

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EMC CORPORATION, EMC INTERNATIONAL US. HOLDINGS, INC.
and VMWARE, INC.,
Petitioner,

v.

CLOUDING CORP.,
Patent Owner.

Case IPR2015-01922
Patent 5,944,839

Before JAMESON LEE, MICHAEL W. KIM, and RAMA G. ELLURU,
Administrative Patent Judges.

ELLURU, *Administrative Patent Judge.*

DECISION
Denial of *Inter Partes* Review
37 C.F.R. § 42.108

EMC Corporation, EMC International U.S. Holdings, Inc., and VMware, Inc. (collectively “Petitioner”) filed a petition (“Pet.”) to institute an *inter partes* review of claims 1, 15, and 17 of U.S. Patent No. 5,944,839 (Ex. 1001, the “’839 patent”). Paper 1. Patent Owner, Clouding Corp., filed a Preliminary Response (“Prelim. Resp.”). Paper 6. We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we do not institute an *inter partes* review.

I. BACKGROUND

A. *Related Proceedings*

The ’839 patent was the subject of IPR2013-00095 and IPR2013-00304. Both have been terminated due to settlement. IPR2013-00095 (post-institution termination); IPR2013-00304 (pre-institution termination). The ’839 patent also was the subject of IPR2014-01309. In the IPR2014-01309 proceeding, we instituted review of claims 6, 8, and 14, but not of claims 1, 2, 15, and 17 of the ’839 patent. IPR2014-01309, Paper 14. We subsequently issued a Final Written Decision determining that claims 6, 8, and 14 were not shown to be unpatentable. IPR2014-01309, Paper 35.

The parties also identify several district court cases in which the ’839 patent has been asserted. Pet. 2–4; Paper 5, 2.

B. *The ’839 Patent* (Ex. 1001)

The ’839 patent is directed to a system and method for automatic maintenance of a computer system. Ex. 1001, Abstract. According to the Specification, there is a need for a computer utility that can learn from the

results of prior diagnosis and solutions and apply that learned knowledge to solve future computer system problems. *Id.* at 1:47–50. The disclosed invention of the '839 patent is directed to a “maintenance tool” that uses a set of sensors in combination with a case database to diagnose and solve computer problems automatically. *Id.* at 1:5–8. When one of the sensors detects a computer problem, it activates an artificial intelligence (“AI”) engine. *Id.* at 1:62–64.

The AI engine includes a database, which includes information to diagnose and correct problems with the computer system, and the sensors provide inputs to the database. *Id.* at 1:65. The AI engine diagnoses the cause of the problem and determines a solution, and if the AI engine needs more information, it may request additional data from one or more sensors. *Id.* at 2:4–8. If the maintenance tool has gathered all possible data and still does not include a solution to the computer problem, then the AI engine has failed to find a solution in the knowledge database, and the failure represents a computer problem which is new to the tool. *Id.* at 4:66–5:3. Accordingly, if the maintenance tool does not find a solution in the knowledge database, the tool preferably saves the state of the computer system and knowledge database to a location where the state and the database can be examined by a human computer expert. *Id.* at 2–8.

C. Illustrative Claim

Of the challenged claims, claims 1 and 15 are independent claims, and claim 17 depends from claim 15. Claim 1 is illustrative of the claimed subject matter and is reproduced below (emphasis added):

1. A tool for automatically maintaining a computer system having a processor and a memory, the tool comprising:

a knowledge database stored in the memory and holding a plurality of cases describing potential computer problems and corresponding likely solutions;

a plurality of sensors stored in the memory and executing on the processor and adapted for gathering data about the computer system,

storing the data in the knowledge database, and detecting whether a computer problem exists from the data and the plurality of cases; and

an AI engine stored in the memory and executing on the processor in response to detection of a computer problem and utilizing the plurality of cases to determine a likely solution to the detected computer problem, wherein

when the knowledge database lacks data necessary to determine a likely solution to the computer problem, the AI engine activates a particular sensor in the plurality of sensors to gather the necessary data and store the data in the knowledge database, and wherein

when the knowledge database does not describe a likely solution to the computer problem, the AI engine saves the gathered data in the knowledge database as a new case.

D. Prior Art Relied Upon

Petitioner relies upon the following prior art reference, and the declaration of Earl Sacerdoti, Ph.D. (“Sacerdoti Declaration”) (Ex. 1009):

Reference	Patent	Date	Exhibit
Douik	U.S. Patent No. 6,012,152	November 27, 1996.	Ex. 1003

E. The Asserted Ground of Unpatentability

Petitioner challenges the patentability of claims 1, 15, and 17 of the '839 patent based on the following ground (Pet. 6):

Reference(s)	Basis	Claims challenged
Douik	§ 102(e)	1, 15, and 17

II. ANALYSIS

A. *Discretion to Deny Petition*

In IPR2014-01309, Petitioner challenged claims 1, 15, and 17 based on obviousness over the combination of Gürer¹ and Allen '664² and also obviousness over the combination of Allen '218³ and Allen '664. IPR2014-01309, Paper 14, 5–6. We denied review of these claims upon determining that Petitioner had not demonstrated a reasonable likelihood that it would prevail in demonstrating that claims 1, 15, and 17 are unpatentable under 35 U.S.C. § 103 for obviousness over Gürer and Allen '664 or over Allen '218 and Allen '664. *Id.* at 10, 13.

The Decision to Institute is discretionary. *See* 35 U.S.C. § 314(a) (stating when the Director may *not* institute review, rather than when mandating when review *must* be instituted). Moreover, under 37 C.F.R. § 42.108(b), “[a]t any time prior to institution of *inter partes* review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims.” *See also* 35 U.S.C. § 325(d) (“In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director *may* take into account whether, and reject the

¹ Gürer, D. W. et al., *An Artificial Intelligence Approach to Network Fault Management* (Feb. 1996).

² Allen, U.S. Patent No. 5,581,664 (Dec. 3, 1996).

³ Allen, U.S. Patent No. 5,586,218 (Dec. 17, 1996).

petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.”) (emphasis added).

Patent Owner urges us to deny the Petition, contending that “Petitioner has offered no sound basis for the Board to institute this second challenge to the ’839 Patent, and instead has simply presented the Board with a new reference and arguments with respect to same that Petitioner could have earlier relied upon.” PO Resp. 10. Specifically, Patent Owner contends that Petitioner fails to (1) explain how the teachings of Douik, asserted in the present Petition are “actually different in any way, let alone a material or substantive way” than the teachings of the references asserted in IPR2014-01309; (2) allege that Douik was unavailable or even unknown at the time the IPR2014-01309 petition was filed; (3) present argument that an unexpected claim construction in the IPR2014-01309 proceeding impaired its ability to presents the present case, and; (4) explain why it waited seven months from the denial of review of the challenged claims in its first petition to file the present petition, instead of acting “promptly” and seeking joinder of the instant petition with the IPR2014-01309 proceeding so that the Board and the Patent Owner would have had an opportunity to consider all of the challenges to the ’839 patent in a single, consolidated proceeding. *Id.* at 7–9.

Although the arguments in the present Petition are similar to those asserted in IPR2014-01309, the present challenge relies upon a reference not relied upon in IPR2014-01309. We are cognizant of the concerns regarding harassment of patent owners by the filing of serial petitions. The instant case, however, involves only a single ground, and Patent Owner has not demonstrated persuasively that the Petition constitutes harassment or is part

of a pattern of filing serial petitions against the '839 patent. Moreover, we are unpersuaded that we should exercise our discretion to deny institution based on 325(d) because we determine that the instant petition relies on a reference that was not asserted in IPR2014-01309, and determine also that the Petition does not present the same or substantially the same prior art or arguments presented in IPR2014-01309. In sum, considering the totality of the circumstances, we decline to exercise our discretion to deny the Petition.

B. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b), *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1277–78 (Fed. Cir. 2015) (“We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA.”), *cert. granted sub nom. Cuozzo Speed Techs. LLC v. Lee*, 2016 WL 205946 (U.S. Jan. 15, 2016) (No. 15-446). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning in view of the specification, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

For purposes of this decision, we determine that no term of the '839 patent needs express interpretation.

C. Claims 1, 15, and 17: Douik

Petitioner contends that claims 1, 15, and 17 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Douik. Upon review of the record before us, we determine that Petitioner has not demonstrated that there is a reasonable likelihood that it would prevail with respect to any of the challenged claims based on this ground.

Douik describes a Software Fault Management “SFM” system for managing faults in a managed mobile telecommunications network. Ex. 1003, Abstract. Douik explains that the SFM system utilizes two modes of operation: reactive management and proactive management. *Id.* at 36:7–10. Because Douik’s proactive management is utilized to anticipate and prevent fault occurrences (*id.* at 36:14–15), it is not relevant to the claims, which require, a “problem.” For example, claim 1 recites “detection of a computer problem” and “determin[ing] a likely solution to the computer problem.” And claim 15 recites “determining whether a computer problem exists” and “determin[ing] whether a likely solution to the computer problem exists.”

Douik’s reactive management is utilized to handle “troubles” after they occur in the system. *Id.* at 36:17–19. According to Douik, “[f]or well known faults, a trouble shooting method normally exists” and “[f]or unknown faults, the reactive SFM process assists the engineer during the trouble shooting by providing access to relevant information and tools.” *Id.* at 36:22–26.

A portion of Figure 5 from Douik is illustrated below.

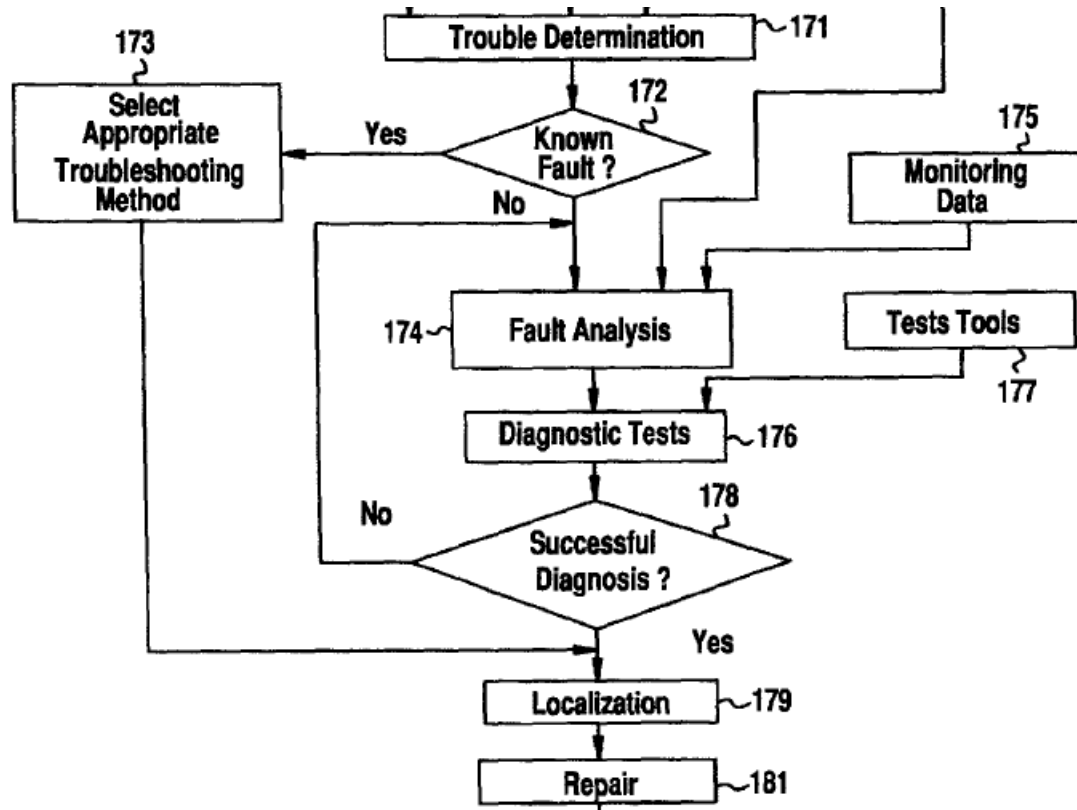


Figure 5 is a flow chart illustrating the steps involved in performing the trouble diagnostic process in the reactive mode. *Id.* at 36:27–29. As illustrated in Figure 5, at step 172, if the suspected fault is a known fault, the process moves to step 172 and implements and deploys corresponding corrective actions. *Id.* at 36:62–64. If the fault is not a known fault, the process moves to step 174 where further fault analysis is performed. *Id.* at 36:65–67. Human expert help may be utilized as well as additional network monitoring data at 175. *Id.* at 36:67–37:2. After this analysis, diagnostic tests are performed at 176, and the SFM System may interface with various test tools at 177 for this purpose. *Id.* at 37:2–4. At step 178, the process determines whether or not a successful diagnosis was obtained. *Id.* at 37:5–6. If a successful diagnosis was not obtained, “the process returns to step

174 and repeats the fault analysis step.” *Id.* at 37:6–7. “The fault situation is *recursively analyzed* at different network abstraction levels.” *Id.* at 37:7–8 (emphasis added).

Independent claim 1 recites: “wherein *when the knowledge database does not describe a likely solution to the computer problem*, the AI engine *saves the gathered data in the knowledge database as a new case*” (emphasis added). Independent claim 15 similarly recites “*when a likely solution to the computer problem does not exist*, saving the sensed information as a new case of the plurality of cases” (emphasis added).

As an initial matter, Petitioner has not persuaded us sufficiently that Douik contemplates the situation “when a likely solution to the computer problem does not exist,” as recited in claim 15. As described above, in Douik’s reactive mode, for known faults, i.e., faults that have already been experienced, the system includes “experienced knowledge” in its database and provides corrective actions. Ex. 1003, 13:60–63, 13:12–14 (stating the system provides corrective actions to the troubleshooter once the trouble is detected); 16:38–41 (stating that the diagnostic process must maintain knowledge such as the Known Faults case base and fault scenarios); 16:54–62 (explaining that the system includes a knowledge base having knowledge such as the behavior of the managed resources in a given fault scenario or a propagation of a known fault); 33:3–12 (explaining the system includes “knowledge base models such as the fault scenarios, the known faults repository, and the corresponding corrective procedure”). Thus, for known faults, the Software Fault Management process selects an appropriate troubleshooting method from its knowledge base, i.e., a likely solution. *Id.* at Fig. 1, Fig. 5. However, if the fault is not a known fault, i.e., not a fault

that has already been experienced for which “experienced knowledge” exists, the fault situation is *recursively* analyzed wherein the process performs further fault analyses and diagnostic tests, *until* a successful diagnosis is obtained, in which case the process performs the fault localization and repair. Ex. 1003, 36:65–37:22; Fig. 5. In other words, for unknown faults, the fault situation is recursively analyzed until a solution is found. Thus, we are not persuaded that Douik contemplates “when a likely solution to the computer problem does not exist,” as recited in claim 15⁴.

Moreover, Petitioner has not sufficiently persuaded us that Douik discloses “the AI engine saves the gathered data [about the computer system] in the knowledge database as a new case,” as recited in claim 1, and “saving the sensed information [about the computer system] as a new case of the plurality of cases,” as recited in claim 15⁵. The claims require the saving to occur at a specific time —“when the knowledge database does not describe a likely solution to the computer problem” (claim 1) and “when a likely solution to the computer problem does not exist” (claim 15). For ease of reference, we refer to these limitations collectively as the “when a likely solution does not exist” limitation. In arguing that Douik discloses this limitation, Petitioner cites disclosure from Douik (Pet. 39–40) stating that

⁴ Unlike claim 15, independent claim 1 requires “when the *knowledge database does not describe a likely solution* to the computer problem.” (Emphasis added.) Claim 1, thus, requires that the “knowledge database” does not describe a likely solution to the problem. We are persuaded that Douik describes this limitation of claim 1 because Douik explains that the system may detect a fault that it has not previously experienced, for which it has no experienced knowledge in the known faults database, such as corrective actions, as discussed above.

⁵ For this limitation of claim 15, Petitioner refers to its analysis of the similar limitation in claim 1. Pet. 44

“[f]or unknown faults, the reactive SFM process assists the engineer during the trouble shooting by *providing access* to relevant information and tools.” (Emphasis added). Ex. 1003, 36:24–26. Douik’s description of “providing access to relevant information and tools” does not anticipate *saving* the gathered data or the sensed information about the computer system, *when a likely solution does not exist*, as required by the claims. In particular, Petitioner does not sufficiently persuade us that Douik describes providing access, during trouble shooting, to relevant information that was *saved when a likely solution does not exist*. Indeed, the above-cited portions of Douik are silent concerning the timing of the saving operation.

Petitioner further argues that Douik can “learn” from experience and build up a memory. Pet. 40–42. The cited disclosure describes saving information when faults are experienced and corrective actions are taken, i.e., when a likely solution is found, for future utilization. See Ex. 1003, 13:60–63 (“For known faults (faults that have already been experienced), the reactive process is easier than for those faults that have never occurred before and for which no experienced knowledge exists”). Indeed, Petitioner acknowledges that, according to Douik “the number of cases of known faults (*with corresponding likely solutions*) can increase over time” and “[o]nce a solution is found for the computer problem, the system *also stores that solution* with the new case.” Pet. 41 (citing Ex. 1003 at 16:38–41, 22:59–61) (emphasis added). The cited disclosures, however, do not describe saving information when a likely solution *does not exist*. For example, Douik states that “the system ensures the logging of the fault specification and the undertaken corrective actions for future utilization.” Ex. 1003, 22:59–61. The cited disclosures also describe building a knowledge base

based on the system's experience, but do not relate to the situation when a likely solution does not exist. *See, e.g.*, Ex. 1003, 7:35–36 (“CBR allows a system to learn from experience and build up an episodic memory, much like a human.”); 8:51–53 (“Cases of previous failures are being indexed and used to speed-up diagnosis while combining case-based with fault-based reasoning.”); 16:38–41 (“In addition, other shared management information and knowledge such as the Known Faults (KFs) case base 41 and fault scenarios must be maintained for the diagnostic process.”); 9:50–53 (“Another advantage is that the system can evolve more efficiently as new knowledge is added and stored in the light of operational experience.”). Thus, we are not persuaded that these disclosures describe *saving* gathered data or sensed information about the computer system, *when a likely solution does not exist*.

Petitioner further relies on Dr. Sacerdoti's testimony in arguing that Douik describes “wherein when the knowledge database does not describe a likely solution . . . the AI engine saves the gathered data” Dr. Sacerdoti's testimony, however, likewise is unpersuasive. Pet. 39 (citing Ex. 1009, § 40–48). Dr. Sacerdoti asserts that “[Douik's] *standard operation* entails automatically storing network and traffic data from the telecommunication switches (that is, the state of the distributed computer system).” Ex. 1009 § 40 (citing Ex. 1003, 29:61–64) (emphasis added). The disclosure cited in support of this assertion states “[t]hese system capabilities are achieved by *automatically acquiring* network and traffic data from the switches, *storing* the data and presenting value-added information via the GUI 22 to trouble shooters and engineers. Ex. 1003, 29:61–64 (emphasis added).

Petitioner does not sufficiently explain how Douik’s description of “*automatically acquiring*” and “storing the data” describes saving “*when* the knowledge database does not describe a likely solution to the computer problem” (emphasis added), as recited in claim 1, or “*when* a likely solution to the computer problem does not exist” (emphasis added), as recited in claim 15. *See* Pet. 39–42. Petitioner, for example, does not sufficiently explain *when* in the process the system “automatically” stores the data, i.e., continually throughout the entire reactive management process or at a certain point(s) in the process. And the cited disclosure from Douik is not clear on this point. Thus, even accepting Petitioner’s contention that Douik discloses *automatically saving* information to make it available to a troubleshooter when a likely solution to a problem does not exist, Petitioner has not persuaded us that the disclosure describes, for anticipation purposes, saving the information, at the time *when* a likely solution does not exist as required by independent claims 1 and 15. To the extent Petitioner argues that the system continually automatically saves the information throughout the entire reactive management process, and provides the information to a trouble shooter when a likely solution does not exist, we remain unpersuaded that an adequate showing has been made for the pertinent claim limitation. Even accepting this assertion, Petitioner has not sufficiently persuaded us how continually saving the information and providing it to the troubleshooter when an unknown fault occurs discloses saving the information when a likely solution does not exist.

Dr. Sacerdoti further asserts that “[w]hen *diagnosing a fault* in the computer system in ‘reactive mode,’ *Douik saves* relevant information in order to provide it to an engineer responsible for effecting the repair.” Ex.

1009 § 40. As discussed above, however, the challenge claims, require saving when a likely solution to the problem does not exist, not when determining whether a likely solution exists.

In addition, Dr. Sacerdoti opines that it would have been obvious to a skilled artisan to save the gathered data or sensed information when a likely solution does not exist. That testimony, however, does not support Petitioner’s anticipation ground. According to Dr. Sacerdoti: “[i]t is *known in the art* that an effective means of enabling the debugging and improvement of virtually any software program is to save the state of the computer system at the point when a failure occurs,” *id.* § 42 (emphasis added); “[i]f an embodiment of the Douik patent were not to have such a state-saving capability, it would be obvious to a skilled artisan to include this capability when implementing the invention disclosed in Douik,” *id.* (emphasis added); “one of ordinary skill in the art would know . . . saving the state of a problem that the system cannot solve is even more important for knowledge-based systems than conventional ones,” *id.* § 43; recommendations from a reference other than Douik “would be known by someone of ordinary skill in the art to be carried out by adding logic to a knowledge-based computer diagnostic system such that, when a likely solution cannot be determined, the unsolvable problem would be saved,” *id.* § 44–45, and; [i]t would be natural and obvious to a skilled artisan to add a mechanism to save the state of the computer system, which is already stored in memory as a collection of managed objects as described above, when a likely solution cannot be determined,” *id.* § 48. This testimony does not support Petitioner’s assertion of anticipation, as it is directed to unpatentability based on obviousness.

For all of the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in demonstrating that claims 1, 15, and 17 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Douik.

III. CONCLUSION

Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one of the challenged claims 1, 15, and 17 of the '839 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review of claims 1, 15, and 17 of the '839 patent is denied.

IPR2015-01922
Patent 5,944,839

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