No. 19-

IN THE

Supreme Court of the United States

CHARGEPOINT, INC.,

Petitioner,

v.

SEMACONNECT, INC.,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION APPENDIX

CARTER G. PHILLIPS*
RYAN C. MORRIS
LUCAS W.E. CROSLOW
SIDLEY AUSTIN LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000
cphillips@sidley.com

Counsel for Petitioner

* Counsel of Record

October 21, 2019

TABLE OF CONTENTS

APPENDIX A

UNITED STATES COURT OF APPEALS,
FEDERAL CIRCUIT

2018-1739

CHARGEPOINT, INC.,

Plaintiff-Appellant,

v.

SEMACONNECT, INC.,

Defendant-Appellee.

Decided: March 28, 2019

OPINION

Prost, Chief Judge.

Appellant ChargePoint, Inc. appeals the decision of the U.S. District Court for the District of Maryland, which dismissed ChargePoint's complaint under Federal Rule of Civil Procedure 12(b)(6). The district court held that the eight patent claims asserted by ChargePoint were ineligible for patenting under 35 U.S.C. § 101. We affirm.

The technology at issue in this patent infringement case pertains to charging stations for electric vehicles. The battery in an electric vehicle is recharged by connecting the vehicle to an electrical outlet. U.S. Patent No. 8,138,715 col. 1 ll. 20–24 ("the '715 patent"). At the time the patent application was filed, this process "typi-

cally require[d] hours and [was] often done overnight or while the electric vehicle [was] parked for a significant time." *Id.* col. 1 ll. 24–26.

Businesses such as restaurants, apartments, and shopping centers have installed electric vehicle charging stations for the convenience of their customers. These site hosts manage their charging stations in different ways. For example, a shopping center may prefer to offer free vehicle charging to its customers to encourage customers to continue shopping. Meanwhile, an apartment complex might limit access to its charging stations to ensure that only tenants can use those stations.

Utility companies have different concerns in mind. Generally, the supply of electricity available from a power grid may vary, and in some cases the grid may lack sufficient electricity to meet demand. *Id.* col. 1 ll. 39–41. During such periods when power supply is low compared to demand, supply to certain customers or services may be reduced based on a preplanned load prioritization scheme. *Id.* col. 1 ll. 44–47. The idea of reducing electricity consumption during periods of high demand is one form of what is referred to as "demand response." *Id.* col. 1 ll. 43–44. Demand response may also involve increasing demand during periods when demand is low compared to supply, by reducing the cost of electricity. *Id.* col. 1 ll. 47–50.

In addition to pulling electricity from a local electricity grid, electric vehicles may also *supply* electricity to the grid. *Id.* col. 1 ll. 58–61. This is referred to as vehicle-to-grid transfer or V2G. *Id.* Vehicle-to-grid transfer can be helpful during periods of high demand. *Id.* col. 1 ll. 64–66.

ChargePoint contends that its inventors created improved charging stations that address the various needs inherent in electric vehicle charging. This was accomplished by creating *networked* charging stations. According to ChargePoint, this network connectivity allows the stations to be managed from a central location, allows drivers to locate charging stations in advance, and allows all users to interact intelligently with the electricity grid.

ChargePoint alleged in its complaint that it was "the first company to propose *networked* [electric vehicle] charging infrastructure, in the face of widespread industry skepticism, and the first to patent networked [electric vehicle] charging technology." J.A. 83 ¶ 6. It further alleged that the asserted patents "describe a paradigm-shifting concept of how to charge electric vehicles in a dynamic, networked environment—a dramatic departure from the gas station-centric ideas that prevailed before ChargePoint's innovations." J.A. 84 ¶ 9.

According to ChargePoint, its inventions enabled individual charging stations to be networked together to allow site hosts, drivers, and utility companies to communicate in real time to address the needs and preferences of each constituency. For example, the patents describe the ability to locate available charging stations remotely. *See, e.g.*, '715 patent col. 4 ll. 59–65. The patents also explain that the availability of electricity may be based on power grid data provided by a utility company. *See, e.g.*, *id.* col. 4 ll. 45–58. And the patents suggest that drivers can choose to transfer power from their vehicles to the power grid during periods of high demand. *Id.* col. 4 ll. 54–58. These capabilities are described in the four patents at issue in this appeal.

A

There are four patents at issue in this case: U.S. Patent Nos. 8,138,715; 8,432,131 ("the '131 patent"); 8,450,967 ("the '967 patent"); and 7,956,570 ("the '570 patent"). The patents share the same specification.

These patents generally describe electric vehicle charging stations that are connected to a network. The stations are connected to the local power grid, and electric vehicles connect to the stations by way of an electrical connector. '715 patent col. 5 ll. 38–42.

ChargePoint asserted claims 1 and 2 of the '715 patent in this case. J.A. 98–99 ¶¶ 49–50 (Compl.). These claims recite an apparatus that is controlled by a remote server, where the server controls whether electricity is flowing. Claim 2 adds a component that physically connects the charging station to an electric vehicle and that can activate or deactivate charging at the connection.

As for the '131 patent, ChargePoint asserted claims 1 and 8. J.A. 101–02 ¶¶ 60–61 (Compl.). Claim 1 specifies that the apparatus can modify electricity flow based on demand response communications received from the server.

With respect to the '967 patent, ChargePoint asserted claims 1 and 2. J.A. 104, 107 ¶¶ 71–72 (Compl.). These claims are method claims related to using the network-controlled charging stations. They also incorporate the idea of demand response.

Finally, regarding the '570 patent, ChargePoint asserted claims 31 and 32. J.A. 91, 96 ¶¶ 38–39 (Compl.). These claims describe a network-controlled charging station system.

B

ChargePoint sued SemaConnect for patent infringement in December 2017. Soon after, ChargePoint filed a motion for emergency injunctive relief. The district court denied injunctive relief and ordered expedited briefing on SemaConnect's Rule 12(b)(6) motion based on § 101. The court granted SemaConnect's motion to dismiss under Rule 12(b)(6) with prejudice, holding each asserted claim ineligible for patenting under § 101. *ChargePoint, Inc. v. SemaConnect, Inc.*, No. 17-3717, 2018 WL 1471685 (D. Md. Mar. 23, 2018).

The district court entered final judgment in favor of SemaConnect on March 23, 2018. ChargePoint timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II

We review a district court's grant of a Rule 12(b)(6) motion under the law of the regional circuit. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1124 (Fed. Cir. 2018). Applying Fourth Circuit law, we review a district court's dismissal under Rule 12(b)(6) de novo, we assume the truth of the complaint's factual allegations, and we draw all reasonable inferences in favor of the plaintiff. *Semenova v. Md. Transit Admin.*, 845 F.3d 564, 567 (4th Cir. 2017) (citing *Belmora LLC v. Bayer Consumer Care AG*, 819 F.3d 697, 702 (4th Cir. 2016)).[1]

[1] In its "Standard of Review" section of its brief, ChargePoint cites Fourth Circuit case law suggesting that motions under Rule 12(b)(6) generally cannot reach the merits of affirmative defenses unless all facts necessary to that defense clearly appear on the face of the complaint. Appellant's Br. 22. To the extent ChargePoint intended to make a procedural argument related to

Subject matter eligibility under § 101 may be determined at the Rule 12(b)(6) stage of a case. *Aatrix Software*, 882 F.3d at 1125. Dismissal at this early stage, however, is appropriate "only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law." *Id.*

Section 101 of the Patent Act delineates the subject matter eligible for patent protection. Under that section, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. This provision, however, contains longstanding judicial exceptions, which provide that laws of nature, natural phenomena, and abstract ideas are not eligible for patenting. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014).

In analyzing whether the claims are patent eligible, we employ the two-step analysis articulated in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012), and further delineated in *Alice*. "First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Alice*, 573 U.S. at 217, 134 S.Ct. 2347. If the claims are directed to a patent ineligible concept, we begin the "search for an 'inventive concept'—*i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* at 217–18, 134 S.Ct.

---

this case law, we hold that argument forfeited, as it is not addressed elsewhere in ChargePoint's briefing.

2347 (internal quotation marks omitted) (quoting *Mayo*, 566 U.S. at 72–73, 132 S.Ct. 1289).

A

At step one of the *Mayo/Alice* inquiry, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept." *Id.* at 218, 134 S.Ct. 2347. We recognize that "[a]t some level, 'all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.'" *Id.* at 217, 134 S.Ct. 2347 (quoting *Mayo*, 566 U.S. at 71, 132 S.Ct. 1289). Thus, at step one, "it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is 'directed to.'" *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (quoting *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016)). We have described this step one inquiry "as looking at the 'focus' of the claims." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016 (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016))). In this first step, we consider the claims "in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

Our cases have crafted various tools to analyze whether a claim is "directed to" ineligible subject matter. For example, we have found the specification helpful in illuminating what a claim is "directed to." *See In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611–12 (Fed. Cir. 2016); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1376 (Fed. Cir. 2015); *see also Parker v. Flook*, 437 U.S. 584, 586, 98

S.Ct. 2522, 57 L.Ed.2d 451 (1978) (noting that the patent application provided nothing more than a formula for computing an alarm limit); *cf. United States v. Adams*, 383 U.S. 39, 49, 86 S.Ct. 708, 15 L.Ed.2d 572 (1966) ("[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention."). But while the specification may help illuminate the true focus of a claim, when analyzing patent eligibility, reliance on the specification must always yield to the claim language in identifying that focus. This is because "the concern that drives" the judicial exceptions to patentability is "one of preemption," *Alice*, 573 U.S. at 216, 134 S.Ct. 2347, and the claim language defines the breadth of each claim, *see Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 336 U.S. 271, 277, 69 S.Ct. 535, 93 L.Ed. 672 (1949) ("[I]t is the claim which measures the grant to the patentee."). Thus, as part of our "directed to" analysis, we also consider whether a claim is truly focused on an abstract idea (or other ineligible matter), whose use the patent law does not authorize anyone to preempt. *See Mayo*, 566 U.S. at 72, 132 S.Ct. 1289; *see also Alice*, 573 U.S. at 223, 134 S.Ct. 2347 (noting "the preemption concern that undergirds our § 101 jurisprudence"); *Ariosa Diagnostics*, 788 F.3d at 1379 ("The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability.").

With these tools in mind, we turn to the claims at issue in this case. We address each claim separately, as the parties have not designated a representative claim.

1

Claims 1 and 2 of the '715 patent are both apparatus claims. They recite:

> 1. An apparatus, comprising:
>
> a control device to turn electric supply on and off to enable and disable charge transfer for electric vehicles;
>
> a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via a data control unit that is connected to the remote server through a wide area network; and
>
> a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server.
>
> 2. The apparatus of claim 1, further comprising an electrical coupler to make a connection with an electric vehicle, wherein the control device is to turn electric supply on and off by switching the electric coupler on and off.

'715 patent claims 1–2.

It is clear from the language of claim 1 that the claim *involves* an abstract idea—namely, the abstract idea of communicating requests to a remote server and receiving communications from that server, i.e., communication over a network. But at step one, "it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is '*directed to*.'" *Thales Visionix*, 850 F.3d at 1349 (emphasis added) (quoting *Rapid Litig. Mgmt.*, 827 F.3d at 1050). We therefore continue our analysis to determine whether the focus of claim 1, as a whole, is the abstract idea. As explained below, we conclude that it is.

While "[t]he § 101 inquiry must focus on the language of the Asserted Claims themselves," *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016), the specification may nonetheless be useful in illuminating whether the claims are "directed to" the identified abstract idea. *See In re TLI Commc'ns*, 823 F.3d at 611–12; *Ariosa Diagnostics*, 788 F.3d at 1376. For example, in some cases the "directed to" inquiry may require claim construction, which will often involve consideration of the specification. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) ("[C]laims 'must be read in view of the specification, of which they are a part.'" (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995))).

The "directed to" inquiry may also involve looking to the specification to understand "the problem facing the inventor" and, ultimately, what the patent describes as the invention. *See In re TLI Commc'ns*, 823 F.3d at 612; *Ariosa Diagnostics*, 788 F.3d at 1376 (in the step one analysis, pointing to statements from the specification that supported the conclusion that the natural phenomenon claimed was the key discovery described in the patent). For example, in *In re TLI Communications* we held ineligible a claim to a method for recording and administering digital images using a phone. 823 F.3d at 610. In our step one analysis, we explained that "the problem facing the inventor was not how to combine a camera with a cellular telephone, how to transmit images via a cellular network, or even how to append classification information to that data." *Id.* at 612. Instead, quoting the specification, we explained that "the inventor sought to 'provid[e] for recording, administration and archiving of digital images simply, fast and in such way that the information therefore may be easily tracked.'" *Id.*; *see id.* at 611 (noting that

"the specification's emphasis" that the present invention relates to methods for recording, communicating, and administering a digital image "underscores that [the claim] is directed to an abstract concept"). We also pointed to the specification to explain why the tangible components recited in the method claim were merely "conduit[s] for the abstract idea." *Id.* at 612. We reached that conclusion in part because the specification "fail[ed] to provide any technical details for the tangible components, but instead predominately describe[d] the system and methods in purely functional terms." *Id.*; *see id.* at 612–13 (concluding that "the focus of the patentee and of the claims was not on" improved hardware because the specification described the functionality of the hardware "in vague terms without any meaningful limitations").

In this case, ChargePoint has not expressed a need for claim construction, so we need not look to the specification for that purpose. We do, however, view the specification as useful in understanding "the problem facing the inventor" as well as what the patent describes as the invention. Here, the specification suggests that claim 1 is directed to the abstract idea of communication over a network to interact with a device connected to the network. The problem identified by the patentee, as stated in the specification, was the lack of a communication network that would allow drivers, businesses, and utility companies to interact efficiently with the charging stations. For example, the specification states that "[t]here is a need for a communication network which facilitates finding the recharging facility, controlling the facility, and paying for the electricity consumed." '715 patent col. 1 ll. 35–38. Likewise, it states that "[t]here is a need for an efficient communication network for managing peak load leveling using Demand Response and V2G." *Id.*

col. 2 ll. 8–10. Looking to future needs, the specification anticipates that "there will be a need for a system for collection of taxes and consumption information." *Id.* col. 2 ll. 18–20. From these statements, it is clear that the problem perceived by the patentee was a lack of a communication network for these charging stations, which limited the ability to efficiently operate them from a business perspective.

The specification also makes clear—by what it states and what it does not—that the invention of the '715 patent is the idea of *network-controlled* charging stations.[2] The summary of the invention states: "A system for network-controlled charging of electric vehicles and the network-controlled electrical outlets used in this system are described herein." *Id.* col. 3 ll. 37–39. The specification then goes on to describe a networked system in which, among other things, drivers can determine whether a charging station is available, drivers can pay to charge their vehicles, and utility companies can supply information to charging stations from a demand response system.[3] Notably,

---

[2] At step one, we look to what the specification describes as the invention only to help understand the focus of the claims. We are not analyzing, for example, whether the claimed invention is actually novel. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) ("[A]ny novelty in implementation of the idea is a factor to be considered only in the second step of the *Alice* analysis.").

[3] Although not every *type* of communication that we have discussed as being in the specification (such as communications based on demand response) is mentioned in claim 1, we include these details because they directly correspond to what *is* expressly included in claim 1—communication over a network. These details further illustrate that the invention is the addition of networking capability and the various communication possibilities it brings.

however, the specification never suggests that the charging station itself is improved from a technical perspective, or that it would operate differently than it otherwise could. Nor does the specification suggest that the invention involved overcoming some sort of technical difficulty in adding networking capability to the charging stations.

In short, looking at the problem identified in the patent, as well as the way the patent describes the invention, the specification suggests that the invention of the patent is nothing more than the abstract idea of communication over a network for interacting with a device, applied to the context of electric vehicle charging stations. *See Alice*, 573 U.S. at 222, 134 S.Ct. 2347 ("[T]he prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment." (alteration in original) (quoting *Bilski v. Kappos*, 561 U.S. 593, 610–11, 130 S.Ct. 3218, 177 L.Ed.2d 792 (2010))). Although this is not necessarily dispositive of the "directed to" inquiry, it strongly suggests that the abstract idea identified in claim 1 may indeed be the focus of that claim.

With these indications from the specification in mind, we return to the claim language itself to consider the extent to which the claim would preempt building blocks of science and technology. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015) ("At step one of the *Alice* framework, it is often useful to determine the breadth of the claims in order to determine whether the claims extend to cover a 'fundamental . . . practice long prevalent in our system. . . .'" (quoting *Alice*,

573 U.S. at 219, 134 S.Ct. 2347)).[4] We agree with SemaConnect that, based on the claim language, claim 1 would preempt the use of any networked charging stations. *See* Appellee's Br. 47–48. ChargePoint's arguments to the contrary are unconvincing, as ChargePoint merely states that the claim "recites specific, narrowing limitations arranged in a particular manner." Reply Br. 21. We are unpersuaded. The breadth with which this claim is written further indicates that the claim is directed to the abstract idea of communication over a network for device interaction. *See Ariosa Diagnostics*, 788 F.3d at 1379 ("[P]reemption may signal patent ineligible subject matter. . . .").

The breadth of the claim language here illustrates why any reliance on the specification in the § 101 analysis must always yield to the claim language. Ultimately, "[t]he § 101 inquiry must focus on the language of the Asserted Claims themselves," *Synopsys*, 839 F.3d at 1149, and the specification cannot be used to import details from the specification if those details are not claimed. Even a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims, thus preempting all use of that law or idea. This was the case in *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 14 L.Ed. 601 (1853).[5] In *Morse*, the Court upheld claims

---

[4] We have also considered preemption at step two of the analysis. *See BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016); *see also Alice*, 573 U.S. at 223, 134 S.Ct. 2347 (mentioning the underlying concern of preemption in the step two portion of the analysis).

[5] Although we have referenced *Morse* in other contexts, such as written description, *see Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 929 n.9 (Fed. Cir. 2004), *Morse* is also relevant to the § 101 analysis. Indeed, the Supreme Court has discussed

related to the details of Samuel Morse's invention of the electromagnetic telegraph, but invalidated a claim for the use of "electromagnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances." *Id.* at 112. The Court expressed concern that such a broad claim would cover any application of printing at a distance via electromagnetism regardless of whether those applications used the invention in the patent. *Id.* at 113.

A similar scenario arose in *Wyeth v. Stone*, 30 F. Cas. 723 (C.C.D. Mass. 1840). There, the patent described the inventor's machine for cutting ice in great detail. But Justice Story, riding circuit, held that one claim effectively "claim[ed] an exclusive title to the art of cutting ice by means of any power, other than human power." *Id.* at 727. He reasoned that "[s]uch a claim is utterly unmaintainable" because "[i]t is a claim for an art or principle in the abstract, and not for any particular method or machinery, by which ice is to be cut." *Id.*

As we explained in *Interval Licensing LLC v. AOL, Inc.*, in *Morse* and *Wyeth*, each inventor "lost a claim that encompassed all solutions for achieving a desired result" because those claims "were drafted in such a result-oriented way that they amounted to encompassing the 'principle in the abstract' no matter how implemented." 896 F.3d 1335, 1343 (Fed. Cir. 2018). In our view, this is effectively what ChargePoint has done in this case. Even if ChargePoint's specification had provided, for example, a technical explanation of

---

Morse in many of its § 101 opinions. *Alice*, 573 U.S. at 216, 134 S.Ct. 2347; *Mayo*, 566 U.S. at 72, 85, 132 S.Ct. 1289; *Flook*, 437 U.S. at 592, 98 S.Ct. 2522; *Gottschalk v. Benson*, 409 U.S. 63, 68, 93 S.Ct. 253, 34 L.Ed.2d 273 (1972).

how to enable communication over a network for device interaction (which, as discussed above, it did not), the claim language here would not require those details. Instead, the broad claim language would cover any mechanism for implementing network communication on a charging station, thus preempting the entire industry's ability to use networked charging stations. This confirms that claim 1 is indeed "directed to" the abstract idea of communication over a network to interact with network-attached devices.

We conclude our "directed to" analysis by addressing ChargePoint's argument that the claims asserted are patent eligible because the claimed invention "build[s] a better machine." Appellant's Br. 24, 29. We are not persuaded. Claim 1 indicates that the abstract idea is associated with a physical machine that is quite tangible—an electric vehicle charging station. Claim 2 goes further, explaining that a vehicle may be connected to the apparatus via an electrical coupler. But as the Supreme Court indicated in *Alice*, whether a device is "a tangible system (in § 101 terms, a 'machine')" is not dispositive. *See* 573 U.S. at 224, 134 S.Ct. 2347; *In re TLI Commc'ns*, 823 F.3d at 611 ("[N]ot every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry."). Resolving the § 101 inquiry based on such an argument "would make the determination of patent eligibility 'depend simply on the draftsman's art.'" *Alice*, 573 U.S. at 224, 134 S.Ct. 2347 (quoting *Flook*, 437 U.S. at 593, 98 S.Ct. 2522). As discussed above, the claim language and the specification indicate that the focus of the claim is on the abstract idea of network communication for device interaction.

In short, the inventors here had the good idea to add networking capabilities to existing charging stations

to facilitate various business interactions. But that is where they stopped, and that is all they patented. We therefore hold that claim 1 is "directed to" an abstract idea.

As to dependent claim 2, the additional limitation of an "electrical coupler to make a connection with an electric vehicle" does not alter our step one analysis. The character of claim 2, as a whole, remains directed to the abstract idea of communication over a network to interact with a device, applied in the context of charging stations.

2

Claims 1 and 8 of the '131 patent are also apparatus claims. They recite:

> 1. An apparatus, comprising:
>
> a control device to control application of charge transfer for an electric vehicle;
>
> a transceiver to communicate with a remote server via a data control unit that is connected to the remote server through a wide area network and receive communications from the remote server, wherein the received communications include communications as part of a demand response system; and
>
> a controller, coupled with the control device and the transceiver, to cause the control device to modify the application of charge transfer based on the communications received as part of the demand response system.
>
> . . .
>
> 8. The apparatus of claim 1, wherein the communications received as part of the demand response system include power grid load data, and

> wherein the controller is further to manage charge transfer based on the received power grid load data.

'131 patent claims 1 and 8.

Claim 1 of the '131 patent is almost identical to claim 1 of the '715 patent. The key differences are that the apparatus in claim 1 of the '131 patent does not make requests for charge transfer (it only receives them) and that the electricity supply is modified "based on the communications received as part of the demand response system." '131 patent claim 1. Because of the similarity to claim 1 of the '715 patent, we incorporate our analysis of that claim and add additional comments only as necessary.

ChargePoint contends that claims 1 and 8 of the '131 patent teach "a charging station with improved technical features that enable it to adjust the amount of electricity delivered to cars based on demand-response communications with utilities." Reply Br. 5. To the extent ChargePoint is arguing that modification itself is an improvement, nothing in the specification explains from a technical perspective how that modification occurs. And the fact that the electricity flow is modified *based on demand response principles* does nothing to make this claim directed to something other than the abstract idea. Demand response is itself an abstract concept—a familiar business choice to alter terms of dealing to help match supply and demand. *See* '131 patent col. 1 ll. 45–52 ("Demand Response is a mechanism for reducing consumption of electricity during periods of high demand. . . . Demand Response may also be used to increase demand at times of high electricity production. For example, the cost of electricity may be reduced during periods of low demand."). As we have said before, "[a]dding one abstract idea . . .

to another abstract idea . . . does not render the claim non-abstract." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017), *cert. denied,* —— U.S. ——, 138 S.Ct. 672, 199 L.Ed.2d 535 (2018). Moreover, demand response as used in these claims merely refers to the content of the communications received by the charging station. We therefore conclude that claims 1 and 8 are also directed to the abstract idea of communicating over a network.

3

Claims 1 and 2 of the '967 patent are method claims written from the perspective of the server that communicates with the charging stations. The claims recite:

> 1. A method in a server of a network-controlled charging system for electric vehicles, the method comprising:
>
> receiving a request for charge transfer for an electric vehicle at a network-controlled charge transfer device;
>
> determining whether to enable charge transfer;
>
> responsive to determining to enable charge transfer, transmitting a communication for the network-controlled charge transfer device that indicates to the network-controlled charge transfer device to enable charge transfer; and
>
> transmitting a communication for the network-controlled charge transfer device to modify application of charge transfer as part of a demand response system.
>
> 2. The method of claim 1, wherein determining whether to enable charge transfer includes validating a payment source for the charge transfer.

'967 patent claims 1 and 2.

These claims are similar to those discussed above. With respect to these claims, ChargePoint again focuses its arguments on the ability to modify an electric vehicle charging station's operation based on a demand response business policy. *See* Reply Br. 6. But, as explained above with respect to the '131 patent, the patent never discusses any technical details regarding how to modify electricity flow, and the fact that any modifications are made in response to a demand response policy merely adds one abstract concept to another.

The additional limitation in claim 2 regarding validating a payment source merely provides content for what occurs during determination of whether to enable charge transfer. This does nothing to alter the character of that claim as a whole.

We thus conclude that claims 1 and 2 of the '967 patent are directed to the abstract idea of communicating over a network.

4

Claims 31 and 32 of the '570 patent claim "[a] network-controlled charge transfer system for electric vehicles." The claims recite:

> 31. A network-controlled charge transfer system for electric vehicles comprising:
>
> a server;
>
> a data control unit connected to a wide area network for access to said server; and
>
> a charge transfer device, remote from said server and said data control unit, comprising;

> an electrical receptacle configured to receive an electrical connector for recharging an electric vehicle;
>
> an electric power line connecting said receptacle to a local power grid;
>
> a control device on said electric power line, for switching said receptacle on and off;
>
> a current measuring device on said electric power line, for measuring current flowing through said receptacle;
>
> a controller configured to operate said control device and to monitor the output from said current measuring device;
>
> a local area network transceiver connected to said controller, said local area network transceiver being configured to connect said controller to said data control unit; and
>
> a communication device connected to said controller, said communication device being configured to connect said controller to a mobile wireless communication device, for communication between the operator of said electric vehicle and said controller.
>
> 32. A system as in claim 31, wherein said wide area network is the Internet.

'570 patent claims 31 and 32.

Although these claims are in a different form than claim 1 of the '715 patent, we again find our analysis of that claim applicable. ChargePoint contends that the various physical components in claims 31 and 32 show that the claims "do not recite the general concept of remote access or control, but rather a concrete

arrangement of components that *enables* users and site hosts to access and control electric-vehicle charging stations." Reply Br. 7. But the specification does not suggest that the inventors' discovery was the particular arrangement of components claimed. And although ChargePoint accuses SemaConnect of giving "short shrift to improvements like the 'current measuring device' and 'communication device' to connect a 'mobile wireless communication device,'" *see* Reply Br. 7, there is no indication that the invention of the '570 patent was intended to improve those particular components or that the inventors viewed the combination of those components as their invention. The only improvement alleged is use of the concept of network communication to interact with the particular devices. This remains the focus of these two claims, thus making both directed to an abstract idea.

5

In short, while the eight claims on appeal vary in some respects, they are all directed to the abstract idea of communicating over a network for device interaction. Communication over a network for that purpose has been and continues to be a "building block of the modern economy." *See Alice*, 573 U.S. at 220, 134 S.Ct. 2347 (characterizing the use of a clearing house in *Bilski* as "a building block of the modern economy"). As with the practice of intermediated settlement in *Bilski*, this "is an 'abstract idea' beyond the scope of § 101," *id.*, and the asserted claims are directed to that abstract idea.

B

At step two of the *Alice* inquiry—the search for an inventive concept—we "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional

elements 'transform the nature of the claim' into a patent-eligible application." *Id.* at 217, 134 S.Ct. 2347 (quoting *Mayo*, 566 U.S. at 78–79, 132 S.Ct. 1289). "[P]atentees who adequately allege their claims contain inventive concepts survive a § 101 eligibility analysis under Rule 12(b)(6)." *Aatrix Software*, 882 F.3d at 1126–27.

Where a claim is directed to an abstract idea, the claim must include "'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Alice*, 573 U.S. at 221, 134 S.Ct. 2347 (alteration in original) (quoting *Mayo*, 566 U.S. at 77, 132 S.Ct. 1289). These additional features cannot simply be "'well-understood, routine, conventional activit[ies]' previously known to the industry." *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 79, 132 S.Ct. 1289). Indeed, adding novel or non-routine components is not necessarily enough to survive a § 101 challenge. *See Ultramercial*, 772 F.3d at 715 (disagreeing with the patent owner's argument that "the addition of merely novel or non-routine components to the claimed idea necessarily turns an abstraction into something concrete"). Instead, the inventive concept must be "sufficient to ensure that the patent in practice amounts to significantly more" than a patent on the abstract idea. *See Mayo*, 566 U.S. at 72–73, 132 S.Ct. 1289. In other words, "transformation into a patent-eligible application requires 'more than simply stat[ing] the [abstract idea] while adding the words "apply it."'" *Alice*, 573 U.S. at 221, 134 S.Ct. 2347 (quoting *Mayo*, 566 U.S. at 72, 132 S.Ct. 1289); *see Mayo*, 566 U.S. at 77, 132 S.Ct. 1289 (asking whether the claims "add enough").

Whether a claim "supplies an inventive concept that renders a claim 'significantly more' than an abstract

idea to which it is directed is a question of law" that may include underlying factual determinations. *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018). For example, within the overall step two analysis, "whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact" that "must be proven by clear and convincing evidence." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

Here, ChargePoint argues that it presented sufficient factual allegations to preclude dismissal at the Rule 12(b)(6) stage. Appellant's Br. 56, 58–64. Specifically, ChargePoint argues that its patents represent an unconventional solution to technological problems in the field, and thus contain an inventive concept.

The problems in the art identified by ChargePoint are, generally: the sparse availability of charging stations and the need for more widespread stations; the need for a communication network that facilitates finding an available charging station, controlling the station, and paying for electricity; and the need for real time communication to effectively implement demand response and vehicle-to-grid transfer. *See* Appellant's Br. 59–61 (listing statements from the specification discussing problems in the art).

ChargePoint contends that it solved these problems in an unconventional way through: (a) the ability to turn electric supply on based on communications from a remote server; (b) a "network-controlled" charging system; and (c) a charging station that receives communication from a remote server, including communications made to implement a demand response policy. Appellant's Br. 59. To support the unconventional nature of these alleged improvements, ChargePoint relies

on allegations in its complaint, which state that ChargePoint's patents "describe a paradigm-shifting concept of how to charge electric vehicles in a dynamic, networked environment," and that ChargePoint was "the first company to propose *networked* [electric vehicle] charging infrastructure, in the face of widespread industry skepticism, and the first to patent networked [electric vehicle] charging technology." *Id.* at 62 (citing J.A. 83–84 ¶¶ 6, 9).

In essence, the alleged "inventive concept" that solves problems identified in the field is that the charging stations are network-controlled. But network control is the abstract idea itself, and "a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech*, 899 F.3d at 1290.

In addition to the general arguments above, ChargePoint highlights certain aspects of each asserted claim. We address each argument in turn. First, with respect to claims 1 and 2 of the '715 patent, as well as claims 31 and 32 of the '570 patent, ChargePoint points to the ability to operate charging stations remotely as solving a problem in the field. Reply Br. 27–28. This, again, merely mirrors the abstract idea itself and thus cannot supply an inventive concept. *See BSG Tech*, 899 F.3d at 1290.

Turning to claims 1 and 8 of the '131 patent, as well as claims 1 and 2 of the '967 patent, ChargePoint contends that these claims capture technical improvements related to demand response. Reply Br. 27. ChargePoint disputes the district court's conclusion that "the combination of connecting generic networking equipment to a charging device to carry out a demand response plan already existed and was well-under-

stood, routine, and conventional." J.A. 63. But, as the district court pointed out, the "Background of the Invention" section of the specification demonstrates that demand response has been in use in other consumer services, such as with air conditioning and lighting, which may be reduced during periods of high demand. *See* '131 patent col. 1 ll. 41–52. Indeed, demand response is simply a familiar business choice of terms of dealing to help match supply and demand. This cannot supply an inventive concept in this case.

Despite ChargePoint's reliance on *BASCOM*, the claims in this case do not improve the technology the way the claims in *BASCOM* did. There, the patent improved prior art content filtering solutions by making them more dynamic, thus using software to improve the performance of the computer system itself. *BASCOM*, 827 F.3d at 1351. Here, the claims do nothing to improve how charging stations function; instead, the claims merely add generic networking capabilities to those charging stations and say "apply it." *See Alice*, 573 U.S. at 223, 134 S.Ct. 2347. This is simply an "abstract-idea-based solution implemented with generic technical components in a conventional way." *BASCOM*, 827 F.3d at 1351.

In short, we agree with SemaConnect that the only possible inventive concept in the eight asserted claims is the abstract idea itself. ChargePoint, of course, disagrees with this characterization, arguing that its patents claim "charging stations *enabled* to use networks, not the network connectivity itself." Reply Br. 29. But the specification gives no indication that the patented invention involved how to add network connectivity to these charging stations in an unconventional way. From the claims and the specification, it is clear that network communication is the only possible

inventive concept. Because this is the abstract idea itself, this cannot supply the inventive concept at step two. The claims are therefore ineligible.

C

ChargePoint briefly contends that the district court erred by refusing to consider ChargePoint's submitted declarations, "[d]espite its ability to do so under Rule 12(d)." Appellant's Br. 21. In ChargePoint's view, these declarations would have aided the district court in analyzing step two. But Appellant makes no argument that the district court was *required* to consider such materials under these circumstances, and we see no error in the court's decision to decide the motion in the form it was presented.

D

ChargePoint also contends that the district court erred by dismissing the complaint with prejudice, thus precluding ChargePoint from amending its complaint to add additional factual allegations. Appellant's Br. 64–65. As part of its argument, ChargePoint notes that the district court did not address whether amending the complaint would be futile.

In response, SemaConnect points out that ChargePoint never requested that its complaint be dismissed without prejudice, nor did ChargePoint seek leave from the district court to amend its complaint. Appellee's Br. 62–63. Indeed, ChargePoint did not even suggest the possibility of amendment below. This appeal is the first time ChargePoint has raised this issue. *See id.* ChargePoint does not dispute this, but merely states that the district court dismissed the case with prejudice and entered judgment on the same day it issued the § 101 decision, leaving ChargePoint

without an opportunity to seek leave to amend. Reply Br. 33.

Under Fourth Circuit law, there is no requirement that a district court provide a plaintiff with a definitive ruling on a Rule 12(b)(6) motion before the court dismisses a complaint with prejudice. *Adbul-Mumit v. Alexandria Hyundai, LLC*, 896 F.3d 278, 291–92 (4th Cir.) (rejecting the plaintiffs' argument that plaintiffs had no reason to amend their complaint until the court provided a "definitive ruling" that would notify plaintiffs of deficiencies in their complaints), *cert. denied*, —— U.S. ——, 139 S. Ct. 607, 202 L.Ed.2d 431 (2018); *id.* (explaining that "[c]ategorically requiring a district court to *first* provide a 'definitive ruling' before dismissal with prejudice impedes a district court's inherent power to manage its docket" and "wocourtuld be at odds with our general rule that the nature of dismissal is a matter for the discretion of the district court"). We see no error in the district court's decision to dismiss the complaint with prejudice and enter judgment on the same day.

ChargePoint's concern that the district court made no finding that amendment would be futile is also unavailing in these circumstances. *See United States ex rel. Carson v. Manor Care, Inc.*, 851 F.3d 293, 305 n.6 (4th Cir. 2017). In *Carson*, the plaintiff included a cursory request for amendment in its response to a motion to dismiss, and the district court did not explicitly address that request when it granted the motion to dismiss with prejudice. *Id.* The Fourth Circuit first explained that the district court did not abuse its discretion in denying the request because the plaintiff "did not properly file a motion to amend under Federal Rule of Civil Procedure 15 or submit a proposed amended complaint." *Id.* (citing *Drager v. PLIVA USA,*

Inc., 741 F.3d 470, 474 (4th Cir. 2014), for the proposition that "[r]egardless of the merits of the desired amendment, a district court does not abuse its discretion by declining to grant a motion that was never properly made"). The court further explained that while, ordinarily, a denial of leave to amend without any accompanying rationale is an abuse of discretion (because it is a failure to exercise discretion at all), where the plaintiff "made no proffer to the district court, nor to this Court, of how [its] complaint could be amended" to survive dismissal, "any amendment would be futile." *Id.* Even more clearly than in *Carson*, ChargePoint did not file a motion to amend before the district court. *Cf. Domino Sugar Corp. v. Sugar Workers Local Union 392 of United Food & Commercial Workers Int'l Union*, 10 F.3d 1064, 1068 n.1 (4th Cir. 1993) ("[T]he [plaintiff] contends that the district court erred by not providing the [plaintiff] leave to amend its complaint in response to the [defendant's] motion to dismiss. This argument fails, however, because the [plaintiff] never requested leave to amend."). Moreover, in our view, ChargePoint has not identified any alleged facts that could be pleaded that would cure the deficiencies in its complaint. Therefore, ChargePoint has failed to provide any assurance that amendment would be anything other than futile.

In its Reply, ChargePoint clarifies that it is not asking this court to grant leave to amend or to require the district court to do so; instead, ChargePoint states that it seeks only an order vacating the dismissal with prejudice so that it can file a motion to amend. Reply Br. 32. But, at least under Fourth Circuit law, a plaintiff should first seek this relief in the district court. Under Fourth Circuit precedent, "[p]laintiffs whose actions are dismissed are free to subsequently move for leave to amend pursuant to Federal Rule of

Civil Procedure 15(b) even if the dismissal is with prejudice." *Adbul-Mumit*, 896 F.3d at 293. And while "a motion to amend filed after a judgment of dismissal has been entered cannot be considered until the judgment is vacated," *Calvary Christian Ctr. v. City of Fredericksburg*, 710 F.3d 536, 539 (4th Cir. 2013), a post-judgment motion for leave to amend may be accompanied by a motion under Rule 59(e) or Rule 60(b), *see Laber v. Harvey*, 438 F.3d 404, 427 (4th Cir. 2006) (en banc) ("[T]he district court may not grant the post-judgment motion [to amend] unless the judgment is vacated pursuant to Rule 59(e) or Fed. R. Civ. P. 60(b).").[6]

In sum, applying Fourth Circuit law, we see no basis to vacate the district court's dismissal with prejudice where ChargePoint never sought leave to amend pre-judgment, where ChargePoint never filed a proposed amended complaint pre-judgment, where ChargePoint could have sought leave to amend post-judgment by concurrently filing a motion under Rule 59(e) or 60(b), and where ChargePoint has not put forth facts that would be sufficient to withstand a § 101 challenge.

III

For the foregoing reasons, we affirm the district court's determination that claims 1 and 2 of the '715 patent, claims 1 and 8 of the '131 patent, claims 31 and 32 of the '570 patent, and claims 1 and 2 of the '967 patent are ineligible under § 101.

AFFIRMED

---

[6] "To determine whether vacatur is warranted, however, the court need not concern itself with either of those rules' legal standards. The court need only ask whether the amendment should be granted, just as it would on a prejudgment motion to amend pursuant to [Rule] 15(a)." *Katyle v. Penn Nat'l Gaming, Inc.*, 637 F.3d 462, 471 (4th Cir. 2011).

APPENDIX B

UNITED STATES DISTRICT COURT,
D. MARYLAND

Civil Action No. MJG-17-3717

CHARGEPOINT, INC.,

Plaintiff,

v.

SEMACONNECT, INC.,

Defendant.

Signed 03/23/2018

MEMORANDUM AND ORDER:
MOTION TO DISMISS

Marvin J. Garbis, United States District Judge

The Court has before it Defendant's Motion to Dismiss for Failure to State a Claim [ECF No. 41] and the materials submitted related thereto. The Court has held a hearing and has had the benefit of the arguments of counsel.

I. INTRODUCTION

Plaintiff ChargePoint, Inc. ("ChargePoint"), founded in 2007, is a Delaware corporation with its principal place of business in Campbell, California. Compl. ¶ 21, ECF No. 1. ChargePoint claims itself to be the "pioneer in the electric vehicle charging infrastructure industry," boasting "tens of thousands of stations that have been used more than 16 million times" worldwide. *Id.* ¶ 5.

ChargePoint owns United States Patent Nos. 7,956,570 (the "'570 Patent"); 8,138,715 (the "'715 Patent"); 8,432,131 (the "'131 Patent"); and 8,450,967 (the "'967 Patent") (collectively, the "Asserted Patents"). *Id.* ¶ 8. The Asserted Patents generally relate to various methods, systems, and apparatuses for networked electric vehicle ("EV") charging stations.

Defendant SemaConnect, Inc. ("SemaConnect"), a Maryland corporation based in Bowie, Maryland, manufactures EV charging equipment. *Id.* ¶ 22.

ChargePoint's Complaint [ECF No. 1] accuses SemaConnect of offering to sell, selling, and using EV charging devices that infringe on the Asserted Patents. *Id.* ¶ 30-33.

On December 28, 2017, by the Memorandum & Order Re: Temporary Injunction [ECF No. 39], the Court denied ChargePoint's attempt to obtain a Temporary Injunction. SemaConnect subsequently filed the present motion and has submitted its Identification of Non-infringement Defenses [ECF No. 42], which includes the defense that the Asserted Patents are invalid under 35 U.S.C. § 101.

By the instant motion, Defendant SemaConnect contends that United States Patent Nos. 7,956,570; 8,138,715; 8,432,131; and 8,450,967 are invalid because they are not directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101. The Asserted patents were all issued prior to the Supreme Court's decision in *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014).

II. BACKGROUND

A. The Alleged Invention

The four Asserted Patents share a specification and claim priority to United States Provisional Application No. 61/019,474 filed on January 7, 2008.

The specification describes a system of EV charging stations that are connected to a remote server via a network (i.e., the Internet). '570 Patent 3:35-45. The remote server stores a variety of information including customer profiles, load data from the electric grid (updated in real time), and electricity consumption data. *Id.* The EV charging station and server can be remotely accessed and controlled by a user via a cell phone or other electronic device. *Id.* at 3:48-53.

The system may also contain features such as an electric meter to measure consumption of electricity through each charging station, a payment station (separate from the individual charging station), or a device to detect whether a parking spot is occupied. *Id.* at 3:54-65.

The specification essentially states that the system provides two main improvements over previously-available technology: (1) a customized and convenient user experience and (2) management of electric flow based on electric grid load data. *Id.* at 3:64-5:3. The specification purports to achieve these alleged improvements by filling the need for an "efficient communication network" between charging stations, customers, and electric utility companies. *Id.* at 1:30-35, 2:19-23.

The customized user experience allows the user to monitor, control, and pay for charging a vehicle from a remote device such as a cell phone. *Id.* at 4:16. It

allows a user to "enabl[e] charge transfer" and monitor electric consumption by communicating a request to the server. *Id.* at 4:16-43. The server then sends a command to enable (or disable) electric flow between the vehicle and charging station, and the charging station reports consumption data back to the server which is relayed to the customer's cell phone. *Id.*

A customer may pay for a charging session by using payment information stored in a user profile on the server. *Id.* The user profile may also include custom payment rates for each user based on a user's subscription status and the location of the charging station (e.g., a resident of a community may be charged a lower rate when using a charging station in that community). *Id.* at 3:64-5:3. A user profile may also contain charging preferences such as only charging during periods of lower power rates, not charging during periods of peak power grid load, or selling power from the vehicle back to the power grid. *Id.* at 4:56-60. These features provide greater control and convenience for a customer over existing technology because a customer may remotely manage the vehicle charging process (which takes several hours to complete) rather than having to be present physically at the site of the vehicle and charging station. *Id.*

Furthermore, management of electric grid load data through a communication network may include the ability to "manage peak load leveling" using "Demand Response" and "vehicle-to-grid (V2G)." *Id.* at 2:1-8, 4:44-57. Demand Response is a "preplanned load prioritization scheme" provided by the utility company that is used to "reduc[e] consumption of electricity during periods of high demand." *Id.* at 1:37-54. When the electric grid is strained due to increased demand, the utility company may transmit a command (over a

network) to the server, "requiring a reduction in load." *Id.* at 10:50-60. The server then sends a signal (over a network) to individual charging stations, commanding certain charging stations to turn off. *Id.* at 4:44-57, 10:50-60. The server may rely on a customer's user profile (e.g., a customer may only want their vehicle to be charged during periods of low power rates) or "the requirements of the [utility company's] Demand Response system" when deciding which charging stations to turn off. *Id.* The specification also states that the Demand Response system and customer profile information may allow for vehicle-to-grid ("V2G") in which electricity stored in the vehicle is transferred back to the electric grid during times of peak demand. *Id.* at 1:55-67, 9:58-60.

The specification states that the need for electric grid load management of EV charging stations is made possible through the communication network as claimed in the Asserted Patents. *Id.* at 2:1-8.

B. Factual Background

In August 2016, Volkswagen settled the lawsuit brought by the United States government for its well-known vehicle emissions scandal (commonly known as "Dieselgate"). The settlement totaled $15 billion, of which $2 billion was appropriated to fund an EV infrastructure in the United States. ChargePoint formally objected to that settlement during the preliminary court-approval process stating that the $2 billion investment would "flood a competitive market" and "threaten[ ] the survival of the current participants in the market, and thus the market itself."[1] Nonetheless,

[1] *See* In re VOLKSWAGON "CLEAN DIESEL" MARKETING SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION,

the settlement was approved, and a company called Electrify America, LLC ("Electrify America") was formed to manage the implementation of the plan.

A major part of Electrify America's plan includes funding the cost of equipment and installation for electric vehicle charging stations, which will be installed at workplaces, garages, retail centers, and residential locations in chosen major metropolitan areas.

Electrify America considered bids for contracts to manufacture and install EV charging stations during Phase I of Electrify America's infrastructure plan. Electrify America narrowed the list of bidders to four companies, including SemaConnect, ChargePoint, and two others. Ultimately, Electrify America awarded contracts to SemaConnect and two other companies but not ChargePoint.

ChargePoint has since filed the Complaint [ECF No. 1], asserting that SemaConnect's EV charging station model infringes claims in the Asserted Patents. ChargePoint specifically points to network control features in SemaConnect's advertised models that allegedly infringe on the claims. Compl. ¶¶ 34-77. By the instant motion, Defendant SemaConnect contends that United States Patent Nos. 7,956,570; 8,138,715; 8,432,131; and 8,450,967 are invalid because they are not directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

C. Claims at Issue

The Asserted Patents present apparatus claims (involving charging station hardware), system claims (involving a server, charging station, and other

---

3:15-md-02672—, Dkt. No. 1784 at 9-10 (Amicus Curiae Brief of ChargePoint).

components which interact with one another), and method claims (involving a process in a server for deciding to enable charge through a network).

In this case, ChargePoint asserts eight claims ("the Asserted Claims") that are addressed in regard to the instant motion:

'570 Patent: Claims 31 and 32 (system claims);

'715 Patent: Claims 1 and 2 (apparatus claims);

'131 Patent: Claims 1 and 8 (apparatus claims); and

'967 Patent: Claims 1 and 2 (method claims).

The Court would not be required to evaluate each claim separately if it were clear that they do not "differ in any manner that is material to the patent-eligibility inquiry." *Mortg. Grader, Inc. v. First Choice Loan Servs., Inc.*, 811 F.3d 1314, 1324 n.6 (Fed. Cir. 2016). However, considering that ChargePoint is the non-moving party and has demonstrated to some degree that the claims are different, the Court will analyze each claim separately for patent eligibility.

III. LEGAL STANDARD

A. In General

Federal courts must dismiss a complaint that fails to state a claim upon which relief can be granted. Fed. R. Civ. P. 12(b)(6).

Patent eligibility under 35 U.S.C. § 101 is a question of law and a threshold issue that can be suitable for resolution on a motion to dismiss. *Intellectual Ventures I LLC v. Erie Indemnity Co.*, 850 F.3d 1315, 1319 (Fed. Cir. 2017)(citing *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015)).

When reviewing a motion to dismiss pursuant to Fed. R. Civ. P. 12(b)(6), a plaintiff's well-pleaded allegations are accepted as true, and the complaint is viewed in the light most favorable to the plaintiff. *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555 (2007) (citations omitted). To survive a motion to dismiss, a plaintiff's complaint must contain sufficient facts that, if assumed to be true, state a claim to relief that is plausible on its face. *Id.* at 570.

B. Clear and Convincing Standard

While patent eligibility under § 101 is a question of law, the issues may include underlying questions of fact. *Mortg. Grader*, 811 F.3d at 1325. In regard to a patent that has been issued, "any fact . . . that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence." *Berkheimer v. HP Inc.*, —— F.3d ——, No. 2017-1437, 2018 WL 774096, at *5 (Fed. Cir. Feb. 8, 2018)(citing *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011)). "Whether a claim element or combination of elements is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Id.* When the invention's improvements, as alleged in the specification, create a factual dispute regarding whether they describe well-understood, routine, and conventional activities, a court "must analyze the asserted claims and determine whether they actually capture these improvements." *Id.* at *6.

C. Available Evidence

The Court's review of a Rule 12(b)(6) motion is generally limited to the contents of the complaint. *Zak v. Chelsea Therapeutics Int'l, Ltd.*, 780 F.3d 597, 606 (4th Cir. 2015)(motion to dismiss considers the sufficiency of allegations set forth in the complaint and

"documents attached or incorporated into the complaint") (citations omitted). Consideration of other documents at this stage could convert the motion into one for summary judgment, which would be premature because the parties have not yet conducted any discovery. *Id.* at 606; *see also Theune v. U.S. Bank, N.A.*, No. MJG-13-1015, 2013 WL 5934114, at *4, n.12 (D. Md. 2013). An exception to this rule is that courts may consider documents that are "integral to and [are] explicitly relied on in the judgment complaint," without converting the motion to one for summary judgment. *Zak*, 780 F.3d at 606-7 (quoting *Phillips v. LCI Int'l Inc.*, 190 F.3d 609, 618 (4th Cir. 1999)).

ChargePoint has incorporated several expert declarations into its Memorandum in Opposition to Defendant's Motion to Dismiss [ECF No. 43] in order to establish the convention of the field and the subsequent inventiveness of the claims at the time of the filing date of the Asserted Patents. *See* ECF No. 43-1; 43-2; 43-3. The declarations were not relied on in the Complaint; thus, the exception does not apply. The Court notes the existence of the declarations but will not herein consider the contents (or the incorporated arguments as they apply to the eligibility analysis) as they are not appropriate at the Rule 12(b)(6) stage.

D. Claim Construction

There is no hard-and-fast rule that claim construction is required before a court performs a § 101 analysis. *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012). In some cases, claim construction may be unnecessary. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Ass'n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014)(concluding that even adopting the plain-

tiff's proposed construction at the Rule 12(b)(6) stage may not alter the abstract nature of the claims).

In this case, SemaConnect alleges that the claims are directed to ineligible subject matter even when accepting ChargePoint's asserted plain and ordinary meaning of all claim terms. Def.'s Mem. 17-18, ECF No. 41-1. Thus, no terms require judicial construction in order for the Court to resolve the instant motion.

IV. DISCUSSION

SemaConnect contends that the Complaint fails to state a claim upon which relief can be granted because the Asserted Claims are directed to patent-ineligible subject matter pursuant to 35 U.S.C. § 101. SemaConnect contends that each claim is directed to the abstract idea of "turning a switch on and off" and that the abstract idea does not amount to an inventive concept because the claims recite generic processes and equipment. Def.'s Mem. 20, ECF No. 41-1.

ChargePoint contends that the claims are not directed to an abstract idea but are, instead, directed to a technological improvement in EV charging station systems. Pl.'s Resp. 9-13, ECF No. 43. ChargePoint also contends that even if the claims are directed to an abstract idea, the abstract idea amounts to an inventive concept because the claims recite non-conventional and non-generic arrangements of EV charging stations. *Id.* at 25.

The Court shall examine herein each Asserted Claim to determine if they are eligible for patent protection by virtue of 35 U.S.C. § 101.

A. § 101 Subject Matter Eligibility

Section 101 of the Patent Act defines subject matter that is eligible for patent protection. It provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101. In interpreting the meaning of Section 101, the Supreme Court has held that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Alice*, 134 S. Ct. at 2355 (citations omitted). The Supreme Court reasoned that these exceptions are "the basic tools of scientific and technological work" and that monopolization of those tools would "preempt use of this approach in all fields" and "impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws." *Id.* (citing *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589-90 (2013); *Mayo Collaborative Servs. v. Prometheus Lab., Inc.*, 566 U.S. 66, 70-84 (2012)).

However, the Supreme Court warned that courts must "tread carefully in construing this exclusionary principle" because "[a]t some level, all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Id.* (citing *Mayo*, 566 U.S. at 71).

The Supreme Court set forth a two-step test to determine whether an invention is patent-eligible subject matter. A court must determine:

> (1) whether the claim is directed to a patent ineligible concept, i.e., a law of nature, a natural phenomenon, or an abstract idea; and if so
>
> (2) whether the elements of the claim, considered both individually and as an ordered combination,

> add enough to transform the nature of the claim into a patent-eligible application.

Intellectual Ventures I LLC v. Erie Indem. Co., 850 F.3d 1315, 1325 (Fed. Cir. 2017)(citing *Alice*, 132 S. Ct. at 2355). The Federal Circuit typically refers to step one as the "abstract idea step" and step two as the "inventive idea step" when applying the test to claims challenging an abstract idea exception. *Id.* If the claims are found to be directed to a patent-eligible concept (not abstract) during step one, the claims will satisfy § 101, and the inquiry ends. *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017).

B. Step One: Abstract Idea Test

1. Legal Standard

Under step one of the *Alice* test, the court must determine whether the claims are directed to a patent-ineligible concept such as an abstract idea. *Alice*, 134 S. Ct. at 2355. In determining whether a claim is abstract, "claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see also Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018)(quoting *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016)(finding that a court must examine the "patent's 'claimed advance' to determine whether the claims are directed to an abstract idea")). The Federal Circuit has cautioned against assessing a claim's "character as a whole" and "describing the claims at such a high level of abstraction and untethered from the language of the claims [such that it] all but ensures that the exceptions to § 101 swallow the

rule." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-37 (Fed. Cir. 2016). Nonetheless, first, a court must identify the claimed concept's character as a whole. *Id.*

Next, a court must compare the claimed concept's character as a whole to claims that have been held to be abstract. *Enfish*, 822 F.3d at 1334 (finding that although the Supreme Court "has not established a definitive rule to determine what constitutes an abstract idea," the Federal Circuit and Supreme Court have outlined factors to consider and have "found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.").

The Federal Circuit has held that in determining whether a claim encompasses an abstract idea, "it is often useful to determine the breadth of the claims in order to determine whether the claims extend to cover a fundamental . . . practice long prevalent in our system. . . ." *In re TLI Commc'ns LLC Patent Litigation*, 823 F.3d 607, 611 (Fed. Cir. 2016)(citing *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015)). The Federal Circuit has also stated that in order to prevent the risk of preemption of an approach to an entire field, courts must:

> look to whether the claims in the patent focus on a specific means or method, or are instead directed to a result or effect that itself is the abstract idea and merely invokes generic processes and machinery. Claims directed to generalized steps to be performed on a computer using conventional computer activity are not patent eligible.

Two-Way Media Ltd. v. Comcast Cable Communications, LLC, 874 F.3d 1329, 1337 (2017)(citing *McRO, Inc. v Bandai Namco Games America Inc.*, 837 F.3d 1299, 1314 (2016)); (*Internet Patents*, 790 F.3d at 1348-49). Even if the claims recite tangible components, the physical components of the claims cannot "merely be conduits" for the abstract idea. *In re TLI*, 823 F.3d at 612; *see also Alice*, 134 S. Ct. at 2360 (noting that not every claim that recites concrete tangible components escapes the reach of the abstract-idea inquiry). The claims must focus on *how* a result is achieved instead of reciting "result-based functional language." *Two-Way Media*, 874 F.3d at 1337-8; *see also Electric Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016)(finding that "there is a critical difference between patenting a particular concrete solution to a problem and attempting to patent the abstract idea of a solution to the problem in general").

Furthermore, the Federal Circuit has consistently held that gathering, analyzing, transmitting, receiving, filtering, organizing, or displaying data, and combinations thereof, is an abstract idea without something more. *Electric Power*, 830 F.3d at 1353-54 (the collection, manipulation, and display of electric power grid data, without changing the character of the information, is abstract); *Open Parking, LLC v. ParkMe, Inc.*, No. 2:15-CV-976, 2016 WL 3547957, at *8 (W.D. Pa. June 30, 2016), *aff'd*, 683 Fed.Appx. 932 (Mem) (Fed. Cir. 2017)(moving data from one place to another, such as transmitting the availability of a parking space to a driver's cell phone, is abstract); *Content Extraction and Transmission LLC v. Wells Fargo Bank Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (collecting data, recognizing certain data, and storing that data is abstract); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir.

2017)(collecting, displaying, and manipulating data is abstract).

Claims directed to fundamental financial practices, particularly validating a payment source over a network and determining a custom price for a customer based on predetermined rules, have also been construed to be abstract. *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017)(validating a payment source with stored account information on a server in order to open a turnstile in a mass transit system is abstract and non-inventive); *Versata Dev. Group v. SAP Am., Inc.*, 793 F.3d 1306, 1312-13 (Fed. Cir. 2015)(determining the customized price of a product for a customer using organizational and product group hierarchies is abstract); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1354-5 (Fed. Cir. 2014) (computer applications for guaranteeing a party's performance of its online transaction are abstract and ineligible subject matter).

On the other hand, claims that are directed to a specific improvement to the functioning of computers or any other technology or technical field may not be abstract. *Enfish*, 822 F.3d at 1335-6 (claims for a specific database structure involved, but were not directed to, the abstract idea of organizing information using tabular formats and instead were directed to improving the way a computer stores and retrieves data); *McRO*, 837 F.3d at 1315 (the incorporation of specific rules for producing accurate and realistic lip synchronization and facial expressions in animated characters was not abstract because it improved on the pre-existing process and because the patent claimed specific rules for achieving the improvement); *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300 (Fed. Cir. 2016)(a distributed network architec-

ture wherein data is collected and combined from several sources improved upon the technical field because it reduced network congestion while generating massive amounts of accounting data); *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1345 (Fed. Cir. 2017) (claims reciting a unique configuration of inertial sensors and the use of a mathematical equation for calculating the location and orientation of an object relative to a moving platform were directed to a technological improvement, not an abstract idea); *Visual Memory*, 867 F.3d at 1262 (a computer memory system connectable to a processor and having programmable operational characteristics allowed interoperability with different processors and was not directed to the abstract idea of categorical data storage).

While the search for an improvement to technology does overlap with the *Alice* step two analysis, courts have found it sufficient to conclude that claims are directed to an improvement in technology functioning, as opposed to an abstract idea, in step one. *Enfish*, 822 F.3d at 1335-36.

In contrast, the Federal Circuit has provided examples of claims that are not, in fact, directed to an improvement in the functioning of technology. For example, a court must look to the specification to determine whether it discloses the manner in which the alleged improvement is achieved. *Affinity Labs of Tex. v. DirecTV, LLC*, 838 F.3d 1253, 1263-64 (Fed. Cir. 2016)(finding that the claimed methods of delivering broadcast content to cellphones ineligible because the specific process by which the improvement is achieved was not disclosed, and claims were written with high generality). Mere automation of a manual process is also an abstract idea and not directed to an improvement in technology. *Credit Acceptance Corp. v.*

Westlake Services, 859 F.3d 1044, 1055 (Fed. Cir. 2017)(using generic technology to process a car loan that could otherwise be done manually is abstract). Analyzing information in a way that can be performed mentally is also abstract. *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). Moreover, claims are not directed to an improvement in technology if the purported improvements arise solely from the capabilities of generic technology and computer parts. *FairWarning IP, LLC v. Iatric Sys.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016)("While the claimed system and method certainly purport to accelerate the process of analyzing audit log data, the speed increase comes from the capabilities of a general-purpose computer, rather than the patented method itself."). As previously discussed, a claim must include more than conventional implementation of generic components to qualify as an improvement to technology. *Affinity Labs*, 838 F.3d at 1264-65, (Fed. Cir. 2016); *In re TLI*, 823 F.3d at 612-13.

Lastly, "limiting the invention to a technological environment does 'not make an abstract concept any less abstract under step one.'" *Berkheimer*, 2018 WL 774096, at *6 (citing *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017)).

If, after completing the *Alice* step one inquiry, the claims are found to be directed to an abstract idea, the Court must proceed to step two.

2. The Asserted Claims Are Directed to Abstract Ideas

a. The '715 Patent (Claims 1 and 2)

Claims 1 and 2 of the '715 Patent are:

> 1. An apparatus, comprising:
>
> a control device to turn electric supply on and off to enable and disable charge transfer for electric vehicles;
>
> a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via a data control unit that is connected to the remote server through a wide area network; and
>
> a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server.
>
> 2. The apparatus of claim 1, further comprising an electrical coupler to make a connection with an electric vehicle, wherein the control device is to turn electric supply on and off by switching the electric coupler on and off.

'715 Patent 12:7-22.

Claim 1 of the '715 Patent discloses an apparatus (charging station) that contains a "control device" (to switch electric power on and off), a "transceiver" (which communicates with a "remote server" over a "wide area network" via a "data control unit"), and a "controller" (which "causes" the control device to switch power on or off based on a communication from the server). *Id.* Claim 2 adds to the Claim 1 limitations an

"electrical coupler" which connects the charging station to the electric vehicle to enable charge transfer. *Id.*

i. Claim 1

Viewing the claim in its entirety to ascertain the character as a whole, Claim 1 is directed to sending a request, receiving a command, and executing the command over a network to operate an EV charging station in an expected way. This is an abstract idea.

The Court first looks to the specification to determine what the patent purports to solve. The specification states that "[t]here is a need for a communication network which facilitates finding the recharging facility, controlling the facility, and paying for electricity consumed." '715 Patent 1:35-8. "There is [also] a need for an efficient communication network for managing peak load leveling using Demand Response and V2G." *Id.* at 2:8-10. Lastly, "[t]here is [also] a need to effectively integrate these wide area networks, local area networks, and short range communication devices into systems used for recharging electric vehicles." *Id.* at 3:30-34. The specification states that "a system for network-controlled charging of electric vehicles and the network-controlled electrical outlets used in this system are described herein." *Id.* at 3:47-48. The Complaint further alleges that "the Asserted Patents describe a paradigm-shifting concept of how to charge electric vehicles in a dynamic, networked environment." Compl. ¶ 9, ECF No. 1. Thus, the invention seeks to create user-related convenience features and solve the problem of electric grid stabilization by connecting individual charging stations to a network so that they can send and receive communications to achieve these improvements.

The Court next looks to the language of what is actually claimed. Claim 1 recites a control device, a transceiver (communicating with a remote server through a data control unit over a wide area network), and a controller. '715 Patent 12:6-18. The control device "turns[s] electric supply on and off." *Id.* at 12:8. The transceiver "*communicate[s] requests* for charge transfer with a remote server and *receive[s] communications* from the remote server via a data control unit that is connected to the remote server through a wide area network." *Id.* 12:11-14 (emphasis added). The controller "*causes* the control device *to turn* the electric supply *on based on a communication* from the remote server." *Id.* at 12:15-19 (emphasis added). Thus, the claim is directed to the process of sending a request to a server (over a network), receiving back a command from the server, and executing the command (to turn electric supply on and off). This characterization of the claim is consistent with the specification's portrayal of the invention as a communications network.

The Court must now determine whether the character of the claim is directed to an abstract idea. Is sending a request (over a network), receiving back a command, and executing the command (to turn electric supply on and off) an abstract idea? The Court concludes that it is.

Claim 1 amounts to nothing more than the recitation of generic computer and networking equipment to achieve the result of operating an EV charging station as it otherwise would be operated without network connectivity. The claim recites tangible aspects such as a transceiver, server, data control unit, wide area network, controller, and control device. However, these tangible components serve as nothing more than conduits for the abstract idea of sending requests,

receiving commands, and executing commands on a device over a network.

The transceiver, data control unit, and wide area network are nothing more than generic networking equipment used to connect devices to a server (to enable sending and receiving communications over a network). A controller and control device are merely broad recitations of generic computing components that can "cause" something to occur. In this particular field of use, the only thing that can be "caused" is to turn on/off or modify electric charge.

When attempting to distinguish one of the system claims with Claim 1 of the '715 Patent, Counsel for ChargePoint admitted that:

> [t]he '715 patent simply covers a data controller connected to an electric vehicle charging station, connecting to a control device that allows a third party to remotely and wirelessly control the on/off functionality of that device. . . .

Hr'g on Motion to Dismiss 41:16-20, ECF No. 48. Counsel for ChargePoint was pressed by the Court again in the following exchange:

> The Court: So the essence of your invention is a system where these things can be controlled remotely and not by somebody just physically at the charging station?
>
> Mr. Bloch: That is fair, yes. The essence of the system is charging stations that can be controlled remotely and can be accessed remotely by all of the shareholders. . . .

Id. at 43:10-16. In other words, Claim 1 of the '715 Patent introduces network connectivity to remotely send and receive commands to perform an existing

device's normal function, turning on and off. Thus, the claims, although reciting tangible components, are directed to the ability to send and receive communications to control an existing device. Reciting tangible components will not save a claim from being abstract. *Alice*, 134 S. Ct. at 2360 (noting that not every claim that recites concrete tangible components escapes the reach of the abstract-idea inquiry).

Furthermore, Claim 1 encompasses a "practice long prevalent in our system." *In re TLI*, 823 F.3d at 611. Sending a request, receiving back a command, and executing the command in an expected way is a process that has been performed long before the arrival of servers and networking equipment. For example, SemaConnect explains that the exact process in Claim 1 has been performed in a different field of use (at a gas station) for many years. Def.'s Mem., 28-9, ECF No. 41-1. A customer sends a request to a station attendant to pump gas, the attendant sends back a command to begin pumping gas (after performing some kind of verification step), and the command to pump gas is executed (by the customer, attendant, or computer) by activating the gas pump nozzle in an expected way. Counsel even admitted during the hearing that the essence of the invention is controlling the EV charging process remotely, as opposed to someone physically performing it at the charging station. Hr'g on Motion to Dismiss 43:10-16.

The Court also takes preemption concerns into consideration. As it stands, Claim 1 would preempt any other person or company from sending a request, receiving a command, and executing a command (to turn electric supply on and off) over a network (through generic networking equipment such as a transceiver, data control unit, wide area network, and

server). Enforcing such a claim would preempt competitors from developing other, more specific, methods for managing the power grid over a network or creating customized user experiences. An example presented by SemaConnect, for which it is being accused of infringement, is incorporating solar and wind energy into the charger's operation at certain times which would require communicating with the charger over a network. Def.'s Mem. 26-27, ECF No. 41-1. This approach would wholly be preempted by Claim 1 and was certainly not disclosed in the specification as contemplated by the inventors. Claim 1 may also preempt competitors from applying a credit card system to EV charging stations, as that would require communicating with a remote server (credit card company) to verify the credit card and pin number.

SemaConnect convincingly indicates how the claims merely limit the abstract idea to a field of use. A single word, "vehicle," can be replaced by any other electronic device without changing the character of the claim:

> An apparatus, comprising a control device to turn electric supply on and off to enable and disable charge transfer for electric *[coffee-maker / dish-washer / dryer / hot water heater / vehicle]*; a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via a data control unit that is connected to the remote server through a wide area network; and a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server.

Def.'s Reply 10, ECF No. 45 (emphasis added). In effect, the patent claim attempts to monopolize the

idea of sending requests and executing commands over a network to operate an electronic device (in this case, an EV charging station). This is an abstract idea.

Lastly, the Court looks to whether the claim is clearly directed to an improvement in technology as opposed to the abstract idea of sending a request, receiving a command, and executing the command over a network to operate a device. The specification states that the patent purports to solve the problem of electric grid stabilization and to provide customizable features to the end-user.

The specification states that a utility company may send requests to the server to reduce load by turning off charging stations. '715 Patent 10:50-60. The specification also states that connecting charging stations to a server allows the user to "find[ ] the recharging station, control[ ] the facility, and pay[ ] for the electricity consumed" and to be charged customized prices depending on their subscription status and location of the charging station. *Id.* at 1:35-38. However, specific solutions to these problems are completely absent from the claims. Moreover, finding an open parking/charging space, controlling the facility (by sending communications over a network), verifying a payment source over a network, and charging a custom price based on preset rules have all been held to be categorically abstract (and patent-ineligible). *Open Parking*, 2016 WL 3547957, at *8; *In re TLI*, 823 F.3d at 612; *Smart Sys.*, 873 F.3d at 1371; *Versata*, 793 F.3d at 1312-13. Therefore, the only possible improvements to technology that may be found in the claimed invention are those related to the functioning of the electric grid, not to user-related convenience features.

Claim 1 is inapposite to the holdings in *Enfish*, *McRo*, *Amdocs*, *Visual Memory*, and *Thales* where the

Federal Circuit held that the claims were directed to an improvement in technology instead of an abstract idea. *Enfish* involved a *specific* database structure which improved the way a computer stores and retrieves data. 822 F.3d at 1335-6. *McRO* involved the incorporation of *specific* rules for producing accurate and realistic lip synchronization and facial expressions in animated characters. 837 F.3d at 1315. *Amdocs* involved a *specific* distributed network architecture which reduced network congestion when collecting massive amounts of data. 841 F.3d 1288, 1300. *Thales* involved a *specific* configuration of inertial sensors and the use of a mathematical equation for calculating the location and orientation of an object. 850 F.3d 1343, 1345. Lastly, *Visual Memory* involved a *specific*, improved data memory system that configured a programmable operational characteristic of a cache memory based on the type of processor connected to the memory system. 867 F.3d at 1262.

Here, ChargePoint contends that the problem is solved merely by connecting charging stations to a network via a server, giving a user the ability to control an individual charging station. The Federal Circuit has consistently held that sending, receiving, or transmitting data over a network, without something more, is an abstract idea. *Elec. Power*, 830 F.3d at 1353-4; *Open Parking*, 683 Fed. Appx. 932 (Mem); *Content Extraction*, 776 F.3d at 1347. Nothing more is described in this claim. The claim merely recites sending a request/command from one point to another and "causing" that command to be executed in a normal and expected way (turning on or off). It achieves this through the conduit of generic networking equipment. In this context "something more" might be present if there were specific rules for deciding *how* the request was processed and transformed into a

command to execute it or *how* the server decides to manage demand response requests. This claim contains no such limitation and is not directed to an improvement in the functioning of the electric grid.

This Court rejects ChargePoint's reliance upon the district court decisions in *Chamberlain Group v. Linear*, 114 F. Supp. 3d 614 (N.D. Ill. 2015) and *Canrig Drilling Tech. Ltd. v. Trinidad Drilling L.P.*, Civ. Action No. H-15-0656, 2015 WL 5458576 (S.D. Tex. Sept 17, 2015). Neither decision is binding precedent. Moreover, the *Canrig* court determined that the subject claims were directed to overcoming challenges with directional oil drilling through a specific apparatus and process for controlling the rotation of the drill, as opposed to the abstract idea of "computer-assisted rotation." 2015 WL 5458576 at *4. The claims in the instant case do not describe a specific process for overcoming a technological problem in the EV charging process, but merely recite a categorically abstract idea of sending and receiving communications to a device over a network through generic equipment conduits.

This Court rejects the *Chamberlain* unappealed district court decision. The *Chamberlain* court held that claims involving controlling a garage door opener over a network "have a clear concrete and tangible form in that they are directed to monitoring and opening and closing a movable barrier—a particular tangible form, e.g., a garage door, gate, door, or window." 114 F. Supp. 3d at 626. The *Chamberlain* court also held that the claims were directed to a technological improvement because "the garage door opener can do new things like provide for remote monitoring and control of the garage door opener." *Id.* at 627. This Court finds that the reasoning is not

convincing and was written without the benefit of many of the Federal Circuit opinions cited herein. The alleged technological improvement in *Chamberlain* amounts to nothing more than operating an existing device from a remote location over a network. In other words, the *Chamberlain* court held that any device connected to a network inherently possesses a technological improvement by virtue of being connected to a network because it can send and receive communications and can be operated remotely. This Court does not accept that position and finds that it contravenes the purpose of the § 101 eligibility standard and well-established Federal Circuit and Supreme Court case law.

Claim 1 of the '715 Patent is simply too broad to be directed to an improvement in an EV charging system. Rather, it encompasses the abstract idea of sending a request, receiving back a command, and executing a command to operate a device in a known and expected way. Limiting a claim to a particular field of use (EV charging) will not save an abstract claim from being abstract. *Berkheimer*, 2018 WL 774096, at *6.

ii. Claim 2

Claim 2 of the '715 Patent adds to the limitations of Claim 1 "an electrical coupler to make a connection with an electric vehicle, wherein the control device is to turn electric supply on and off by switching the coupler on and off." '715 Patent 12:19-22. The Court finds that the added limitation in Claim 2 does not change the character of the claim as a whole. It is still directed to the abstract idea of sending a request, receiving a command, and executing the command in an expected way (over a network) to turn electric supply on and off. The electrical coupler is nothing more than a conductor that connects the vehicle to the

charging station. The existence of the electrical coupler does not improve on the functioning of technology in any way. In fact, it is merely a known and necessary component of an EV charging station. The station cannot charge a vehicle if it is not connected. The addition of the electrical coupler helps to clarify how the executed command reaches the desired destination (the vehicle) in this particular field of use (EV charging), but the character of the claim still is directed to the communication aspect as described in the Claim 1 analysis. Thus, Claim 2, like Claim 1, is directed to the abstract idea of sending a request, receiving a command, and executing the command over a network.

b. The '131 Patent (Claims 1 and 8)

Claims 1 and 8 are:

> 1. An apparatus, comprising:
>
> a control device to control application of charge transfer for an electric vehicle;
>
> a transceiver to communicate with a remote server via a data control unit that is connected to the remote server through a wide area network and receive communications from the remote server, wherein the received communications include communications as part of a demand response system; and
>
> a controller, coupled with the control device and the transceiver, to cause the control device to modify the application of charge transfer based on the communications received as part of the demand response system.
>
> * * *

> 8. The apparatus of claim 1, wherein the communications received as part of the demand response system include power grid load data, and wherein the controller is further to manage charge transfer based on the received power grid load data.

'131 Patent 12:7-19, 50-53.

Claim 1 of the '131 Patent discloses an apparatus (charging station) with substantially the same core components as those described in the '715 Patent. One notable difference is that instead of switching electric supply on and off, the '131 Patent "control device" is more broadly said to "control[ ] application of charge transfer." *Id.* Furthermore, instead of receiving any communications from the remote server, the '131 Patent "transceiver" specifically receives communications related to a "demand response system." *Id.* Lastly, the '131 Patent "controller" causes the "control device" to "modify application of charge transfer . . . based on the demand response system" rather than merely switching the "control device" on or off. *Id.*

Claim 8 depends on claim 1 and limits the communications from the demand response system to "power grid load data." *Id.* at 12:53.

i. Claim 1

Viewed in its entirety to ascertain the character as a whole, Claim 1 of the '131 Patent is directed to receiving a command and executing the command to operate a device over a network to modify electric supply in an expected way. The Court finds that this is an abstract idea.

Looking to the claim's language, Claim 1 recites a control device, a transceiver, and a controller, much

as in the '715 Patent. The control device "controls application of charge transfer." '131 Patent 12:8-9. The transceiver "*communicate[s]* with a remote server via a data control unit that is connected to the remote server through a wide area network and *receive[s] communications* from the remote server, wherein the received communications include communications as part of a demand response system." *Id.* at 10-15 (emphasis added). The controller "*cause[s]* the control device *to modify* the application of charge transfer *based on the communications* received as part of a demand response system." *Id.* at 16-19 (emphasis added). Thus, the claim is directed to receiving a command and executing the command in an expected way, over a network, to modify application of charge as part of a demand response system.

As distinct from the '715 Patent, Claim 1 of the '131 Patent does even not require sending a request, it merely requires receiving a command and executing it. The command is limited to communications as part of a "demand response system." The control device in this claim appears to be the same control device as in the '715 Patent, which also permits modifying application of charge as opposed to simply switching it on and off.

Upon inspection of the specification, it appears that the "demand response system" originates with the utility company. '131 Patent 4:45-58 ("the utility company's Demand Response"); *see also* 10:50-60 ("load management data from the utility company"). The "demand response system" may include requests from the utility company to "limit the ability to recharge," "[limit] the recharge rate," or even send electricity back from a vehicle to the power grid (i.e., V2G). *Id.* at 1:39-67; 10:50-60. First, the utility company "send[s] a message" to the server, "requiring a reduction in load."

Id. at 10:50-60. A command is sent from the server to individual charging stations to "turn off charging of some vehicles . . . depend[ing] on subscriber profiles and the requirements of the Demand Response system." *Id.* Subscriber profile information may include customer preferences such as whether to charge during high demand, to only charge during low power rates, or to sell back to the power grid. *Id.* at 4:45-58. Thus, the communication sent to the charging device from the server is a command to either turn on/off or increase/decrease charge. The decision as to which command is sent occurs at the server level and may be based on a demand response system of the utility company.

While the specification purports that the '131 Patent improves the technological function of the electric power grid, these improvements are not embodied in Claim 1. The improvements, as alleged in the specification, occur when the demand response request is sent to the server. The server then decides which stations to turn on/off or to what extent charge should be increased/decreased. This decision is then sent to individual charging stations which execute the command through generic controller and control device components. In other words, the charging station receives a command (albeit a command that originated as part of a demand response system before being processed through the server) and executes the normal and expected function of the charging station, turning on/off or modifying charge sent to a vehicle. The decision-making as to which (and the extent to which) chargers are affected in response to a utility company's demand response system, i.e., *how* the alleged improvement is achieved, occurs in the server. These processes are not embodied in Claim 1. Claim 1 merely refers to relaying whatever decision is made by the server to the charg-

ing station. As discussed above in the '715 Patent discussion, receiving a communication over a network and executing the command in an expected way using generic computing and networking components as conduits for that purpose is an abstract idea. *In re TLI*, 823 F.3d at 612; Two-Way Media, 874 F.3d at 1337. The '131 Patent does not describe a specific solution to a technological function. The improvement may be enabled by what is claimed in Claim 1 (by virtue of being connected to the Internet), but the specification reveals that the improvement itself arises when the server makes a decision when it receives a demand response request from the utility company.

Consideration of the breadth of the claim and preemption concerns also reveal the abstract nature of the claim. Claim 1 effectively preempts any person or competitor from developing a *specific* method for managing electric grid stabilization. Certainly, charging stations (or any other electronic devices) would need to communicate with the electric grid for this to occur. As discussed above in regard to the '715 Patent, SemaConnect's product sheets propose its own way of managing the demands of the electric grid by incorporating solar and wind energy sources into its charging stations at certain times.

Another approach might be a decision by the server to reduce charging at residential facilities during the day while most people (and their vehicles) are at work. This approach would wholly be preempted if ChargePoint were to obtain a monopoly on sending any command (as part of a demand response system) to a charging station and executing that command (by turning on/off or reducing/increasing electric flow). This constitutes an abstract idea because it "purport[s] to monopolize every potential solution to the problem" which "impede[s]

innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws." *Elec. Power*, 830 F.3d at 1356; *Alice*, 134 S. Ct. at 2355 (citations omitted).

ChargePoint alleges that the '131 Patent invention has enabled the improvements related to electric power grid stabilization merely by connecting charging stations to a network via a server so that they can send and receive communications, even when the specification reveals something different. Sending and receiving communications over a server and executing the command in an expected way is an abstract idea.

ii. Claim 8

For the same reasons discussed above for Claim 1 of the '131 Patent, Claim 8 is also directed to the abstract idea of receiving a command and executing the command in an expected way over a network to modify electric supply. Claim 8 merely includes every limitation of Claim 1 but limits the "communications received [from a server] as part of a demand response system" to "power grid load data." '131 Patent 12:50-53. The Court does not view this limitation as having an effective difference on the character of the claim as compared to Claim 1. In light of the specification, demand response information or power grid load data (if there is even a difference) is sent to the server, after which a decision is made to turn on/off or limit charge to individual charging stations. This decision (command) is then communicated to charging stations over a network. Whether the decision in the server arose from a "demand response system" or "power grid load data" is of no concern because that decision occurs in the server and is not embodied in Claim 1 (or 8). What is included in the claim is the communication of that decision to the charging station and executing the

command according to the expected and normal functioning of the charging station, which is determined to be abstract.

c. The ’570 Patent

Claims 31 and 32 of the ’570 Patent are:

> 31. A network-controlled charge transfer system for electric vehicles comprising:
>
> a server;
>
> a data control unit connected to a wide area network for access to said server; and
>
> a charge transfer device, remote from said server and said data control unit, comprising:
>
> an electrical receptacle configured to receive an electrical connector for recharging an electric vehicle;
>
> an electric power line connecting said receptacle to a local power grid;
>
> a control device on said electric power line, for switching said receptacle on and off;
>
> a current measuring device on said electric power line, for measuring current flowing through said receptacle;
>
> a controller configured to operate said control device and to monitor the output from said current measuring device;
>
> a local area network transceiver connected to said controller, said local area network transceiver being configured to connect said controller to said data control unit; and

> a communication device connected to said controller, said communication device being configured to connect said controller to a mobile wireless communication device, for communication between the operator of said electric vehicle and said controller.
>
> * * *
>
> 32. A system as in claim 31, wherein said wide area network is the Internet.

'570 Patent 14:22-52. Claim 31 of the '570 Patent discloses a system comprised of three main components: a server, a data control unit (to connect a charging station to the server via a wide area network), and a charge transfer device (charging station). *Id.* The charge transfer device comprises several of the same core components as the '715 and '131 Patents including a "control device" (to switch power on and off), a "controller" (to control the control device), and a "transceiver" (to connect the charging station to the data control unit which is connected to the server via a wide area network). *Id.* The charging station also includes other features such as a "communication device" (used to connect a user's cell phone to the charging station via a wide area network), a "current measuring device" (an electric meter), and an "electrical receptacle" (to connect the charging station to an "electric power line").

i. Claim 31

Viewed in its entirety to ascertain the character, Claim 31 is directed to sending a request, receiving a command, and executing the command over a network, to turn electric supply on and off, and subsequently monitoring the results of the executed demand. The Court finds that this is an abstract idea for many

of the reasons discussed above in regard to the '715 and '131 Patents.

Looking to the language of the claim, Claim 31 recites a "network-controlled charge transfer device" including a server, a data control unit, and a charge transfer device. '570 Patent 14:24-28. The charge transfer device contains a transceiver, a controller, a control device, a communication device, a current measuring device, an electrical receptacle, and an electric power line. *Id.* at 27-50. The transceiver merely connects the charge transfer device to the server via the data control unit. *Id.* at 42-45. The control device in this claim merely switches on and off like in the '715 Patent. *Id.* at 34-35. The controller "operates" the control device. *Id.* at 39-41. The communication device connects a user's cellphone to the charge transfer device, thus describing the origin of the request for charge. *Id.* at 46-50. The electrical receptacle connects the vehicle to the charge transfer device. *Id.* at 29-31. The electric power line connects the charging device to the power grid. *Id.* at 32-33. Finally, the current measuring device, "measure[s] current flowing through said electrical receptacle." *Id.* at 36-38.

Considering the claim as a whole, the Court finds that it is directed to a system for sending a request (originating from a cellphone), receiving back a command (from a server), executing the command (to turn on/off in an expected way), and monitoring the results of the command (by measuring the electric output). As discussed above in regard to the '715 Patent analysis, Counsel for ChargePoint admitted that "[t]he essence of the system is charging stations that can be controlled remotely and can be accessed remotely by all of

the shareholders." Hr'g on Motion to Dismiss 43:10-16, ECF No. 48.

As discussed above, sending and receiving communications over a network and executing a command in an expected way is an abstract idea. Merely monitoring the output of the command is also abstract. *Elec. Power*, 830 F.3d at 1353-54. The data collected from the monitoring device is not used in conjunction with the other claim components for any particular purpose to improve the system. Rather, according to the specification, it is displayed to the customer and used to calculate the cost of the transaction and perhaps used for tax reports. '570 Patent at 2:11-20; 4:37-43. Monitoring the amount of a commodity sold and determining a price is a long prevalent practice. The specification does not make clear how the data collected from the monitoring device integrates into the system, merely stating that it is ultimately reported back to the customer on an invoice. *Id.* at 4:38-44.

Furthermore, the additional claim limitations unrelated to the communication system (electrical receptacle and electric power line) merely limit the abstract idea to a field of use (EV charging) and are peripheral elements to a standard EV charging station. The true character of the claim (a communication system to send/receive/execute a command and monitor results) is consistent with the specification in that the invention purports to fill the need for a "communication network." '715 Patent 1:35-8; 2:8-10. Applying a communication network to send/receive/execute commands is an abstract idea, and an improvement to the technological function of EV charging stations, systems, or the electric grid is not clear in the limitations of the claims.

ii. Claim 32

Claim 32 includes every element of Claim 31 but limits the wide area network (used by both the data control unit and communication device) to the Internet. The Court finds that this does not alter the abstract character of the claim. Limiting an abstract idea to the Internet does not save the claim from abstraction. Using the Internet, as opposed to some other type of wide area network, does not alter the abstract character of the claim. The device is simply being used as a conduit to implement the abstract idea of sending and receiving communications over a network to operate a device in an expected way.

d. The '967 Patent

Claims 1 and 2 of the '967 Patent are:

> 1. A method in a server of a network-controlled charging system for electric vehicles, the method comprising:
>
> receiving a request for charge transfer for an electric vehicle at a network-controlled charge transfer device;
>
> determining whether to enable charge transfer;
>
> responsive to determining to enable charge transfer, transmitting a communication for the network-controlled charge transfer device that indicates to the network-controlled charge transfer device to enable charge transfer; and
>
> transmitting a communication for the network-controlled charge transfer device to modify application of charge transfer as part of a demand response system.
>
> * * *

> 2. The method of claim 1, wherein determining whether to enable charge transfer includes validating a payment source for the charge transfer.

'967 Patent, 12:6-21. Claim 1 of the '967 Patent discloses a method (performed in a server) comprised of four steps: (1) receiving a request to enable charge transfer from a charging station; (2) determining whether to enable charge transfer, (3) transmitting a command to the charging station to enable charge transfer, and (4) transmitting a command to "modify application of charge as part of a demand response system." *Id.*

i. Claim 1

Viewed in its entirety to ascertain the character as a whole, Claim 1 of the '967 Patent is directed to receiving a request, processing the request, and sending a command over a network (to turn electric supply on and off and/or modify electric charge as part of a demand respond system). The Court finds that this is inherently an abstract idea.

Claim 1 recites a "method in a server" comprising *receiving a request* (for charge transfer from a charging station, *determining whether to enable charge transfer*) (i.e., processing the request), *transmitting a communication* to a charger to enable charge transfer (i.e., sending a command), and *transmitting a communication* to modify electric charge based on a demand response system. '967 Patent 12:6-18. Receiving, determining, and transmitting data/communications, without something more, has repeatedly been found to be an abstract idea. *In re TLI*, 823 F.3d at 612-3; *Elec. Power*, 830 F.3d at 1353-4. *Content Extraction*, 776 F.3d at 1347. These claims are not directed to an improvement in the functioning of technology because they do not

provide any meaningful limitations. Rather, they describe generic processes performed by a server: receiving data, processing data, and transmitting data. The claims limit the type of data to a field of use (charge requests for EV charging and demand response information) but fail to describe *how* the "determining" step is performed or *how* the server decides to implement a demand response request from a utility company.

The asserted inventive step, as described in the specification, arises in the method of "determining charge transfer parameters" in the server. '967 Patent 4:47-60. The specification provides only two possibilities for how the server might determine whether to turn on/off or increase/decrease charge: (1) based on user profile settings or (2) based on "the requirements of the Demand Response system" with no further specification as to what this might be other than that it is received by the utility company. '976 Patent 10:50-60.

The Court recognizes that the specification recites possibilities for using profile settings as part of a demand response system such as not charging during high demand, only charging during low power rates, and selling electricity back to the grid. *Id.* at 4:45-58. However, these limitations simply are not recited in the claim. While the specification can help to explain the purpose and meaning of the claims, limitations cannot be read into the claims. Furthermore, determining whether to alter charge "based on the requirements of the Demand Response system [from the utility company]," instead of using user profile information, amounts to nothing more than relaying a communication (from the utility company) over a network to a charging device through a server.

Mere recitation of generic server processes, without claiming any kind of specific process whatsoever, constitutes an abstract idea and would foreseeably preempt anyone from using a server to transmit commands related to powering on a device or implementing a plan to improve electric grid load functionality. This type of claim is abstract and is the very kind that *Alice* sought to prevent from being monopolized.

ii. Claim 2

Claim 2 incorporates every limitation of Claim 1 but adds a limitation that the "determining" step includes validating a payment source. Validating a payment source over a network has been determined to be abstract (and non-inventive) time and time again. *Smart Sys.*, 873 F.3d at 1371; *buySAFE*, 765 F.3d at 1350. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011). The claim is abstract.

C. Step Two: Inventive Concept Test

Because each of the eight Asserted Claims are found to be directed to an abstract idea, the Court must proceed to step two to determine if the abstract idea rises to the level of a patent-eligible inventive concept.

1. Legal Standard

The court must consider the elements of the claim, both individually and as an ordered combination, to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Two-Way Media*, 874 F.3d. 1329, 1338 (Fed. Cir. 2017); *see also Bascom Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016) (an inventive concept may be found in the non-conventional and non-generic arrangement of

components that are individually well-known and conventional).

The Federal Circuit and Supreme Court have identified several matters that may tend to show an inventive concept. For example, as discussed in the step one analysis, claims reciting a specific application of an abstract idea that improves upon the functioning of a computer or other technology or technical field may embody an inventive concept. *Enfish*, 822 F.3d at 1335-6; *McRO*, 837 F.3d at 1315; *Amdocs*, 841 F.3d at 1300. Furthermore, claims that include elements (or combinations of elements) that go beyond well-understood, routine, and conventional activities in the field may also embody an inventive concept. *Bascom*, 827 F.3d at 1350 (the distribution of functionality within a network, by installing internet filtering tools in servers remote from the end-user, was inventive because that specific network arrangement overcame problems in the prior art such as susceptibility to hacking, dependence on local hardware/software, and one-size-fits-all schemes); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1248 (Fed. Cir. 2014)(modifying conventional hyperlink protocol to create a hybrid webpage that combines visual elements of a host site and a third-party site was inventive because it overcame the problem of host sites losing website views and sales to the third-party).

Whether the claim elements (or combination of elements) are well-understood, routine, and conventional in the field can present a question of fact. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, No. 2017-1452, 2018 WL 843288, at *5 (Fed. Cir. Feb. 14, 2018). A court may look to the specification and complaint on a motion to dismiss to determine if there are factual disputes regarding the convention of the field at the

time of the invention. *Id.* While the specification may identify improvements to functionality of technology, which may create factual disputes regarding the convention of the field, a court "must analyze the asserted claims and determine whether they [actually] capture these improvements." *Berkheimer*, 2018 WL 774096, at *6; *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) cert. denied, 138 S. Ct. 672 (2018) ("To save a patent at step two, an inventive concept must be evident in the claims."); *Automated Tracking Solutions, LLC v. Coca-Cola Co.*, No. 2017-1494, 2018 WL 935455, at *5 (Fed. Cir. Feb. 16, 2018)(claims for an RFID system were broad and did not embody any unconventional, inventive activity as alleged in the specification and complaint). If the claims are written with such a high level of generality that the alleged unconventional improvements are not captured by the claims, or if admissions are made regarding the convention in the field, a court may conclude that the abstract concept cited in the claims, as a matter of law, is non-inventive (and thus patent-ineligible). *Id.* at *6-7. Furthermore, a determination of whether a particular technology is well-understood, routine, and conventional goes beyond a disclosed piece of prior art that predates the effective filing date of the invention. *Id.* at *6.

The Federal Circuit and Supreme Court have held that a mere recitation of concrete or tangible components, such as generic computer or networking components, or adding the words "apply it with a computer" will not convert an abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2360, 2368; *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1368 (Fed. Cir. 2015) (a "database" and a "communication medium" "are all generic computer elements"); *buySAFE*, 765 F.3d at

1355 ("That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive."); *In re TLI*, 823 F.3d at 613 ("[T]he components must involve more than performance of well-understood, routine, conventional activit[ies] previously known to the industry"); *Elec. Power*, 830 F.3d at 1355 (The "[i]nquiry therefore must turn to any requirements for *how* the desired result is achieved.").

Lastly, confining the use of the abstract idea to a particular technological environment fails to add an inventive concept to the claims. *Affinity Labs*, 838 F.3d at 1259.

2. The Abstract Ideas in the Asserted Claims are not Patent-eligible

a. The '715 Patent

i. Claim 1

The Court held in the step one discussion, that Claim 1 is directed to sending a request, receiving a command, and executing the command over a network to operate an EV charging station. The Court finds nothing in Claim 1 that amounts to a patent-eligible inventive concept.

First, the Court looks at the individual components of the claims: a control device, a controller, a transceiver, a server, a data control unit, and a wide area network. Each of these components amounts to generic computing and networking equipment that were well-known, routine, and conventional at the time of the invention. The specification does not purport that any of these components was anything different. Nothing in the specification indicates that the control device, which turns electric supply on and off, performs any-

thing other than its normal and ordinary function of turning on and off (i.e., a switch). Nothing in the specification indicates that the controller is anything more than a generic device (i.e., a processor) that controls things, something that exists in all computers. *See* '715 Patent 7:44 ("[the control device] is controlled by the controller."). In describing different communication devices in the "Background of the Invention" section, ChargePoint admits that transceivers already existed and tells the reader what they are. *Id.* at 2:30, 35, 54, 64. ("A wireless local area network transceiver is used for radio frequency communication over tens of meters or more between devices."). The specification recites a well-understood, routine, and conventional server with no alleged improvements. *Id.* at 9:4-14 ("The server comprises a computer, report generator, and database."). The data control unit is nothing more than "a bridge between the LAN and WAN, and enables communications between the [charging station] and the server." *Id.* at 6:23-25. The specification does not state that the patent claims a new device for bridging a LAN and WAN. This clearly is a well-understood, routine, and conventional device. Lastly, a wide area network assuredly has not been invented in this patent. *Id.* at 2:64-3:6.

Next, the Court must determine whether ordered combinations of these components give rise to a patent-eligible inventive concept. In doing so, the only logical grouping of these components is to separate them by networking equipment and EV charging equipment. The transceiver, server, data control unit, and wide area network combine to create a system which introduces generic networking capabilities to a device. The specification appears to assert the invention of the concept of using a transceiver to connect to a data control unit through a local area network that con-

nects to a server through a wide area network. *Id.* at 3:32-35. This, in fact, would be the creation of the wide area network itself. In describing wide area networks in the "Background of the Invention," the specification states that "[t]he Internet is a worldwide, publicly accessible plurality of interconnected computer networks. . . . Many local area networks are part of the Internet." *Id.* at 3:22-26. Thus, connecting a device (a computer/charging station) to a local area network device (some kind of data control unit) which communicates with a larger wide area network (the Internet) clearly existed and was well-understood, routine, and conventional at the time of the alleged invention.

Lastly, the networking unit must be combined with the charging station unit (the controller and control device) to search for an inventive concept. The Court does not find one here.

ChargePoint alleges to have invented the concept of introducing networking capabilities to a charging station. The specification states that "[t]here is a need to effectively integrate these wide area networks, local area networks, and short range communications devices into systems used for recharging electric vehicles." *Id.* at 3:30-33. In other words, there was a need to apply networking capabilities to charging stations. This is non-inventive and patent-ineligible as a matter of law. Recitation of generic computing and networking equipment, and adding the words "apply it" to an existing process or device in a particular field (a charging station) so that the device may send and receive communications is a non-inventive abstract idea. *Alice*, 134 S. Ct. at 2360. Introducing networking capabilities to operate an existing device merely serves as a conduit to performing the abstract idea of sending requests, receiving commands, and executing commands

over a network. As noted above in the step one discussion, none of the improvements to the EV charging system or electric grid that are effectuated by connecting the charging station to a network are presented in this claim. Based on the lack of an improvement in the claims, there is no factual dispute. Therefore, the abstract nature of the claim (sending a request, receiving a command, and executing the command in an expected way over a network) does not give rise to an inventive concept. Thus, Claim 1 is not eligible for patent protection.

ChargePoint seeks to rely upon the decision in *Bascom* to support its argument that the abstract idea gives rise to a patent-eligible inventive concept. In *Bascom*, the patent claims described a system that moved an Internet content-filtering process from local servers and computers and placed them on the ISP's remote server. 827 F.3d at 1344-45. The specification described that this improved the functionality of existing filtering programs because the claimed process was less susceptible to hacking by end-users and gave users the ability to customize filtering for users within their individual network. *Id.* The Court held that the claims were directed to the abstract idea of filtering content over the Internet, but that that abstract idea passed the step two test because the claims overcame specific problems with existing systems. *Id.* at 1350.

ChargePoint contends that by virtue of using a server to connect its charging stations to a network, which allows for the possibility of creating user accounts, that its claims are similar to the claims in *Bascom* and are thus inventive. Pl.'s Resp. 28-32, ECF no. 43. However, ChargePoint fails to appreciate the underlying reason for the inventive concept finding in *Bascom*. The *Bascom* court stated that the claims were

inventive because moving the filtering scheme from a local server to a remote server reduced susceptibility to hacking and allowed administrators to create personalized settings for users related to the Internet filtering process. *Bascom*, 827 F.3d at 1350. The Court went on to say that:

> The claims do not merely recite the abstract idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer components. Such claims would not contain an inventive concept . . . Nor do the claims preempt all ways of filtering content on the Internet; rather, they recite a specific, discrete implementation of the abstract idea.

Id. The claims in the '715 patent do not purport to have overcome a functional issue in EV charging systems by moving a software algorithm from a local device to a remote server. Moreover, the user profiles herein involve customer preferences related to business transactions (validating a payment source, receiving custom payment rates, choosing to charge when electricity costs are low), not the core functioning of the system itself such as the internet filtering process in *Bascom*. The claims do not even refer to a user profile or any process for using user profile information to make a decision to effectuate charge transfer. Instead, Claim 1 merely recites the process of sending a request to a server and receiving back a command which is executed in a known way. Using a server as a medium to send and receive communications to a device, without something more, is not inventive.

ii. Claim 2

Claim 2 is not eligible for patent protection for the same reason as Claim 1. Claim 2 merely adds the

electrical coupler component to the other components of the claims. The electrical coupler alone was well-understood, routine, and conventional. The specification actually makes no mention of an "electrical coupler" but does refer to an "electrical connector," which connects the charging station to the electric vehicle. '715 Patent at 7:40-41. The patent does not purport to have invented an electrical coupler (i.e., a wire). Combining the electrical coupler to the other components of Claim 1 also does not give rise to an inventive concept. An electrical coupler is merely a standard component of a charging station and narrows the claim to the field of use. It describes how the abstract idea of sending a request, receiving a command, and executing the command in an expected way (turning the charging station on/off) would ultimately reach the electric vehicle. Thus, the Court cannot find an inventive concept, and Claim 2 is ineligible for patent protection.

b. The '131 Patent

i. Claim 1

The Court holds that the abstract nature of Claim 1 of the '131 Patent does not give rise to an inventive concept and is thus ineligible for patent protection. The Court has determined that the only difference from the '715 Patent is that the control device in Claim 1 of the '131 Patent may modify charge as opposed to simply turning on or off. The communications received from the server are also limited to those related to a demand response system.

The specification does not purport to have invented a control device which is capable of modifying charge. Thus, this limitation alone was well-known, routine, and conventional. As the Court discussed in the step one analysis, the communications received as part of a

demand response system are merely commands to either turn on/off or increase/decrease charge. The demand response communication from the utility company ends at the server and is transformed into a command which is communicated to a particular charging station. Thus, the Court must next look to whether the ordered combination of the networking components and the controller/control device amount to an inventive concept when receiving commands that originated as part of a demand response system. For many of the reasons discussed above in the '715 Patent discussion, the Court finds that it does not. The communications received as part of the demand response system are nothing more than commands to turn on/off or increase/decrease charge. These commands are then executed by the controller/control unit.

ChargePoint alleges that the ability to modify charge in response to a demand response system is the inventive concept. However, the specification tells a different story. In the "Background of the Invention" section, the specification states that:

> Demand Response is a mechanism for reducing consumption of electricity during periods of high demand. For example, consumer services such as air conditioning and lighting may be reduced during periods of high demands according to a preplanned load prioritization scheme.

'131 Patent at 1:45-49.

Thus, the specification itself provides that the concept of responding to demand response requests already existed as applied to air conditioning and lighting. The specification also states that the concept of vehicle-to-grid (V2G) already existed but was "principally being used in small pilot schemes." *Id.* at 2:2. The specifica-

tion further states that "[t]here is a need for *more widely available* Demand Response and V2G to assist with peak load leveling." *Id.* at 2:3-4 (emphasis added). In essence the concept of fluctuating charge based on demand response already existed, but there was a need for more of it in the EV charging field. In other words, the specification stated that the combination of connecting generic networking equipment to a charging device to carry out a demand response plan already existed and was well-understood, routine, and conventional. The need was for more of it and for "an efficient communication network" to help implement it. *Id.* at 2:10-12. The alleged invention filled the need by making networked stations more widely available and by connecting its charging station to a network with generic networking equipment (as established in the '715 analysis). This does not amount to an inventive concept. Narrowing the known concept of responding to a demand response system to a particular field, in this case EV charging, does not make the claims any more inventive. *Affinity Labs*, 838 F.3d at 1259.

ii. Claim 8

Claim 8 is not eligible for patent protection for the same reason as Claim 1. The only added limitation is that the communications received as part of the demand response system are limited to power grid load data. As we have repeatedly established, there is no functional difference. The commands that ultimately are sent to the charging station are commands to turn on/off or increase/decrease charge. Whether or not they originated as a demand response or as power grid load data (if there is even a difference) bears no distinction. This information is sent to the server which decides what to do with the information and sends out a command to the charging station. The

same analysis for Claim 1 applies to Claim 8. The Claims are not eligible for patent protection.

c. The '570 Patent

i. Claim 31

The Court stated above in the step one analysis that Claim 31 is directed to sending a request, receiving a command, and executing the command over a network to operate an EV charging station and subsequently monitoring the results. The Court finds nothing in Claim 31 that amounts to a patent-eligible inventive concept.

Individually, none of the limitations amounts to an inventive concept. Each of the components were clearly well-understood, routine, and conventional. As established in the '715 analysis, a server, data control unit, control device, controller, and transceiver were all well-understood, routine, and conventional. The additional "communication device" for connecting a cellphone to the charging station is nothing more than another transceiver. The specification does not purport to have invented a current measuring device, an electrical receptacle, or an electric power line.

As an ordered combination, the components can be separated into networking components and standard charging station components. As previously established, the networking components were clearly well-understood, routine, and conventional. The combination of the networking equipment with the charging station equipment also does not amount to an inventive concept. For the same reasons as in the '715 Patent analysis, the ordered combination merely serves as a conduit for carrying out the abstract idea of sending requests, receiving commands, executing the commands in a known way, and monitoring the results. The claims

are not drawn to any of the alleged technological improvements in the specification. Introducing the communication device (transceiver), which connects to a cellphone, merely describes the source of the request to charge. The only alleged improvement that might be captured by Claim 31 is "the need for finding the recharging facility, controlling the facility, and paying for the facility," all of which are categorically abstract and non-inventive concepts. *Open Parking*, 683 Fed.Appx. 932 (Mem); *In re TLI*, 823 F.3d at 612; *Smart Sys.*, 873 F.3d at 1371. The added current measuring device for monitoring electric power consumption also does not amount to an inventive concept. Monitoring data (electric consumption) and reporting it back to a user with no further specification is not inventive. *Elec. Power*, 830 F.3d at 1353-4.

Because Claim 31 does not capture any of the alleged improvements, there is no factual dispute blocking dismissal. Claim 31 merely serves as a conduit for carrying out the abstract idea and is not eligible for patent protection.

ii. Claim 32

Claim 32 limits the wide area network used to connect the data control unit to the server (and the cellphone to the charging station) to the Internet. Certainly, the Internet was well-known, routine, and conventional at the time of the invention, and limiting the wide area network in Claim 31 to the Internet does not change the analysis. '570 Patent at 3:17-27. Claim 32 is also not eligible for patent protection.

d. The '967 Patent

i. Claim 1

The Court concluded above that Claim 1 of the '967 Patent is directed to receiving a request, processing the request, and sending a command over a network (to turn electric supply on and off and/or modify electric charge as part of a demand respond system). The Court finds that this abstract idea does not rise to the level of patentability.

Individually, each of the claim limitations were inherently well-understood, routine, and conventional. The specification of the patent does assert the invention of the step of receiving a request within a server. The specification does not purport to have invented transmitting a command over a network through a server. The specification does not purport to have invented a "determining" or "processing" step within a server.

The specification does purport to have invented the combined method within a server of receiving a request, determining whether to grant the request, and transmitting a command (to enable charge transfer or to modify electric charge). This is categorically non-inventive. "That a computer receives and sends [ ] information over a network—with no further specification—is not even arguably inventive." *buySAFE*, 765 F.3d at 1355. The "further specification" would be *how* the server determines whether to grant the request to charge. The determining step lies at the heart of the inventive concept as alleged in the specification. The determining step is the "something more" that was missing from many of the patent-ineligible claims in cases that were directed to sending and receiving communications over a network. The determining step

decides whether to convert the request for charge into a command to turn on or modify charge. How this occurs is the inventive concept which effectuates all of the improvements alleged in the specification. When the server receives a demand response request, the server determines which charging stations to turn off, modify charge, allow for V2G, etc. '967 Patent at 10:50-60. This decision-making process is what improves on the functioning of the electric grid and EV charging systems, as opposed to merely introducing the capability of sending and receiving communications over a network.

However, not a single improvement or decision-making process is recited in Claim 1. The claim perceivably would allow for any possible determining step to take place without imposing any meaningful limitations. In effect, the claim essentially recites generic processing steps within a server: receiving a communication, processing the communication (without any further specification), and sending out a command. This is not even arguably inventive. Thus, the claim does not give rise to a factual dispute, is not an inventive concept, and is not eligible for patent protection.

ii. Claim 2

Claim 2 limits the determining step to validating a payment source. This has repeatedly been held to be a non-inventive abstract idea that is not eligible for patent protection. *Smart Sys.*, 873 F.3d at 1371; *Open Parking*, 683 Fed. Appx. 932 (Mem). Claim 2 is not eligible for patent protection.

V. SUMMARY

The Court holds that each of the eight Asserted Claims in the Asserted Patents is directed to an

abstract idea. The Court further finds that none of the abstract ideas, as recited in the Asserted Claims, amount to a patent-eligible inventive concept. Connecting the Internet to a device to send and receive communications to operate that device in an expected way, without describing a specific process for how the communications provide a technological improvement (other than by virtue of being able to send and receive communications), is an abstract idea that is not eligible for patent protection under § 101. Therefore, the Asserted Claims are not eligible for patent protection. Because the Asserted Claims are invalid, the motion to dismiss shall be granted, and the Complaint shall be dismissed.

VI. CONCLUSION

For the foregoing reasons:

1. Defendant's Motion to Dismiss for Failure to State a Claim [ECF No. 41] is GRANTED.
2. The following claims are found invalid under 35 U.S.C. § 101:
    a. United States Patent No. 7,956,570 Claims 31 and 32;
    b. United States Patent No. 8,138,715 Claims 1 and 2;
    c. United States Patent No. 8,432,131 Claims 1 and 8; and
    d. United States Patent No. 8,450,967 Claims 1 and 2.
3. Judgment shall be entered by separate Order.

SO ORDERED, on Friday, March 23, 2018.

APPENDIX C

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2018-1739

CHARGEPOINT, INC.,

Plaintiff-Appellant,

v.

SEMACONNECT, INC.,

Defendant-Appellee.

Appeal from the United States District Court for the District of Maryland in No. 8:17-cv-03717-MJG, Senior Judge Marvin J. Garbis.

JUDGMENT

THIS CAUSE having been considered, it is

ORDERED AND ADJUDGED:

AFFIRMED

ENTERED BY ORDER OF THE COURT

March 28, 2019

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

APPENDIX D

NOTE: This order is nonprecedential.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2018-1739

CHARGEPOINT, INC.,

Plaintiff-Appellant,

v.

SEMACONNECT, INC.,

Defendant-Appellee.

Appeal from the United States District Court for the District of Maryland in No. 8:17-cv-03717-MJG, Senior Judge Marvin J. Garbis.

ON MOTION

ORDER

Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.

PER CURIAM.

Appellant ChargePoint, Inc. filed a petition for re-hearing en banc. A response to the petition was invited by the court and filed by Appellee SemaConnect, Inc. The petition was first referred as a petition for

rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on July 30, 2019.

July 23, 2019
Date

FOR THE COURT

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court