

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KINAXIS INC. and KINAXIS CORP.,
Petitioner,

v.

BLUE YONDER GROUP, INC.,
Patent Owner.

IPR2021-01302
Patent 7,788,145 B2

Before NATHAN A. ENGELS, PAUL J. KORNICZKY, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

KORNICZKY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Kinaxis Inc. and Kinaxis Corp. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–3 and 5–20 in U.S. Patent No. 7,788,145 B2 (Ex. 1001, “the ’145 patent”). Paper 2 (“Pet.”). Blue Yonder Group Inc. (“Patent Owner”) filed a Preliminary Response. Paper 12 (“Prelim. Resp.”). The Board issued a Decision Granting Institution. Paper 15.

After institution, Patent Owner filed a Response (Paper 20, “PO Resp.”), Petitioner filed a Reply (Paper 22, “Reply”), and Patent Owner filed a Sur-Reply (Paper 25, “Sur-Reply”). Also, Patent Owner filed Objections to Petitioner’s Evidence (Paper 23) and a Motion to Exclude (Paper 29). Petitioner filed an Opposition to Patent Owner’s Motion to Exclude (Paper 30), and Patent Owner filed a Reply to Petitioner’s Opposition (Paper 34). Oral arguments were held on November 8, 2022, a transcript of which is in the record. Paper 37.

For the reasons below, we determine that Petitioner has not proven by a preponderance of the evidence that claims 1–3 and 5–20 of the ’145 patent are unpatentable.

II. BACKGROUND

A. *Related Proceedings*

As required by 37 C.F.R. § 42.8(b)(2), each party identifies various judicial or administrative matters that would affect or be affected by a decision in this proceeding. Pet. 76; Paper 14, 1. The parties state that the ’145 patent is the subject matter of *Blue Yonder Group Inc. v. Kinaxis Inc.*, No. 3:20-cv-03636-K (N.D. Tex.). Pet. 76; Paper 14, 1.

B. Overview of the '145 Patent (Ex. 1001)

The '145 patent is titled “Intelligent Fulfillment Agents.” Ex. 1001, codes (54). The '145 patent discloses and claims a distributed inventory management system (DIMS), method, and software to address problems within a value chain created by traditional inventory management systems. Ex. 1001, 1:63–2:5. Figure 1 of the '145 patent is reproduced below.

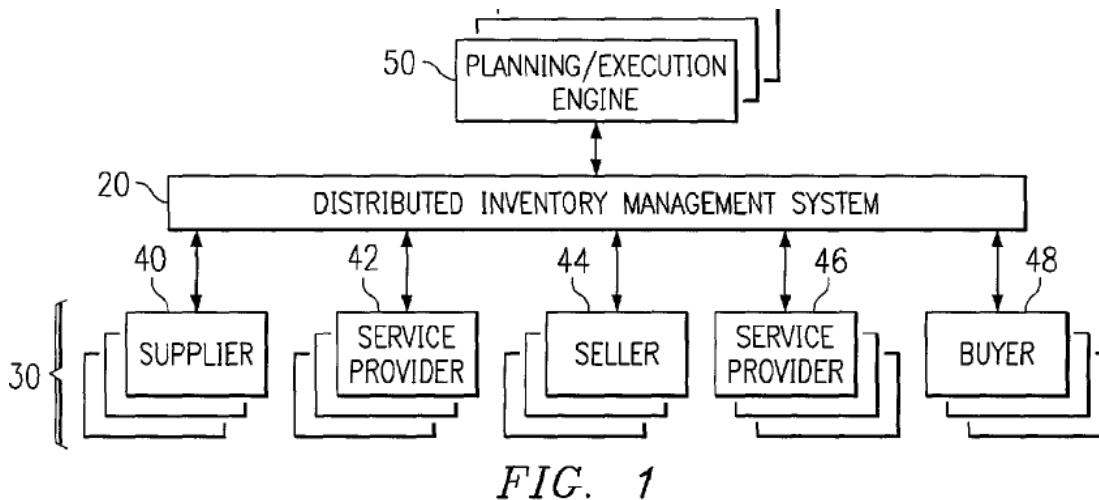


Figure 1 illustrates an example of DIMS 20 for managing the inventory of one or more participants 30 in a value chain. *Id.* at 3:3–5. A value chain may include various participants 30 such as (1) suppliers 40 of component parts used to create products, (2) sellers 44 of those products, (3) service providers 42, 46 that act as intermediaries between other participants, and (4) buyers 48 that buy products from sellers 44. *Id.* at 3:9–21.

The '145 patent recognizes that different replenishment policies are used in different tiers of the chain and in different trading partnerships. Ex. 1001, 4:25–27, 4:34–36. According to the '145 patent, “[a]lthough these various replenishment processes provide adequate inventory management, problems arise when multiple entities are involved in a value chain and especially when these multiple entities carry out different types of

replenishment programs between one another.” *Id.* at 1:63-67; *see also id.* at 4:18–42.

The ’145 patent states that DIMS 20 solves these problems by providing “participants 30 with one logical distributed inventory ‘backplane’ which has the capability to model engagement rules to enable interoperability of fulfillment/replenishment policies in different tiers of a value chain” and “a framework to construct and maintain a virtual unification” across participants. Ex. 1001, 5:4–11. It allows participants 30 “in a value chain to simultaneously lower inventory, improve responsiveness, and lower costs.” *Id.* at 4:65–5:1.

C. Illustrative Claim

As mentioned above, the challenged claims are claims 1–3 and 5–20 of the ’145 patent. Claims 1, 14, and 20 are independent claims. Ex. 1001, 23:20–26:15. Claim 1¹ is reproduced below:

1. [1pre] A distributed inventory management system, comprising: one or more computers coupled with a plurality of participant computers in one or more tiers of a value chain, the one or more computers configured to:

[1a] evaluate inventory data received from one or more of the plurality of participant computers according to one or more business rules;

[1b] execute a business process using one or more software agents, based on the evaluation of the received inventory data;

[1c] communicate output of the business process to one or more of the plurality of participant computers;

[1d] generate an alert when at least one of the plurality of participant computers uses a first replenishment policy in a first

¹ For ease of reference, we use Petitioner’s numbering scheme in brackets.

tier of the one or more tiers of the value chain that is different than a second replenishment policy used by at least one of the plurality of participant computers in at least a second tier of the one or more tiers of the value chain; and

[1e] communicate the generated alert to one or more of the plurality of participant computers.

Ex. 1001, 23:20–40.

D. Evidence and Asserted Grounds

Petitioner relies upon the following evidence:

(1) US Patent Publication 2002/0099580 A1, published July 25, 2002 (Ex. 1004, “Eicher”);

(2) US Patent No. 6,947,903 B1, issued September 20, 2005 (Ex. 1005, “Perry”);

(3) WO 00/09529, published February 24, 2000 (Ex. 1006, “Yablonski”);

(4) Bagchi et al., *Experience Using the IBM Supply Chain Simulator*, Proceedings of the 1998 Winter Simulation Conference, Vol. 2, p. 1387, published June 1999 (Ex. 1007, “IBM”); and

(5) US Patent No. 5,974,395, issued October 26, 1999 (Ex. 1008, “Bellini”).

In support of its contentions, Petitioner submits declarations of Dr. Robert Handfield (Ex. 1003, “Handfield Decl.” and Ex. 1036, “Handfield Supp. Decl.”).

Patent Owner submits a declaration of Dr. Joseph Robert Carter (Ex. 2008, “Carter Decl.”).

Petitioner challenges the patentability of the '145 patent claims on the following grounds:

Grounds	Claims Challenged	35 U.S.C. § ²	Reference(s)/Basis
1A ³	1–3, 5, 8, 14, 20	103	Eicher
1B	1–3, 5, 8, 14, 20	103	Eicher, IBM
1C	9, 10	103	Eicher, Perry
2A	1–3, 5, 8, 9, 10, 14, 20	103	Perry, Yablonski
2B	6, 7, 11–13, 15–19	103	Perry, Yablonski, Bellini

Pet. 1.

1. *Overview of Eicher (Ex. 1004)*

Eicher is a U.S. patent publication titled “Performance-Based Supply Chain Management System and Method with Collaboration Environment for Dispute Resolution.” Ex. 1004, code (54). It relates to a performance-based supply chain management system 10. *Id.* ¶ 101.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. Based on the October 23, 2007 filing date of the '145 patent, we apply the pre-AIA version of § 103.

³ For ease of reference, we use Petitioner’s numbering scheme.

Figure 2 of Eicher is reproduced below.

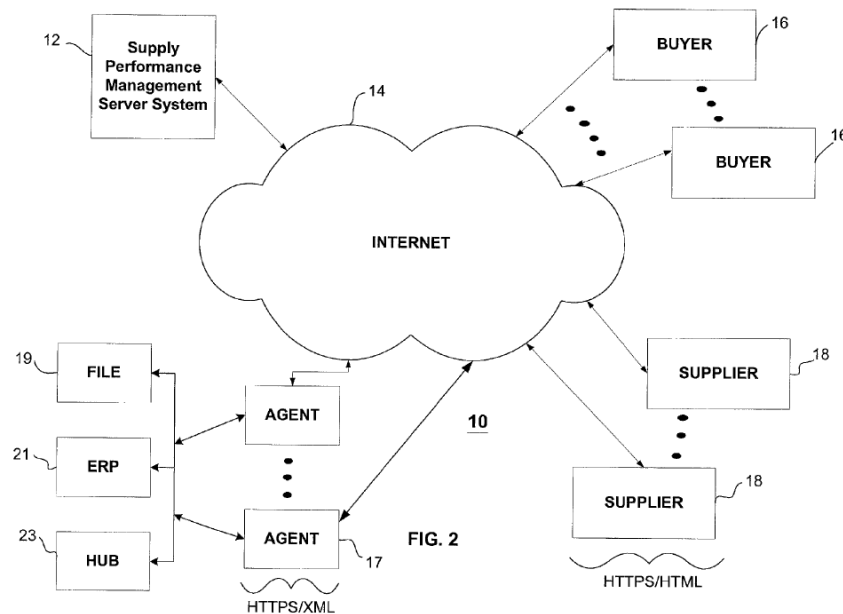


Figure 2 depicts a supply chain performance management system 10 which may be provided as an internet-based system 14 to enable buyers 16 and suppliers 18 disbursed throughout the world to connect to one another and engage and participate in the system 10. *Id.* Eicher's system 10 comprises supplied performance management server systems 12 that are connected to the internet to buyers 16 and suppliers 18 to communicate using current and future enhancement to internet protocol communications. *Id.*

System 10 provides a collaboration environment in which buyers 16 and suppliers 18 to a buyer-supplier engagement may collaborate regarding issues related to key performance indicators (KPIs) identified for the buyer-supplier engagement. Ex. 1004, code (57). Examples of KPIs include “the amount of time, the quantity required, or other indicators important to the contract” and the “ability to have the demand fulfilled in spikes; suppliers with production flexibility to accommodate short-notice changes in total demand and/or product mix; geographically dispersed production and/or

distribution centers to guard against disruptions stemming from natural disasters, etc.” *Id.* ¶ 70.

Eicher’s system 10 monitors the KPIs and initiates the collaboration module automatically upon determination of a violation with respect to a KPI and/or alerts buyers 16 and suppliers 18 of a value for a KPI in response to which the alerted participants may initiate an on-line collaboration with respect to the KPI. *Id.* at code (57). For example, “the buyer may select to be alerted based on inventory shortages, over-stocking and the like.” *Id.* ¶ 89.

2. *Overview of Perry (Ex. 1005)*

Perry is a U.S. patent titled “Method and System for Monitoring a Supply-Chain,” Perry describes extracting and monitoring supply-chain data from different participants in a supply chain. Ex. 1005, codes (54), (57). Among other things, Perry states that a typical manufacturing supply chain includes an original equipment manufacturer (OEM), contract manufacturers that supply components of products to the OEM, and distributors or vendors that supply parts to the contract manufacturers. *Id.* at 1:15–25.

Perry states that each OEM, contract manufacturer, and vendor in a supply chain typically maintains its own private database system to track and control inventory, place orders, receive orders, enterprise resource planning, and materials requirements planning with data typically maintained in incompatible formats in legacy database systems. Ex. 1005, 1:33–39. Perry states that its invention installs a data transfer engine at each participants’ site while leaving the participants’ legacy systems intact. *Id.* at 1:61–64. According to Perry, its data transfer engines monitors and collects data at

each site and formats the data into a common format acceptable at a central data collection site, preferably at a distributor or an OEM. *Id.* at 1:64–2:6.

III. ANALYSIS

A. *Petitioner’s Burden*

A petition for *inter partes* review must identify “with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (emphasis added) (citing 35 U.S.C. § 312(a)(3)); *see also Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’”) (quoting 35 U.S.C. § 312(a)(3)). The Board’s *Trial Practice Guide* further advises that a petitioner should “focus on concise, well-organized, easy-to-follow arguments supported by readily identifiable evidence of record.” Patent Trial and Appeal Board Consolidated Trial Practice Guide,⁴ 39 (Nov. 2019). Moreover, a petitioner “may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability” (*id.* at 73), and “[i]t is also improper for a reply to present new evidence

⁴ Available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>

(including new expert testimony) that could have been presented in a prior filing” (*id.* at 74).

B. Obviousness Standard

Petitioner’s challenges are based on obviousness. Pet. 1. A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in the record, objective evidence of nonobviousness.⁵ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Claim Construction

In an *inter partes* review, the claims are construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2021). This claim construction standard includes construing the claim in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art. *Id.*; *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005). In construing claims in accordance with

⁵ The parties have not directed us to any objective evidence of non-obviousness.

their ordinary and customary meaning, we consider the specification and the prosecution history of the patent. *Phillips*, 415 F.3d at 1315–17. Extrinsic evidence, including expert and inventor testimony, dictionaries, and treatises, may also be used but is less significant than the intrinsic record. *Id.* at 1315. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* Any special definitions for claim terms must be set forth in the specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Here, the parties address the meaning of certain claim terms: replenishment policy, distributed inventory management system, software agent, and model. Pet. 6–9; PO Resp. 3–14; Reply 18–20; Sur-Reply 20–22. However, we determine that no express claim construction for any claim term is necessary for this Decision. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy).

D. Asserted Obviousness Over Eicher, IBM, and Perry and Over Perry, Yablonski, and Bellini

Petitioner asserts that (1) claims 1–3, 5, 8–10, 14, and 20 are unpatentable under 35 U.S.C. § 103 as being obvious over various combinations of Eicher, IBM, and Perry (Grounds 1A–1C) and (2) claims 1–3 and 5–20 are unpatentable under 35 U.S.C. § 103 as being obvious over various combinations of Perry, Yablonski, and Bellini (Grounds 2A–2B). Pet. 1. Petitioner provides a limitation-by-limitation comparison of Eicher and the other references to the challenged claims, citing the Declaration of

Dr. Robert Handfield (Ex. 1003, Handfield Decl.) and the Supplemental Declaration of Dr. Robert Handfield (Ex. 1036, Handfield Supp. Decl.) as supporting evidence. Pet. 10–74; Reply 1–29. Patent Owner opposes Petitioner’s challenges. PO Resp. 15–67; Sur-Reply 1–64.

As discussed below, Petitioner presents (1) different and unclear levels of skill for a person of ordinary skill in the art, (2) inadequate explanation as to how Eicher enables a person of ordinary skill in the art to make the claimed invention, and (3) inadequate explanation as to how a person of ordinary skill in the art would have had a reasonable expectation of success in combining Petitioner’s asserted prior art. Based on the evidence of record, and for the reasons below, we conclude that Petitioner has not carried its burden of proving by a preponderance of the evidence that any of claims 1–3 and 5–20 of the ’145 patent is unpatentable.

1. *Petitioner’s Level of Ordinary Skill in the Art Does Not Adequately Support its Obviousness Challenges*

The level of ordinary skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art (sometimes called the skilled artisan) is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors we consider in determining the level of skill in the art include (1) the educational level of the inventor; (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) the sophistication of the technology; and (6) the educational level of active

workers in the field. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

As discussed below, Petitioner presents different and unclear levels of skill for a person of ordinary skill in the art in its Petition and Reply.

a) The Petitioner's Person of Ordinary Skill in the Art

In its Petition, Petitioner asserts that a person of ordinary skill in the art “would have had a formal collegiate education in an academic area emphasizing operations or supply chain management, and at least five years of experience.” Pet. 9 (citing Handfield Decl. ¶¶ 18–19). Dr. Handfield, Petitioner’s declarant, states the same definition. Handfield Decl. ¶¶ 18–19 (additionally stating “[s]uperior education could compensate for a deficiency in work experience, and vice versa”).

Patent Owner states that it “accepts” Petitioner’s definition of the skilled artisan. PO Resp. 14; *accord* Carter Decl. ¶ 15. Patent Owner also contends that a skilled artisan, as defined by Petitioner, lacks meaningful computer science knowledge, and Patent Owner argues that Eicher would not have enabled this skilled artisan to practice the claimed invention. PO Resp. 15–22.

Notably, in the parties’ district-court litigation, Patent Owner filed the Declaration of Dr. Joseph Robert Carter in Support of [Patent Owner]’s Opening Claim Construction Brief. Ex. 1101. Dr. Carter states a person of ordinary skill in the art “would have held at least a Bachelor’s degree in *computer engineering, computer science, information technology*, operations research, supply chain or logistics management, or a similar discipline, with

at least three years of experience working with supply chains.” *Id.* ¶ 18 (emphasis added).

b) The Reply’s Person of Ordinary Skill in the Art

In its Reply, Petitioner recasts the skill level of a person of ordinary skill in the art. *See* Reply 3, 8, 9. First, Petitioner argues that, “even a [person of ordinary skill in the art] with a supply-chain-focused background would have been familiar with computer system architecture, data formats, and programming.” *Id.* at 8 (citing Handfield Supp. Decl. ¶¶ 55–66; Ex. 2010, 37:16–40:19; Ex. 1035, 19:22–20:18, 25:4–26:4). According to Petitioner, Patent Owner’s contention that a person of ordinary skill in the art “‘lacks meaningful computer programming knowledge’ ([PO] Resp., 16–22) is debunked by testimony from its expert. Dr. Carter testified under oath in the co-pending district court litigation that the level of skill regarding the ’145 patent included educational backgrounds with significant programming abilities.” *Id.* at 3 (citing Ex. 1101 ¶ 18; Ex. 1035, 61:21–63:12, 45:12–15). Petitioner, however, states that a person of ordinary skill in the art “would not have been expected to personally write computer code because, as Dr. Handfield explains, anyone seeking to make Perry’s supply chain management system would simply employ professional computer programmers to do so” (*id.* at 9) or the skilled artisan could have purchased commercial software products (*id.* at 10).

c) Discussion

As an initial matter, we note that the inventions described in the ’145 patent and the cited prior art are plainly computer-implemented systems and

methods. *See, e.g.*, Ex. 1001, 4:5–6, 5:40–45; Ex. 1005, 6:24–25. Although the '145 patent does not specifically mention computer programming, the '145 patent states that its system can be implemented “as any appropriate combination of software and/or hardware” and describes significant data processing functions. Ex. 1001, 5:40–45. Petitioner also acknowledges that practicing the claimed invention requires computer systems and appropriate software. *See* Reply 9–10 (arguing professional programmers could create a new supply chain management system or that commercial products were available on the market).

Eicher and Perry are instructive of the relevant level of software skill. Eicher, for example, is directed to a stateless, event-monitoring server system that “provides the hardware structure to enable monitoring of performance between buyers and suppliers participating in a performance-based, supply chain management system” and a user interface web cluster which comprises “redundant web servers for bi-directional communications with users regarding events to be monitored between the buyers and suppliers.” Ex. 1004 ¶ 29. Eicher’s “gateway web cluster comprises redundant web servers that provides a one-way data collection module for data related to products being supplied, buyers, and suppliers” and a database cluster which “connects to the user interface web cluster and the data gateway cluster to access and store data to a database system.” *Id.* Eicher’s “application processing cluster connects to the database cluster to provide an application related to the events being monitored related to a buyer-supplier engagement.” *Id.*

Figure 1 of Eicher is reproduced below.

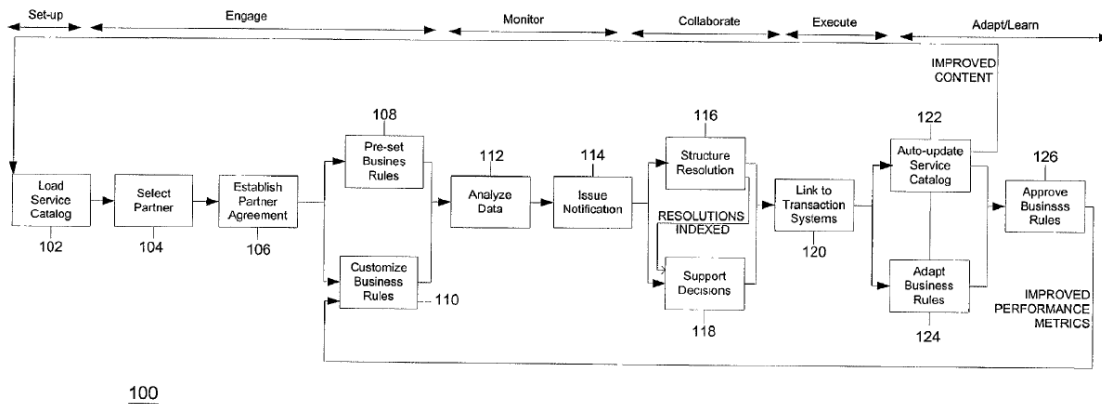


Figure 1

Figure 1 depicts an overall system for Eicher's supply chain performance management. Ex. 1004 ¶ 32. Each step requires significant computer programming skills for implementation. Thus, Eicher evidences that significant computer programming skills were necessary to implement its teachings.

As to Perry, Perry describes, among other things, some traditional difficulties in supply chain management, stating that each link in a supply chain typically maintains its own private database to track and control inventory, place and receive orders, etc., and “[w]hile these supply chain sites share some data, the data is typically maintained in incompatible formats in legacy databases.” Ex. 1005, 1:33–39. Perry also states that, in the prior art, “[o]ften, teams of programmers are utilized to implement custom design changes to these legacy databases that become overwhelmingly complex.” *Id.* at 1:51–54. Further, Perry states that “[w]hile some custom programming is required to extract the proper information and clean it up, no change to the existing business process is required” and “[t]he programming that is required for extracting and

cleaning the data is minimal compared to the major rewriting or restructuring necessary for previous known methods.” *Id.* at 2:7–12. Thus, Perry evidences that significant computer programming skills were necessary to implement its teachings.

In light of the significant computer-implemented systems and methods described in the ’145 patent and the cited prior art, Petitioner’s definition of a person of ordinary skill in the art as a person having “a formal collegiate education in an academic area emphasizing operations or supply chain management, and at least five years of experience” is inadequate for its challenges. Pet. 9. Although knowledge of operations or supply chain management is relevant, the evidence of record indicates that implementing the claimed invention would have required significant computer programming skills.

Further, contrary to Petitioner’s arguments (Reply 8–10), the evidence of record does not show that a person of ordinary skill having a college degree in operations or supply chain management and five years of experience working with supply chains would have had the requisite level of computer-programming skills as described in Eicher and Perry. Petitioner’s argument that the skilled artisan would have been “familiar” with programming is also undercut by Petitioner’s concession that (1) a person of ordinary skill in the art “would not have been expected to personally write computer code because, as Dr. Handfield explains, anyone seeking to make Perry’s [sic, Eicher’s] supply chain management system would simply employ professional computer programmers to do so” (*id.* at 9), and (2) would have simply purchased commercially available software (*id.* at 9–10). There is insufficient evidence to show that Petitioner’s skilled artisan, even

with familiarity and use of database systems, has the type of computer programming experience or knowhow suggested by Eicher and Perry.

Significantly, we note that neither party directly advances, in this proceeding, the level of skill advocated in Dr. Carter's district-court declaration — that is, a person with a Bachelor's degree in *computer engineering, computer science, information technology*, operations research, supply chain or logistics management, or a similar discipline, with at least three years of experience working with supply chains (Ex. 1101 ¶ 18). Dr. Handfield states in his Supplemental Declaration that he agrees with Dr. Carter's expression of the skilled artisan (Handfield Supp. Decl. ¶ 56, but Petitioner's Reply stops short of suggesting that the Board can apply Dr. Carter's skilled artisan instead of Petitioner's skilled artisan.

We do not decide whether Dr. Carter's skilled artisan is an appropriate articulation of the level of ordinary skill. Even if we were to determine that Dr. Carter's skilled artisan is correct or that some other level of skill is appropriate, the record in this case would not allow us to assess obviousness from the perspective of that person of ordinary skill in the art. Among other problems, Petitioner does not apply Dr. Carter's skilled artisan in its Grounds and we would be required to speculate regarding which arguments and testimony might still apply. Similarly, though Dr. Handfield agrees with Dr. Carter's expression of a person of ordinary skill in the art (Handfield Supp. Decl. ¶ 56), he does not provide testimony concerning obviousness based on Dr. Carter's skilled artisan (*see generally*, Handfield Supp. Decl.).

These problems with Petitioner's level of skill for the ordinarily-skilled person apply to each of Petitioner's challenges, each of which requires assessing obviousness from the perspective of a person of ordinary

skill in the art. Accordingly, Petitioner has not carried its burden of proving by a preponderance of the evidence that any of claims 1–3 and 5–20 of the ’145 patent is unpatentable.

2. *Petitioner Does Not Show that Eicher Enables the Skilled Artisan to Practice the Challenged Claims*

“Although published subject matter is ‘prior art’ for all that it discloses, in order to render an invention unpatentable for obviousness, the prior art must enable a person of ordinary skill to make and use the invention.” *In re Kumar*, 418 F.3d 1361, 1368 (Fed. Cir. 2005). “In general, a prior art reference asserted under § 103 does not necessarily have to enable its own disclosure,” but “a standalone § 103 reference must enable the portions of its disclosure being relied upon.” *Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1380–81 (Fed. Cir. 2021). Here, to prevail on its three Grounds which rely on Eicher, Petitioner must show that Eicher enables the portions of its disclosure relied upon in Petitioner’s mapping of Eicher to the challenged claims and based on Petitioner’s definition of a person of ordinary skill in the art.

In addition to the discussion above, we determine Petitioner has not shown that Eicher enables Petitioner’s person of ordinary of skill in the art to practice the claimed inventions. Comparing Eicher to the challenged claims, Petitioner contends that Eicher discloses claim limitations as follows:

(1) Preamble 1pre: arguing Eicher describes the recited distributed inventory management system (Pet. 10–15);

(2) Limitation 1a: arguing Eicher evaluates inventory data received from participant computers according to certain business rules (*id.* at 15–17);

(3) Limitation 1b: arguing Eicher executes a business process using software agents based on the evaluation of the received inventory data (*id.* at 17–21);

(4) Limitation 1c: arguing Eicher communicates output of the business process to computers (*id.* at 22–23);

(5) Limitation 1d: arguing Eicher’s generates an alert when the computers use different recited replenishment policies (*id.* at 23–27);

(6) Limitation 1e: arguing Eicher communicates the generated alert to certain computers (*id.* at 27);

(7) Claim 2: arguing Eicher describes a rule identifying maximum or minimum allowed levels (*id.* at 27–28);

(8) Claim 3: arguing Eicher describes a rule identifying a maximum time allowed (*id.* at 28). Petitioner argues that the limitations in claims 5, 8, 14 and 20 are the same as those in claim 1. *Id.* at 28–30.

Patent Owner argues Eicher does not enable the skilled artisan to practice the portions of its disclosure relied upon by Petitioner. PO Resp. 15, 19 (stating “Eicher does not provide any ‘direction or guidance’ on how to make the claimed invention”) (citing *In re Wands*, 858 F.2d 731, 736–37 (Fed. Cir. 1988)). As one example, Patent Owner states that the person of ordinary skill in the art “would need to make a computer program that uses software agents to execute business processes, but Eicher provides no direction or guidance here” or teach “how to create the claimed software agents.” *Id.* at 19–20 (citing Ex. 1001, 23:27–29; Carter Decl. ¶ 112). Patent Owner explains that because the recited software agents automate various aspects of supply chain management (e.g., agents “automate the process of monitoring relevant information,” “provide exception monitoring

and generation of automatic alerts,” and “initiate appropriate business processes”), “the invention involves sophisticated, difficult-to-build computer technology that autonomously manages complex systems.” *Id.* at 21 (citing Carter Decl. ¶ 114; Ex. 1001, 14:53–61). According to Patent Owner, because the nature of the claimed invention centers on sophisticated software agents, which Eicher does not describe and which are beyond the level of Petitioner’s skilled artisan to develop, Eicher is insufficiently enabling. *Id.* (citing Carter Decl. ¶ 114).

As another example, Patent Owner states that, “to practice the claimed invention, the [person of ordinary skill in the art] would need to make a computer program that generates and communicates alerts” but, “[w]hile Eicher mentions alerts, it provides no guidance on *how* to generate the alerts.” *Id.* at 20 (citing Ex. 1001, 23:32–40; Carter Decl. ¶ 113).

Therefore, according to Patent Owner, the person of ordinary skill in the art “would be on their own in developing a system that generates alerts and, given their lack of meaningful computer programming knowledge, could not succeed.” *Id.* (citing Carter Decl. ¶ 113).

Analyzing the factors discussed in *Wands*, Petitioner replies that there are two reasons that Eicher’s disclosures enable a person of ordinary skill in the art to make Eicher’s system with only routine efforts and without undue experimentation. Reply 8; *see id.* at 4–10. First, a person of ordinary skill in the art “would not have been expected to personally write computer code because, as Dr. Handfield explains, anyone seeking to make Perry’s [sic, Eicher’s] supply chain management system would simply employ professional computer programmers to do so.” *Id.* at 9 (citing Handfield Supp. Decl. ¶¶ 94–97 (citing Ex. 1010)). Second, because “multiple

commercial products provided various aspects of Eicher’s described functionality,” “a simpler approach would have involved collaborating with existing vendors to build a custom solution on top of their existing systems.” *Id.* at 10 (citing Handfield Supp. Decl. ¶¶ 79–81 (citing Ex. 1010)). These arguments miss the mark.

As explained in *Wands*, a reference, such as Eicher, is not enabled if undue experimentation is required to practice the invention. 858 F.2d at 736–37. As explained above, Petitioner’s skilled artisan does not possess the computer programming skills required to implement Eicher to arrive at the claimed invention. Programming the recited “business process using one or more software agents” and “alerts,” for example, is beyond the skillset of Petitioner’s skilled artisan. Moreover, it is not clear on this record what level of education and programming ability might have allowed a skilled artisan to apply Eicher’s teachings to arrive at the claimed invention. Eicher identifies a performance-based supply chain management system in which buyers and suppliers may collaborate regarding issues related to key performance indicators (KPIs), but Eicher provides no guidance regarding how a skilled artisan can implement Eicher’s system. *See* Ex. 1005, code (57), ¶ 70. Petitioner and Dr. Handfield likewise do not adequately explain how a skilled artisan would implement Eicher’s solution. *See* Reply 9–10 (stating that a skilled artisan could have hired programmers or selected a commercially-available product without explaining how these options would have been implemented to arrive at the claimed invention); Handfield Supp. Decl. ¶¶ 94–97 (stating a skilled artisan would have hired professional programmers to create a supply chain system without explaining how such a system would have arrived at the claimed invention), 79–81 (stating that a

skilled artisan would have used commercially available products to implement Eicher's system without explaining how such implementation would have arrived at the claimed invention). As such, on this record, no amount of experimentation would have permitted Petitioner's person of ordinary skill in the art to implement Eicher to arrive at the claimed invention.

Finally, we note that Petitioner's Reply also presents additional arguments that deviate from the Petition and the proper scope of a reply. Petitioner, for example, argues for the first time in the Reply that "anyone seeking to make Perry's [sic, Eicher's] supply chain management system would simply employ professional computer programmers to do so." Reply 9 (citing Handfield Supp. Decl. ¶¶ 94–97). Petitioner also contends for the first time in the Reply that "a simpler approach would have involved collaborating with existing vendors to build a custom solution on top of their existing systems" or buying a commercially-available product. *Id.* at 10 (citing Handfield Supp. Decl. ¶¶ 79–81).

We agree with Patent Owner that these arguments are untimely and that these arguments are not adequately supported by evidence of record. Sur-Reply 1, 11–13. The record does not establish that Petitioner's person of ordinary skill in the art could have directed a team of programmers to practice Eicher, much less modify Eicher to arrive at the claimed invention, or that commercially-available products could have been implemented to arrive at the claimed invention. *Cf.* Handfield Supp. Decl. ¶¶ 94–97 (stating a POSITA would have hired professional programmers to create a supply chain system without explaining how such a system would have arrived at the claimed invention), 79–81 (stating that a POSITA would have used

commercially-available products to implement Perry's system without explaining how such implementation would have arrived at the claimed invention).

Accordingly, we agree with Patent Owner that Petitioner has not established that Eicher enables a person of ordinary skill in the art to practice the challenged claims. Thus, this is another reason that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 5–20 of the '145 patent are unpatentable.

3. *Petitioner Does Not Show the Skilled Artisan Would Have Had a Reasonable Expectation of Success of Combining its Prior Art*

“An obviousness determination requires finding that a person of ordinary skill in the art would have been motivated to combine or modify the teachings in the prior art and would have had a reasonable expectation of success in doing so.” *Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018). The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching,” and “the need for specificity pervades.” *In re NuVasive, Inc.*, 842 F.3d 1376, 1381-82 (Fed. Cir. 2016).

Here, Petitioner obviousness challenges are based on a combination of (1) Eicher with IBM or Perry (Grounds 1B-1C) and (2) Perry with Yablonski/Bellini (Grounds 2A and 2B). Pet. 1. Even assuming that Petitioner provides an adequate motivation to combine these four prior art references, it provides a cursory and inadequate explanation as to why a skilled artisan would have had a reasonable expectation of success in doing so. We treat below the combinations of Eicher/IBM, Eicher/Perry, Perry/Yablonski, and Perry/Yablonski/Bellini.

First, as to the Eicher/IBM combination (Ground 1B), Petitioner cursorily states the skilled artisan “would have had a reasonable expectation of success in implementing Eicher-IBM.” Pet. 32 (citing Handfield Decl. ¶ 112 (stating that SCS had been deployed in commercial environments previously)); *see* Reply 16. Petitioner’s cursory statement does not meet its burden.

Second, as to the Eicher/Perry combination (Ground 1C), Petitioner asserts that the skilled artisan would have “a reasonable likelihood of success in incorporating the teachings of Perry into Eicher’s system” because (1) “both Perry and Eicher envision storing extracted participant data in a database,” (2) “Perry’s ability to store specific participant data in its database 34 would have been seamlessly integrated into Eicher’s system of storing partner data in its data storage system 28,” (3) in “doing so would have the predictable benefit of making ‘information regarding current orders, lead times, parts, etc. available to some or all of the supply chain sites,’” and (4) “implementing Perry’s teachings on storing partner data in the context of Eicher’s matching system would have yielded a predictable result from combining known prior art elements according to known methods.” Pet. 35–36; *see* Reply 17–18.

Third, as to the Perry/Yablonski combination (Ground 2A), Petitioner asserts that the skilled artisan would have been motivated to “incorporate Yablonski’s teachings regarding an ‘underlying planning engine or scheduling engine’ with Perry’s center hub 16A” and it would have produced “the predictable and beneficial result of allowing Perry’s system to not only detect, but also address, problems in the value chain.” Pet. 39–40 (citing Ex. 1006, 2:20–26; Handfield Decl. ¶¶ 140, 142); *see* Reply 13–14.

Because “Perry’s method and system for monitoring a supply chain would remain largely intact, as would Yablonski’s planning/scheduling capability,” their “respective teachings would work in combination just as they did apart,” and “it would have been well within the [person of ordinary skill in the art’s] level of skill to implement such a combination given the relatively advanced state of the art at the time,” Petitioner asserts a person of ordinary skill in the art would have had “a reasonable expectation of success in implementing Perry-Yablonski.” *Id.* at 40–41 (citing Handfield Decl. ¶ 143). At best, Petitioner contends its skilled artisan would have had such an expectation because of the “widespread use of scheduling and planning engines in supply chain management software and the straightforward nature of the combination.” Reply 14.

Fourth, as to the Perry/Yablonski/Bellini combination (Ground 2B), Petitioner does not explicitly address why the skilled artisan would have reasonably expected success in combining Perry/Yablonski/Bellini. *See, e.g.*, Pet. 68–69; Reply 15. At best, Petitioner asserts that “[c]ombining Bellini’s . . . teachings with Perry and Yablonski would have produced an exceedingly predictable result—i.e., incorporating Bellini’s expanded discussion of supply chain planning engines with the Perry-Yablonski engine-equipped center hub 16A to enhance the services provided to Perry’s chain participants. Pet. 68 (citing Handfield Decl. ¶ 190).

Contrary to Petitioner’s arguments, the evidence of record does not show that a person of ordinary skill — having a formal collegiate education in operations or supply chain management and at least five years of experience — would have had the requisite level of computer-programming skills to determine whether there is a reasonable expectation of successfully

combining the four prior art references as proposed by Petitioner. Lacking meaningful computer programming skills, the skilled artisan would not have known how to integrate the prior art technology. *See, e.g.*, Carter Decl. ¶ 168 (discussing Eicher/Perry); Ex. 1005, 2:7–8 (“*custom programming is required* to extract the proper information and clean it up”).

Petitioner’s declarant, Mr. Handfield, testified about whether a skilled artisan would have had a reasonable expectation of success in combining Petitioner’s prior art references. As to Eicher/IBM, he conceded that modifying Eicher’s system to include the SCS functionality would require software engineers. Ex. 2011, 174:9–175:11; *see also* Carter Decl. ¶ 157; Ex. 2011, 152:9–14, 161:19–22 (IBM does not include source code for SCS). Mr. Handfield also testified that the skilled artisan would need to work with a team of programmers or a software engineer to combine Eicher with Perry. Ex. 2011, 187:10–15. And while he suggested that Perry’s system could be “bolted on” to Eicher’s system (Ex. 2011, 188:10–22), he admitted a supply chain management professional would require a “team” of “IT professionals or programmers” or a “third-party consulting firm” to create that bolt-on system. Ex. 2010, 60:21–61:19.

As another example, Petitioner does not explain how a skilled artisan lacking meaningful computer programming skills could have reasonably expected to combine Perry’s and Yablonski’s two technically complex software systems — “Perry’s center hub” with “Yablonski’s ability to communicate with a scheduling/planning engine” (Pet. 38) — so that they operate in concert or modify one software system to implement the functionalities of another. Petitioner concedes that Yablonski offers only a “high-level description” of how its system works and does not show how to

generate its visual displays, let alone how to implement the planning/scheduling engines. Ex. 2011, 194:4–8; PO Resp. 52–53; Carter Decl. ¶ 185. Petitioner also concedes that the skilled artisan would need to seek out “expanded discussion” beyond the Perry-Yablonski combination. Reply 15. Indeed, Perry also warns of the perils of such modification projects:

Often, teams of programmers are utilized to implement custom design changes to those legacy databases that become overwhelmingly complex. Whether these changes are implemented by outside consultants or by in-house staff, lack of clear project goals, effective monitoring and performance review constantly plague the process.

Ex. 1005, 1:51–57; *see also* Ex. 2032, 61:8–62:12.

Petitioner’s skilled artisan simply lacked the knowhow and ability to develop or integrate software platforms described in Petitioner’s four prior art references. Because Petitioner’s skilled artisan would have required assistance from individuals with different expertise to execute the combination, Petitioner’s person of ordinary skill in the art alone would not have had a reasonable expectation of success.

4. *Conclusion*

Petitioner presents (1) different and unclear levels of skill for a person of ordinary skill in the art, (2) inadequate explanations as to how Eicher enables a person of ordinary skill in the art to make the claimed invention, and (3) inadequate explanation as to how a person of ordinary skill in the art would have had a reasonable expectation of success in combining Petitioner’s asserted prior art. We conclude that Petitioner has not carried its

burden of proving by a preponderance of the evidence that any of claims 1–3 and 5–20 of the '145 patent is unpatentable.

E. Patent Owner's Motion to Exclude

In view of the discussion above, we deny Patent Owner's Motion to Exclude (Paper 29) as moot.

IV. CONCLUSION

For the reasons above, we determine that Petitioner has not proven by a preponderance of the evidence that any of claims 1–3 and 5–20 of the '145 patent is unpatentable.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 5–20 of the '145 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is denied as moot;

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2021-01302
Patent 7,788,145 B2

FOR PETITIONER:

Joshua Griswold
Kenneth Darby
Ricardo Bonilla
Joseph Dorris
Michael Vincent
FISH & RICHARDSON P.C.
griswold@fr.com
kdarby@fr.com
rbonilla@fr.com
dorris@fr.com
vincent@fr.com

FOR PATENT OWNER:

Sharonmoyee Goswami
Marc Khadpe
Geoffrey G. Hu
CRAVATH, SWAINE & MOORE LLP
sgoswami@cravath.com
mkhadpe@cravath.com
ghu@cravath.com

Steven Laureanti
Kevin Tuttle
Geoffrey G. Hu
David A. Banko
SPENCER FANE LLP
slaureanti@spencerfane.com
ktuttle@spencerfane.com
dbanko@spencerfane.com