its Preliminary Response (at 16-37), concluded that the challenged claims are not obvious over TBAV in view of Ji and/or Chen. The Patent Owner’s arguments were supported

by a discussion of the '494 patent that addressed the '494 specification only, without addressing U.S. Provisional 60/030,639 (the '639 application). Preliminary Response at 4-6. However, as demonstrated by Petitioner, the '639 application provides the entire and exclusive support for the challenged claims. Petition at 7-11. Based on this plain attempt to misdirect the Board, Patent Owner presented constructions at odds with the disclosure on which the challenged claims are based. After summarizing the '494 patent only in terms of the '494 specification (Decision at 2-3), the Board erred by adopting constructions of claim terms that were not the broadest reasonable constructions and that conflict with the intrinsic evidence of the '494 patent and '639 application. Decision at 6-10. Thus, the Board misapprehended TBAV's teachings and failed to acknowledge that TBAV teaches the elements of the challenged claims.

**A. TBAV Teaches “Deriving Security Profile Data for the Downloadable, Including a List of Suspicious Operations that may be Attempted by the Downloadable”**

The Board states that TBAV does not disclose “deriving... a list of suspicious computer operations that may be attempted by the Downloadable.” Decision at 13. This finding is based on the notion that Petitioner has not explained how “instructions” are “operations” or how TBAV discloses “a list of heuristic flags in the file.” *Id.* at 13-14. As explained below, the Board misapprehended or

overlooked Petitioner's arguments that establish TBAV's heuristic flags indicate suspicious operations and that TBAV lists heuristic flags in a log file.

**1. TBAV Teaches Deriving “Suspicious Operations that may be Attempted by the Downloadable”**

The Board acknowledges that “TBAV's TbScan ‘performs heuristic analysis of files,’ which heuristic analysis ‘includes detecting suspicious instruction sequences within a file and applying heuristic flags to the file’” and “heuristic flags reasonably could be termed “security profile data for [a] Downloadable.” Decision at 13. However, the Board also states that “Petitioner does not explain, nor can we discern, how TBAV's heuristic analysis discloses ‘deriving... a list of suspicious computer operations that may be attempted by the Downloadable.’” *Id.* To support this conclusion, the Board noted its interpretation of “suspicious computer operations” does not include that “instructions” are operations. *Id.* at 13-14.

The Board's reliance on the distinction between “instructions” and “operations” elevates form over substance and is not a valid basis for denying institution of Grounds 1 and 2. The Board states “[w]hereas a suspicious computer operation might result from the execution of instructions deemed to be potentially hostile, instructions are not operations.” *Id.* at 8. This is a distinction without a difference, as no operation can take place without execution of instructions, and the instructions dictate the operations that take place when the instructions are executed. “Software [is] the ‘set of instructions, known as code, that directs a

computer to perform specified functions or operations’” *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437,447 (2007) (quoting *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002)). Instructions and operations are inextricably intertwined.

However, even considering the Board’s distinction between instructions and operations, the Board overlooked evidence in the Petition that TBAV’s heuristic flags describe suspicious computer **operations**. Petition at 18-19. The Petition and the portions of TBAV cited therein give examples of heuristic flags indicating suspicious computer **operations**. One example is the flag “# - decryptor code found.” Ex. 1006 at 180. As Petitioner stated, this flag “indicat[es] that the file contains instructions that perform self-decryption **operations**.” Petition at 19 (emphasis added). Another example given in the Petition is the flag “A – Suspicious Memory Allocation,” which the Petition explains “perform[s] non-standard memory search and/or allocation **operations**.” Ex. 1006 at 181, Petition at 19 (emphasis added). The Petition and the cited portions of TBAV include further heuristic flag examples omitted herein.

As these examples indicate, TBAV’s heuristic flags do not describe the instructions themselves (i.e., the actual computer commands or code used), but what operations result when such instructions are executed. Indeed, an examination of the portions of TBAV cited in the Petition reveals that while the flags are used



to flag instructions (hence Petitioner's use of the word), the flags explain why these instructions are suspicious based on what they cause to happen (i.e., the operations they cause). Ex. 1006 at 180-185. TBAV even teaches that one suspicious operation may comprise more than one instruction, explaining that instruction sequences may have malicious purposes. Ex. 1006 at p. 155. Thus, the Board misapprehended or overlooked evidence and argument in the Petition that TBAV's teachings regarding the heuristic flags disclose the claimed "suspicious computer operations."

**2. TBAV Teaches Including "a List of Suspicious Operations that may be Attempted by the Downloadable" In a File**

Though the Board contends that "Petitioner does not identify where TBAV discloses such a 'list of heuristic flags in the file,'" the Petition includes the following passage: "TbScan provides the option to output scan results to a log file. The results in the log file include the heuristic flags assigned to each file. Ex. 1006, p. 60; Ex. 1002 ¶ 74." Petition at 20. Cited page 60 of Exhibit 1006 states "The log file lists all infected program files, specifying heuristic flags (see Appendix B) and complete pathnames." Ex. 1006 at p. 60. The log file includes a list of infected program files with heuristic flags. This is a list of heuristic flags (among other information). Heuristic flags are security profile data for Downloadables (Decision at 13) indicating suspicious program operations, as described above.

Accordingly, TBAV teaches and suggests at least “deriving security profile data for the Downloadable, including a list of suspicious operations that may be attempted by the Downloadable.” The Board’s failure to recognize and understand these teachings represents clear error and, therefore, warrants rehearing.

**B. TBAV Teaches “Storing the Downloadable Security Profile Data in a Database”**

The Board does not consider the log file or the TBSCAN.SIG file to be a database. Decision at 14. However, this finding is based on an unreasonably narrow construction of the term “database.” *Id.* at 9-10 and 14. As explained below, the Board misapprehended or overlooked Petitioner’s arguments that establish not only why the Board’s construction is too narrow, but also how the log file is a database storing Downloadable security profile data. Accordingly, rehearing and reconsideration should be granted.

**1. The Board Erred In Its Construction of “Database.”**

The Board construed the term “database” narrowly to mean “a collection of interrelated data organized according to a database schema to serve one or more applications” and rejected Petitioner’s proposed construction of “any structured store of data.” Decision at 9-10. In rejecting Petitioner’s construction, the Board argued that its construction is the broadest reasonable interpretation “in light of the claim language and the specification of the ’494 patent” while also acknowledging that “the ’494 patent does not define the term ‘database’” and that “there is no

evidence that Patent Owner disavowed the full scope of that term either in the Specification or during prosecution.” *Id.* However, the Board’s construction directly conflicts with the intrinsic and extrinsic evidence.

While the Board’s construction is the same as was adopted by a court in related litigation between the parties, that court was not bound—as the Board is bound—to construe claim terms according to their broadest reasonable interpretation. While the ’494 patent may not explicitly define “database,” it clearly evidences that a “database” is broader than “a collection of interrelated data organized according to a database schema to serve one or more applications.”

As shown in the Petition (Petition at 8 and 10-11), the ’639 application discloses a security database 240 that “stores security policies 305 in a first data storage device 230 portion, known Downloadables 307 in a second data storage device 230 portion and Downloadable Security Profiles (DSPs) data corresponding to the known Downloadables 310 in a third-data storage device 230 portion.” Ex. 1005 at p. 8, ll. 14-19. Storage device 230 is described as a device such as a read-only memory (ROM) or magnetic disk. Ex. 1005 at p. 7, ll. 14-15. The intrinsic evidence thus contemplates a database that is simply several separate portions of a storage device, each containing different types of data. The plain language of the ’639 application suggests nothing more than arranging the data in the database 240

into separate portions of the ROM or magnetic disc, and does not require or suggest a database schema or any type of organization.

Against this backdrop, the Board must consider whether “a collection of interrelated data organized according to a database schema to serve one or more applications” is the broadest reasonable interpretation of “database,” or whether there is a broader reasonable interpretation. Patent Owner’s own evidence provides additional reasonable definitions for “database” that are broader than the Board’s construction. Patent Owner cites the “database” definition from the *IBM Dictionary of Computing*, Tenth Edition (1994). Preliminary Response at 12, Ex. 2002 at 3. Indeed, this entry defines “database” four ways. Of those, the Board’s definition is the narrowest. Both “a collection of data fundamental to a system” and “a collection of data fundamental to an enterprise” are broader as they impose no restrictions on whether the data is interrelated or how the data is stored. Ex. 2002 at 3. The Board correctly notes that “there is no evidence that Patent Owner disavowed the full scope of (database) either in the Specification or during prosecution.” Decision at 10. As the intrinsic evidence is consistent with this definition, “a collection of data fundamental to a system” is the broadest reasonable definition of this term.

Furthermore, this definition fits the ’639 application’s disclosure better than the Board’s construction. As discussed above, the patent does not disclose, teach,

or suggest a database schema. However, the '639 application does describe a collection of data (a security database 240 that stores data in data storage device 230 portions (Ex. 1005 at p. 8, ll. 14-19)) fundamental to a system (the data in the security database 240 is used “for determining whether a received Downloadable is hostile” (Ex. 1005 at p. 7, ll. 16-19; p. 4, ll. 1-6) and includes security policies 305, known Downloadables 307, and DSPs corresponding to the known Downloadables 310 (Ex. 1005 at p. 8, ll. 14-19)). There is nothing in this description that requires any specific organization of the data the database, or that the data in the database be “interrelated.” Construing “database” as “a collection of data fundamental to a system” comports more fully with the intrinsic evidence than the Board’s construction.

Other Board decisions construing the term “database” indicate that the Board’s construction in the '494 patent context is too narrow. In *MySpace, Inc. v. Graphon Corp.*, 672 F.3d 1250 (Fed. Cir. 2012), the Federal Circuit upheld a lower court’s construction of “database” as “a collection of data with a given structure that can be stored and retrieved.” *MySpace*, 672 F.3d at 1255-57. This construction aligns with Petitioner’s proposed construction of “any structured store of data,” particularly in light of the Federal Circuit’s observation that “all types of databases . . . are searchable and retrievable.” *Id.* at 1256. In so doing, the Federal Circuit rejected the argument that “database” should be limited to a “relational

database,” which the Federal Circuit described as a database that “separates the stored data into multiple relations or ‘tables’ and connects them through the use of identification (“ID”) fields. *Id.* at 1254. The requirement in the Board’s construction for the data to be “interrelated” implies a relational database, which is inconsistent with the Federal Circuit’s refusal to narrowly construe a “database” as limited to a “relational database” in *MySpace*.

In CBM2013-00038, “database” was construed as “an organized collection of data” based on a dictionary citation, CBM2013-00038, Paper No. 57 (Final Written Decision) at 9. This construction is very similar to the construction presented in the Petition. While this decision (unlike *MySpace*) is non-precedential, it is nonetheless indicative of a broader accepted meaning of database.

Petitioner notes that this panel adopted the same construction of database in IPR2015-00907 as adopted here. IPR2015-00907, Paper No. 8, at 8-10. That decision is non-precedential and therefore is not binding here. More significantly, that decision is distinguishable because it relied at least in part on portions of the specification at issue in that case that are not applicable here. In particular, although the ’494 patent at issue in this case is a continuation of U.S. Patent No. 7,613,926 (the “’926 patent”) at issue in IPR2015-00907, the disclosure in the ’926 that was relied on by the Board to support its construction of database in IPR2015-00907 has nothing at all to do with the subject matter of the ’494 patent claims,

which are based entirely on the '639 application. Petition at 7-8. Indeed, the Board appears to have appreciated this difference because it did not cite the corresponding portions of the '494 patent to support its construction of “database” in the Decision. Decision at 9-10.

Patent Owner offered its inappropriately narrow definition of “database” to try to exclude the specific prior art put forth by Petitioner. Preliminary Response at p. 12. However, this definition is far narrower than necessary in view of the intrinsic evidence and is far narrower than definitions in Patent Owner’s own extrinsic evidence that fully comport with the '639 application’s description. By adopting this definition, the Board misapprehended or overlooked the Petitioner’s evidence as laid out in the Petition. This constitutes clear error warranting reconsideration. Petitioner respectfully requests adoption of the construction proposed in the Petition at p. 13, “any structured store of data.” Alternatively, “a collection of data fundamental to a system” should be adopted.

**2. Storing Heuristic Flag Data in a Log File is “Storing the Downloadable Security Profile Data in a Database”**

The Decision states that

the evidence cited by Petitioner does not demonstrate that TBAV and Ji teach or suggest storing security profile data in a ‘database,’ as that term is properly construed. Neither the ‘log file’ to which Petitioner asserts ‘TBAV teaches that heuristic analysis results... can be output’ nor the ‘TBSCAN.SIG file’ to which Petitioner asserts TBAV’s

TbGenSig program adds virus signatures (Pet. 25) is disclosed to be a database. Decision at 14.

As discussed above, the Board's construction of "database" is clearly erroneous. Under either construction advanced by Petitioner herein, both the log file and the TBSCAN.SIG file are databases. Under the narrower construction, "a collection of data fundamental to a system," both the log file and the TBSCAN.SIG file are a collection of data. The log file includes a list of infected program files with heuristic flags (i.e., data). Ex. 1006 at p. 60. This data is fundamental to the system. The log file contains scan results, and the TBAV system protects against viruses and, among other things, reports virus scan results. Ex. 1006 at pp. 1, 60. Thus, the log file is a database. Under the broader construction, the log file is a structured store of data, "the log file lists all infected program files, specifying heuristic flags" (emphasis added). Ex. 1006 at p. 60. These features of the log file are laid out in the Petition. Petition at 18-20. As explained above, the list of heuristic flags constitutes Downloadable security profile data. The Board's incorrect construction of "database" and resulting misapprehension of Petitioner's arguments explaining how the database contains Downloadable security profile data is clear error and warrants rehearing.



## V. Conclusion

Petitioner respectfully submits the Board misapprehended or overlooked Petitioner's obviousness argument, and applied erroneous legal standards in its analysis, amounting to an abuse of discretion. For these reasons, Petitioner respectfully requests rehearing of the Board's decision, a finding that the Petition has established a reasonable likelihood that Petitioner will prevail with respect to the obviousness of claims 1, 10, 14, and 18 of the '494 patent, and a finding that *inter partes* review should be instituted.

Dated: October 26, 2015

Respectfully Submitted,

/James M. Heintz/

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**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned certifies that on October 26, 2015, a complete and entire copy of this **PETITIONER'S REQUEST FOR REHEARING OF DECISION DENYING INSTITUTION OF *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,677,494** was served by email, at the following addresses of record:

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