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Paper 7
Entered: August 3, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

ECOFACTOR, INC.,
Patent Owner.

IPR2022-00473
Patent 8,751,186 B2

Before SCOTT B. HOWARD, PAUL J. KORNICZKY, and BRENT M. DOUGAL, *Administrative Patent Judges.*

HOWARD, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

INTRODUCTION

A. Background and Summary

Google LLC ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–13 of U.S. Patent No. 8,751,186 B2 (Ex. 1001, "the '186 patent"). EcoFactor Inc. ("Patent Owner") filed a Preliminary Response to the Petition (Paper 6, "Prelim. Resp.").

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). *Inter partes* review may not be instituted unless "the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a) (2018). "When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim." 37 C.F.R. § 42.108(a) (2021).

For the reasons set forth below, upon considering the briefing and the evidence of record, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims. Accordingly, we institute *inter partes* review on all of the challenged claims based on all of the grounds identified in the Petition.

B. Real Parties in Interest

The parties identify themselves as the real parties in interest. Pet. 5; Paper 4, 1 (Patent Owner's Mandatory Notices).

C. Related Matters

The parties identify the following proceedings in which the '186 patent is asserted: *EcoFactor, Inc. v. ecobee, Inc.*, No. 6-21-cv-00428 (W.D. Tex. April 28, 2021) and *Google, LLC f/k/a Google Inc. v. EcoFactor, Inc.*, 4-21-cv-03220 (N.D. Cal. April 30, 2021) ("California Litigation").

D. The '186 Patent

The '186 patent is entitled "System and Method for Calculating the Thermal Mass of a Building" and is directed to "communicating thermostats [that] are combined with a computer network to calculate the thermal mass of a structure." Ex. 1001, code (54), 1:22–26. More specifically, the '186 patent describes how a remote server can use measurements of inside temperature, outside temperature, and other factors to predict the building's thermal characteristics and the performance of the HVAC system. *Id.* at 8:63–9:9.

The '186 patent further describes how electric companies are changing from charging residential customers a flat rate regardless of energy demand to a variable rate that depends on overall electricity demand:

> Traditionally, residential customers paid the same price regardless of time or the cost to produce. Thus consumers have had little financial incentive to reduce consumption during periods of high demand and high production cost. Many electric utilities are now seeking to bring various forms of variable rates to the retail energy markets. Under such schemes, consumers can reduce costs by taking into account not just how much energy they use, but when they use it.

Ex. 1001, 3:10–17. The '186 patent further describes how pre-cooling during a lower-cost time period just before the increase can be an effective strategy to reduce cost while maintaining comfort. *Id.* at 3:18–36.

E. Illustrative Claims

Claims 1 and 8 are independent. Claim 1, reproduced below and as corrected in the Certificate of Correction, is illustrative of the claimed invention.

> 1. A system for controlling a heating, ventilation and air conditioning (HVAC) system comprising:
>
> one or more server computers comprising computer hardware, the one or more server computers configured to receive inside temperature measurements from at least a first location conditioned by at least one HVAC system;
>
> one or more databases that store the inside temperature measurements over time, the one or more databases accesse[d] by the one or more server computers;
>
> wherein the one or more server computers are located remotely from the first location, the one or more server computers configured to receive outside temperature measurements from at least one source other than the HVAC system,
>
> wherein the one or more server computers are configured to calculate one or more predicted rates of change in temperature at the first location based on status of the HVAC system, and based on the outside temperature measurements, wherein the one or more predicted rates of change predict a speed a temperature inside the first location will change in response to changes in outside temperature; and
>
> wherein the one or more server computers are further configured to determine whether to direct the HVAC control system to pre-cool the first structure based on the one or more predicted rates of change prior to directing the HVAC control system to reduce electricity demand.

Ex. 1001, 13:31–57, Certificate of Correction.

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–13 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §[1]	Reference(s)/Basis
1, 3–8, 10–13	103(a)	Schurr,[2] Ehlers[3]
1–13	103(a)	Schurr, Ehlers, Rosen[4]

Petitioner also relies on a declaration from Rajendra Shah (Ex. 1002, "the Shah Declaration").

ANALYSIS

A. Legal Standards

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under 35 U.S.C. § 103 that requires consideration of four factors: (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the "differences between the prior art and the claims at issue," and (4) if in evidence, "secondary considerations" of non-obviousness such as "commercial success, long-felt but unsolved needs, failure of others, etc." *Id.* at 17–18. "While the sequence of these questions might be reordered in

[1] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Because the '186 patent claims the benefit of the filing date of U.S. Patent Application No. 13/409,729, which was filed before March 16, 2013, and neither party has argued that the provisions of the AIA apply, we apply the pre-AIA versions of the statutory bases for unpatentability. *See* Ex. 1001, code (63).

[2] US 6,868,293 B1, issued Mar. 15, 2005 (Ex. 1005).

[3] US 2004/0117330 A1, published June 17, 2004 (Ex. 1004).

[4] US 6,789,739 B2, issued Sept. 14, 2004 (Ex. 1006).

any particular case," *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the U.S. Court of Appeals for the Federal Circuit has repeatedly emphasized that "it is error to reach a conclusion of obviousness until all those factors are considered," *WBIP v. Kohler*, 829 F.3d 1317, 1328 (Fed. Cir. 2016).[5]

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The "person having ordinary skill in the art" is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Factors pertinent to a determination of the level of ordinary skill in the art include "(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). "Not all such factors may be present in every

[5] Because neither party address objective evidence of non-obviousness, we focus solely on the first three *Graham* factors.

case, and one or more of these or other factors may predominate in a particular case." *Id.*

Petitioner argues that a person having ordinary skill in the art would have had "a (1) Bachelor's degree in engineering, computer science, or a comparable field of study, and (2) at least five years of (i) professional experience in building energy management and controls, or (ii) relevant industry experience. Additional relevant industry experience may compensate for lack of formal education or vice versa." Pet. 26 (citing Ex. 1002 ¶¶ 27–29).

Patent Owner does not address the level of skill in the art. *See* Prelim. Resp.

Accordingly, for purposes of this Decision, we adopt Petitioner's proposed formulation of the level of ordinary skill in the art.

C. Claim Construction

We apply the same claim construction standard used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under the *Phillips* standard, the "words of a claim 'are generally given their ordinary and customary meaning,'" which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312–13.

Petitioner states that "in this proceeding, the Board need not construe the claims to apply the claims to the prior art." Pet. 12.

Patent Owner does not address claim construction. *See* Prelim. Resp.

For purposes of this Decision, we need not expressly construe any claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that "we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Discretionary Denial

Patent Owner argues that we should exercise discretion under 35 U.S.C. § 314 and deny institution because the '186 patent is the subject of a pending district court proceeding—the California Litigation—that is at an advanced stage and involves the same parties, overlapping claims, and the same prior art. Prelim. Resp. 3–13 (citing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)). Petitioner argues that no trial date has been set and the "petition [was] filed early in the co-pending litigation and before substantial resources have been invested therein." Pet. 70.

In determining whether to exercise discretion on behalf of the Director, we are guided by the Board's precedential decision in *NHK Spring Co. v. Intri-Plex Techs, Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential). In *NHK*, the Board found that the "advanced state of the district court proceeding" was a "factor that weighs in favor of denying" the petition under § 314(a). *NHK*, Paper 8 at 20. The Board determined that "[i]nstitution of an inter partes review under these circumstances would not be consistent with 'an objective of the AIA . . . to provide an effective and efficient alternative to district court litigation.'" *Id.* (citing *Gen. Plastic Indus. Co., Ltd. v. Canon Kabushuki Kaisha*, IPR2016-01357, Paper 19, 16–17 (PTAB Sept. 6, 2017) (precedential in relevant part)). The Board's

precedential decision in *Fintiv* sets forth six factors that we consider when determining whether to use our discretion to deny institution due to the advanced state of a parallel proceeding:

> 1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
>
> 2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
>
> 3. investment in the parallel proceeding by the court and the parties;
>
> 4. overlap between issues raised in the petition and in the parallel proceeding;
>
> 5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
>
> 6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv, Paper 11 at 6. "These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding." *Id.* In evaluating these factors, we take "a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Id.* (citing Patent Trial and Appeal Board Consolidated Trial Practice Guide 58 (November 2019)[6]).

On June 21, 2022, the Director issued an Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings With Parallel District

[6] Available at https://www.uspto.gov/TrialPracticeGuideConsolidated.

Court Litigation ("Interim Fintiv Guidance").[7] The Interim Fintiv Guidance provides "several clarifications" to "the PTAB's current application of Fintiv to discretionary denial where there is parallel litigation" in response to comments received from stakeholders in response to a Request for Comments (RFC). Interim Fintiv Guidance 2.

1. Factor 1: Whether a Stay Exists or Is Likely to Be Granted if a Proceeding Is Instituted

Petitioner argues that it "intends to seek a corresponding stay of the litigation" and that such "[s]tays have been granted under similar circumstances." Pet. 70–71 (citing *Security People, Inc. v. Ojmar US, LLC*, No. 14-cv-04968-HSG (N.D. Cal. May 29, 2015)).

Patent Owner argues that not only has no stay been issued, but contrary to Petitioner's assertion, no motion for a stay has been filed. Prelim. Resp. 6. Patent Owner further argues that it is unlikely that such a request would be granted. *Id.*

Because neither party has requested a stay of the California Litigation pending this proceeding, Factor 1 is neutral. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (Institution Decision) (holding that "[t]his factor does not weigh for or against discretionary denial" when neither party requested a stay).

2. Factor 2: Proximity of the Court's Trial Date to the Board's Projected Statutory Deadline

Petitioner and Patent Owner both agree that the district court has not set a trial date. Pet. 71; Prelim. Resp. 7. Based on median time to trial in the

[7] The Interim Fintiv Guidance is available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

district, Patent Owner argues that the case is likely to go to trial in the fall of 2023, approximately a month after the Final Written Decision is due. Prelim. Resp. 7.

The proximity factor in *Fintiv* asks us to evaluate our discretion in light of trial dates that have been set in parallel litigations. *See Fintiv*, at 3, 5, 9. Even if we accept Patent Owner's estimate as to the likely trial date,[8] the trial will occur after we have issued our final written decision in this matter. Accordingly, this factor weighs against exercising our discretionary to deny the Petition.

3. Factor 3: Investment in the Parallel Proceeding by the Court and Parties

Petitioner argues that the California Litigation "is at its inception" and "[n]either the parties nor the court has invested substantial resources therein." Pet. 71.

Patent Owner argues that there has been substantial investment in the California Litigation. Prelim. Resp. 9. Patent Owner also argues that Petitioner did not act expeditiously. *Id.* at 10–11.

Although the parties and district court have expended resources in the California Litigation, much work remains to be done. The district court has

[8] We question the accuracy of Patent Owner's date. Patent Owner relies on a law firm's newsflash from 2020 and not the most recent, official statistics. According to the most recent statistics using the website identified in the Interim *Fintiv* Guidance, the average time to a civil trial in the Northern District of California is significantly longer than 861 days. *Compare* Prelim. Resp. 7 (estimating 861 days based on a law firm's 2020 news flash), *with* https://www.uscourts.gov/sites/default/files/fcms_na_distprofile0331.2022.pdf (official statistics indicating the time from filing to trial in a civil case is 31.1 months (approximately 949 days assuming 30.5 days/month) as of March 2022).

not yet issued a Markman order and neither fact nor expert discovery has begun. *See* Prelim. Resp. 9. Moreover, much of the investment revolves around section 101, which would not be duplicated in this proceeding. And although Petitioner did not act with haste in filing the Petition, it did so early enough that we will be able to reach a decision before the trial in California Litigation is likely to begin. Accordingly, this factor is neutral.

4. Factor 4: Overlap Between Issues Raised in the Petition and in the Parallel Proceeding

Petitioner argues that because "the parties have neither narrowed the asserted claims nor the asserted prior art references, . . . it is premature to evaluate the eventual overlap between the proceedings." Pet. 71.

Patent Owner argues that Petitioner "asserts substantially overlapping prior art and invalidity theories in the district court case, asserting Schurr, Ehlers '330, and Rosen against the '186 patent." Prelim. Resp. 11.

Although Petitioner relies on the same prior art in both proceedings, given the facts of this case, there should not be any overlap by the time of trial. That is, because we will issue a Final Written Decision before Patent Owner's expected trial date, Petitioner will be estopped from presenting any argument which it actually raised or reasonably could have raised during this proceeding. 35 U.S.C. § 315(e)(2). Accordingly, this factor weighs against exercising our discretion to deny the Petition.

5. Factor 5: Whether the Petitioner and the Defendant in the Parallel Proceeding Are the Same Party

Because Petitioner is the defendant in the district court proceeding, this factor would normally somewhat favor exercising our discretion. *Fintiv*, Paper 11 at 13–14. However, due to the statutory estoppel provision of section 315(e)(2), when the Final Written Decision will precede the trial, this

factor weighs strongly against exercising our discretion to deny the Petition. *See Huawei Techs. Co., Ltd. v. WSOU Invs., LLC*, IPR2021-00225, Paper 11 at 13–14 (PTAB June 14, 2021) ("[T]his factor 'favors denial if trial precedes the Board's Final Written Decision and favors institution if the opposite is true.'" (citation omitted)); *Google LLC v. Parus Holdings, Inc.*, IPR2020-00846, Paper 9 at 20–21 (PTAB Oct. 21, 2020) ("Petitioner is the defendant in the parallel proceeding. This fact could weigh either in favor of, or against, exercising discretion to deny institution, depending on which tribunal was likely to address the challenged patent first.").

6. Factor 6: Other Circumstances that Impact the Board's Exercise of Discretion, Including the Merits

Petitioner argues that "the merits of the petition are strong." Pet. 71

Patent Owner argues that "having an IPR Final Written Decision issue right before the district court trial is likely to occur is procedurally unfair to Patent Owner." Prelim. Resp. 13. Specifically, Patent Owner argues that

> if the claims are confirmed in FWD, Petitioner would be bound by IPR estoppel and not be able to assert any invalidity grounds it raised or could have raised. But having dispositive motions completed long before the IPR FWD would eliminate that benefit to Patent Owner and the district court during the summary judgement phase.

Id.

Patent Owner's argument is based on speculation on what the outcome of this proceeding may be, what motions the Petitioner might file, and how the district court will manage its docket to prevent any potential prejudice. We do not rely on speculation in evaluating this factor.

As to Petitioner's argument, because the *Fintiv* factors do not favor exercising our discretion to deny institution (*infra*), we need not determine whether Petitioner made a compelling, meritorious challenge.

Accordingly, this factor is neutral.

7. Balancing the Fintiv Factors

We have considered the circumstances and facts before us in view of the *Fintiv* factors. Because our analysis is fact driven, no single factor is determinative of whether we exercise our discretion to deny institution under § 314(a). Considering the *Fintiv* factors as part of a holistic analysis, we are not persuaded that the interests of the efficiency and integrity of the system would be best served by invoking our authority under 35 U.S.C. § 314(a) to deny institution.

E. Obviousness over Schurr and Ehlers

Petitioner argues that claims 1, 3–8, and 10–13 would have been obvious over Schurr and Ehlers. *See* Pet. 12–64. Based on the current record, we are persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to claims 1, 3–8, and 10–13.

1. Schurr

Schurr is entitled "System and Method for Energy Usage Curtailment" and is directed "to a system and method for managing the use of energy." Ex. 1005, code (54), 1:4–5; *see also id.* at code (57) ("A system and method are disclosed for performing energy usage management within a network."). The system includes an energy management system, such as a thermostat, that is associated with a residence. *Id.* at code (57). A server may be located outside of the house and "may perform one or more energy curtailment management operations within the network . . . for remotely controlling the energy management system." *Id.* This can include reducing the load during peak energy demand period. *Id.* at 6:7–12. "Additionally, a database may be associated with the server for storing curtailment event

information relating to the network." *Id.* at code (57). "A signal may be transmitted by the server to the thermostat device to alter an offset temperature setting of the thermostat device thereby remotely controlling the operation of the thermostat device." *Id.*

Schurr Figure 1 is reproduced below.

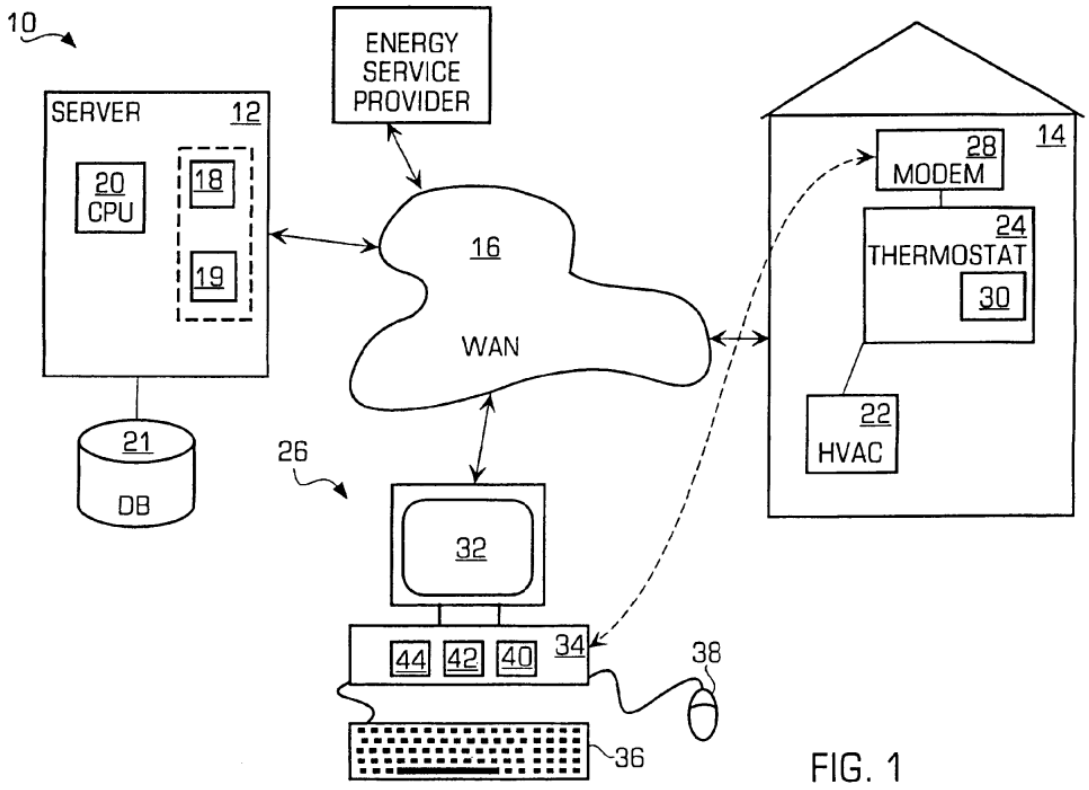

FIG. 1

Schurr Figure 1 "is a diagram illustrating a load curtailment system." Ex. 1005, 3:18–19. "[T]he load curtailment system 10 may include a server 12 connected with one or more client nodes 14 across a data network 16, such as a wide area network (WAN) 16." *Id.* at 3:55–59. "The server 12 may include a first software application 18 for performing energy management functions within the network" and "[a] database 21 may be associated with the server 12 for storing curtailment event and other

information relating to different client nodes 14 within the system 10." *Id.* at 3:65–4:6.

2. Ehlers

Ehlers is entitled "System and Method for Controlling Usage of a Community" and is directed to "a system and method for managing the delivery and usage of a commodity such as electricity, natural gas, steam, water, chilled or heated water, or potable or recycled water." Ex. 1010, code (54), ¶ 2.

Ehlers Figure 1B is reproduced below.

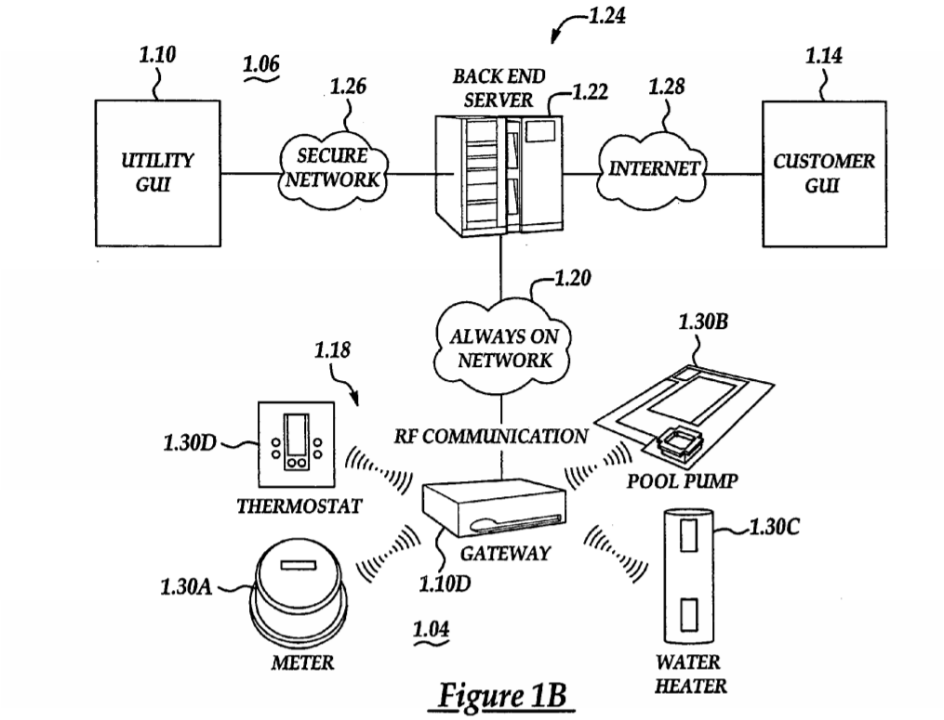

Figure 1B

Ehlers Figure 1B "is a diagrammatic illustration of one implementation of the energy management system." Ex. 1010 ¶ 20. As shown in Ehlers Figure 1B,

> the gateway node 1.10D communicates to the utility control system 1.12 via an "always on", secured wired or wireless network 1.20 through a cable modem, DSL modem, or other suitable means (not shown). The utility control system 1.12 may

> be implemented in software which is stored and executed on a back-end server 1.22.

Id. ¶ 72.

Amongst other features, Ehlers recites how the system obtains both internal and external temperature:

> The system 1.02 may have the ability *to sense the current indoor temperature and could be enhanced to include* at a minimum, humidity sensing, *outside temperature*, UV intensity, wind direction and speed, relative humidity, wet bulb thermometer, dew point and local weather forecast data or encoded signals as well as other analog or digital inputs used in the calculation of and maintenance of occupant comfort.

Ex. 1004 ¶ 88 (emphases added). Ehlers also teaches using pre-cooling or pre-heating based on the price or expected demand for energy: "By varying the operational parameter for the control of the system, the load control node 2.20B, 2.20C may choose, but not be limited to, . . . perform[ing] pre-cooling or pre-heating prior to higher pricing or demand periods being in effect." *Id.* ¶ 204; *see also id.* ¶ 247 ("Forward projection of pricing enables the system 3.08 to determine the optimal humidity and temperature settings that can be achieved for the site 1.04 and perform humidity level increases in the case of heating or humidity level decreases in the case of cooling so that the effective set point can be either lowered in the case of heating or raised in the case of cooling, permitting the heating or cooling system to run less during periods of higher prices. This ability to precondition the site in anticipation of increased pricing on average will reduce the total energy bill for the site 1.04.").

3. Analysis of Claim 1

The preamble of claim 1 states: "A system for controlling a heating, ventilation and air conditioning (HVAC) system comprising." Ex. 1001,

13:31–32. Petitioner argues Schurr teaches the preamble.[9] Pet. 28–30. Specifically, Petitioner argues Schurr teaches "a '**system** and method for performing energy usage management within a network'" including HVAC unit 22. *Id.* (quoting Ex. 1005, 2:13-14, code (57) and citing Ex. 1005, 4:15–21).

Claim 1 further recites "one or more server computers comprising computer hardware, the one or more server computers configured to receive inside temperature measurements from at least a first location conditioned by at least one HVAC system." Ex. 1001, 13:33–36. Petitioner argues Schurr[10] teaches this limitation. Pet. 30–34. Specifically, Petitioner argues that "Schurr first teaches a system that includes **one or more server computers**." *Id.* at 30 (citing Ex. 1005, code (57), 2:13–27, 3:65–4:2, 4:20–22, 4:34–40, 4:56–64, 5:24–26, 8:1–9, claims 1, 4–5, 11; Ex. 1002 ¶ 89). Petitioner also argues that "Schurr's server is a **server computer comprising computer hardware**." *Id.* at 31 (citing Ex. 1005, 3:65–4:2). Petitioner also argues that "Schurr's system contains a thermostat which takes **inside temperature measurements from at least a first location conditioned by at least one HVAC system**." *Id.* at 31–32 (citing Ex. 1002 ¶ 92); *see also id.* at 32 (citing Ex. 1005, 4:30–34, 4:56–58; Ex. 1002 ¶ 92).

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[9] The parties do not address whether the preamble is limiting. Because, as discussed *infra*, Petitioner has shown that the recitation in the preamble is satisfied by the prior art, there is no need to determine whether the preamble is limiting. *See Nidec*, 868 F.3d at 1017. If Patent Owner contends that Schurr does not teach the preamble, the parties shall brief whether the preamble is limiting.

[10] Although the Petitioner indicates that this limitation is taught by Schurr in combination with Ehlers, the argument focuses solely on Schurr. *See* Pet. 30–34.

Petitioner also argues that Schurr's system includes a thermostat at a first location within the house and that thermostat indicates the indoor temperature at that first location. *Id.* at 32–33. Petitioner also argues that it would have been obvious to have the server receive the indoor temperature measurement from the thermostat. *Id.* at 33–34.

Claim 1 further recites "one or more databases that store the inside temperature measurements over time, the one or more databases accesse[d] by the one or more server computers." Ex. 1001, 13:37–39, Certificate of Correction). Petitioner argues Schurr[11] teaches that limitation. Pet. 34–36. Specifically, Petitioner argues that "Schurr's system includes a '**database**' which is 'associated with the server'" and that it would have been obvious to have the server access the database. *Id.* at 34 (quoting Ex. 1005, code (57), 2:25–27, 4:4–6, cl. 1, cl. 11) (citing Ex. 1005, 7:62–67; Ex. 1002 ¶ 98). Petitioner also argues that it could have been obvious to store inside temperature measurements in the database in order to allow "the server to track, organize, maintain, and then later use the inside temperatures in calculations relating to energy efficiency and curtailment management." *Id.* at 34–35 (citing Ex. 1002 ¶ 99). Petitioner further argues that the person having ordinary skill in the art would have had a reasonable expectation of success with that modification. *Id.* at 35–36 (citing Ex. 1002 ¶ 101).

Claim 1 further recites "wherein the one or more server computers are located remotely from the first location, the one or more server computers configured to receive outside temperature measurements from at least one

[11] Although the Petitioner indicates that this limitation is taught by Schurr in combination with Ehlers, the argument focuses solely on Schurr. *See* Pet. 34–36.

source other than the HVAC system." Ex. 1001, 13:40–44. Petitioner argues Schurr in combination with Ehlers teaches this limitation. Pet. 36–39. Specifically, Petitioner argues Schurr teaches one or more server computers location remotely from the first location. *Id.* at 36 (citing Ex. 1002 ¶ 102).

Petitioner further argues that Ehlers teaches using outside temperature measurements from at least one source other than the HVAC system. Pet. 36–38. Specifically, Petitioner argues that (1) Ehlers uses local weather forecasts and that it would have been obvious for the weather forecasts to include current conditions including outside temperature measurements and (2) Ehlers recites that the thermostat may include sensors for detecting the outside temperature and that such readings would be received from outdoor sensors which were not part of the HVAC system. *Id.* According to Petitioner, it would have been obvious to combine Ehlers with Schurr to improve Schurr's energy management functions and that a person having ordinary skill in the art would have had a reasonable expectation of success. *Id.* at 38–39.

Claim 1 further recites

> wherein the one or more server computers are configured to calculate one or more predicted rates of change in temperature at the first location based on status of the HVAC system, and based on the outside temperature measurements, wherein the one or more predicted rates of change predict a speed a temperature inside the first location will change in response to changes in outside temperature.

Ex. 1001, 13:45–52. Petitioner argues the combination of Schurr and Ehlers teaches that limitation. Pet. 39–51. Specifically, Petitioner argues Ehlers teaches using "inside and **outside temperature measurements**, as well as the **status of the HVAC system** to derive a thermal gain rate, which

represents a **rate of change in temperature at the first location** (e.g., a home)." *Id.* at 40 (citing Ex. 1002 ¶ 111). Petitioner also argues that "[i]t would have been obvious to carry out Ehlers '330's claimed thermal gain computations on the **server computer** in Schurr's system" because (1) the results could be used in calculations relating to energy efficiency and curtailment management, (2) it can be used in the calculation of accurate recovery times, and (3) it was a known technique for estimating structural characteristics. Pet. 46–51. According to Petitioner, a person having ordinary skill in the art would have had a reasonable expectation of success in making the combination. *Id.* at 51.

Claim 1 further recites "wherein the one or more server computers are further configured to determine whether to direct the HVAC control system to pre-cool the first structure based on the one or more predicted rates of change prior to directing the HVAC control system to reduce electricity demand." Ex. 1001, 13:53–57. Petitioner argues the combination of Schurr and Ehlers teach this limitation. Pet. 51–57. Specifically, Petitioner argues Schurr teaches reducing the temperature to reduce electricity demand and Ehlers teaching pre-cooling prior to higher pricing or demand periods. *Id.* at 51–54. Petitioner further argues that pre-cooling was well known, and that it would have been used with Schurr in order to maximize occupant comfort during a curtailment period and that a person having ordinary skill in the art would have had a reasonable expectation of success. *Id.* at 54–57.

After reviewing Petitioner's arguments and information, including the Shah Declaration, which Patent Owner does not address at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that each claim limitation recited in claim 1 would have been obvious to a person having ordinary skill in the art in light of the teachings

of Schurr and Ehlers. Accordingly, Petitioner has demonstrated, on this record, a reasonable likelihood of prevailing on its assertion that claim 1 is unpatentable over Schurr and Ehlers.

4. Analysis of Claims 3–8 and 10–13

Because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '186 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. 37 C.F.R. § 42.108(a). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of every challenge raised by Petitioner, especially as Patent Owner has not presented any responsive argument.

Nevertheless, we note that Petitioner provides detailed explanations supported by the testimony of Mr. Shah and specific citations to the relevant references indicating where in the reference Petitioner argues the limitations of claims 3–8 and 10–13 are taught and why a person of ordinary skill in the art would have combined the various teachings of Schurr and Ehlers. *See* Pet. 57–64. Accordingly, at this stage of the proceeding, we are persuaded the information presented in the Petition establishes there is a reasonable likelihood that Petitioner would prevail on its assertion that claims 3–8 and 10–13 are unpatentable over Schurr and Ehlers.

F. Schurr, Ehlers, and Rosen

Petitioner argues that claims 1–13 would have been obvious over Schurr, Ehlers, and Rosen. *See* Pet. 64–70. Based on the current record, we are persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to claims 1–13.

1. Rosen

Rosen is entitled "Thermostat System with Location Data" and is directed to "a thermostat system incorporating a communication interface for

receiving and displaying diverse information from a remote correspondent." Ex. 1006, code (54), 1:8–11. Relevant to this proceeding, Rosen recites making a communication with a remote correspondent to obtain, *inter alia*, local current weather information. *Id.* at 4:4–15; *see also id.* at 4:40–65.

2. Analysis of Claims 1–13

As discussed above, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '186 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of every challenge raised by Petitioner, especially as Patent Owner has not presented any responsive argument directed to the claim 1–13 based Schurr, Ehlers, and Rosen. *See* Prelim. Resp.

Nevertheless, we note that Petitioner provides detailed explanations supported by the testimony of Dr. Shah and specific citations to the relevant references indicating where in the reference Petitioner argues the limitations of claims 1–13 are taught and why a person of ordinary skill in the art would have combined the various teachings of Schurr, Ehlers, and Rosen. *See* Pet. 64–70. Accordingly, at this stage of the proceeding, we are persuaded the information presented in the Petition establishes there is a reasonable likelihood that Petitioner would prevail on its assertion that claims 1–13 are unpatentable over Schurr, Ehlers, and Rosen.

CONCLUSION

Following 35 U.S.C. § 314, we have determined whether the totality of the information presented at this stage shows there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition. And because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the

'186 patent is unpatentable, we institute on all grounds and all claims raised in the Petition.

Our factual findings, conclusions of law, and determinations at this stage of the proceeding are preliminary, and based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, an *inter partes* review of all challenged claims of the '186 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision.

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