APPENDIX 3

Appendix 3

Preliminary Ineligibility Contentions – U.S. Patent No. 6,862,179

The following chart contains Vertiv's preliminary Ineligibility Contentions demonstrating that Claims 1-6, 9-13, and 15 of U.S. Patent No. 6,862,179 (the "'179 patent") are patent-ineligible under 35 U.S.C. § 101 pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions. Nothing in this claim chart should be construed as an admission regarding infringement, either literally or under the doctrine of equivalents, or as an admission regarding Vertiv's understanding of the proper scope of the Asserted Claims. Given Plaintiff's vague and ambiguous infringement contentions, the exemplary citations herein necessarily account for a variety of possible infringement arguments and claim constructions. Vertiv reserves the right to rely on additional citations or sources of evidence that also may be applicable, or that may become applicable in light of claim construction, changes in Plaintiff's infringement contentions, and/or information obtained during discovery as the case progresses. Various positions put forth in this document are predicated on Plaintiff's overly broad interpretation of its claims as evidenced by the infringement allegations received to date. Those positions are not intended to and do not necessarily reflect Vertiv's interpretation of the true and proper scope of Plaintiff's claims, and Vertiv reserves the right to adopt claim construction positions that differ from or even conflict with various positions put forth in this document.

Vertiv reserve the right to amend or supplement this claim chart at a later date pursuant to the Docket Control Order issued by the Court on September 3, 2024 (Dkt. No. 60).

A. Chart Identifying Exception to Eligibility, Representative Claims, Relevant Industry and Time Period, Materials That Support Patent Ineligibility, And Relevant Case Law

Exception To Eligibility	The Asserted Claims of the '179 patent are directed to an abstract idea. Specifically, the Asserted Claims are directed to the abstract idea of collecting and analyzing data to evaluate a cooling system and make appropriate adjustments. *See, e.g.,* '179 patent at 2:16-28; Figs. 4A and 4B. The claims of the '179 patent itself establish that they are directed to collecting and analyzing data to evaluate a cooling system and make appropriate adjustments. *See, e.g.*, '179 patent at claim 1 ("determining whether said sensed temperature is within a predetermined temperature range"; "manipulating said controllable partition to vary said supply of said cooling fluid to said zone in response to said sensed temperature being outside said predetermined temperature range"); *id.* at claim 2 ("determining whether the measured temperature of said at least one associated rack is below or equal to a predetermined minimum set point temperature"; "decreasing the supply of said cooling fluid to said zone in response to said at least one associated rack having a measured temperature that falls below or equal said predetermined minimum set point temperature"); *id.* at claim 3 ("sensing a pressure of a supply of said cooling fluid; determining whether said sensed pressure is within a predetermined pressure range; and varying an output of said cooling device in response to said sensed pressure falling outside of said predetermined pressure range"); *id.* at claim 4 ("increasing the supply of said cooling fluid to said zone in response to said at least one associated rack having a measured temperature that exceed said predetermined minimum set point temperature"); *id.* at claim 5 ("determining whether said measured pressure falls below or equals a predetermined minimum set point pressure"); *id.* at claim 6 ("decreasing an output of said cooling fluid from said cooling device in response to said decrease in cooling fluid supply to said zone exceeding said increase in cooling fluid supply to said zone"); *id.* at claim 9 ("receiving temperatures from a movable device"; "determining whether at least one of said sensed temperatures and received temperatures are within a predetermined temperature range"); *id.* at claim 10 ("performing a numerical modeling of a temperature distribution and flow characteristics of the data center; and manipulating said cooling device in response to said numerical modeling"); *id.* at claim 11 ("increasing the output of said cooling device in response to said measured pressure falling below or equaling said predetermined minimum set point pressure"); *id.* at claim 12 ("decreasing the output of said cooling device in response to said measured pressure exceeding said predetermined minimum set point pressure"); *id.* at claim 13 ("increasing an output of said cooling fluid from said cooling device in response to said decrease

	in cooling fluid supply to said zone falling below said increase in cooling fluid supply to said zone."); *id.* at claim 15 ("implementing said numerical modeling to correlate at least two of temperature, velocity and pressure of said cooling fluid and power draw of at least one of said zone and said racks within said data center to thereby infer a thermal condition throughout said data center"). Collecting and analyzing data to determine adjustments to the operation of a building cooling system constitutes an abstract idea. *See, e.g.*, *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("[M]ental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work."); *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) ("[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas"); *see also id.* at 1354 ("[W]e have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." . . . "[W]e have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis."); *see also Parker v. Flook*, 437 U.S. 584 (1978) (process involving calculating and updating alarm limit values for alarms that monitor process variables (such as temperature) during chemical process constitutes an abstract idea). In any building where humans live, humans monitor the atmospheric conditions within the building and make adjustments as necessary. Such a concept is as basic as a person living in a house with windows that can be open and closed. The person senses or monitors the temperature within one or more rooms of the house. If the temperature is too high and the person feels hot, the person can open the windows so that cooling air from the outside is supplied into the building. If the temperature is too low and the person feels cold, the person can close the windows, thus cutting off the flow of air from the outside. It may be desirable for different rooms or locations in the house to have different temperatures. The person monitors the rooms and adjusts the windows as necessary to achieve the desired temperature distribution within different rooms or locations in the house. A person living in a house equipped with conventional air conditioning performs similar monitoring, analysis, and adjustment steps to control the atmospheric conditions within rooms or regions of the house. The person senses or monitors the temperature within one or more rooms or regions of the house. If the temperature is too high and the person feels hot, the person can adjust a vent in the room so that more cool air is supplied to the

	room. If the temperature is too low and the person feels cold, the person can adjust a vent in the room so that less cool air is supplied to the room. The person can repeat this process for multiple rooms or regions, individually manipulating air conditioning vents to achieve a desired temperature range within each room or region.
Representative Claims	Claim 1 is representative of each of the other Asserted Claims of the '179 Patent.
Relevant Industry and Time Period	The relevant industry is cooling systems for buildings. For purposes of these Subject Matter Eligibility Contentions, Vertiv has assumed the relevant time period is 2002, based on Plaintiff's asserted priority date and the filing date of the application that issued the '179 Patent.
Material Supporting Patent Ineligibility[1]	• Vertiv' Invalidity Contentions and all materials cited therein • Exhibits C-1 to C-27 of Appendix 3 and all materials cited therein
Relevant Legal Authorities[2]	General Section 101 authority: • *Gottschalk v. Benson*, 409 U.S. 63 (1972) • *Parker v. Flook*, 437 U.S. 584 (1978) • *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208 (2014) • *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018) • *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905 (Fed. Cir. 2017) • *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322 (Fed. Cir. 2017) • *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607 (Fed. Cir. 2016)

[1] In addition to the listed materials, Vertiv reserves the right to rely on: (1) all intrinsic evidence including the '179 Patent itself and its prosecution history; (2) extrinsic evidence obtained or disclosed during the course of fact discovery, including inventor testimony; and (3) extrinsic evidence obtained or disclosed during the course of expert discovery including, expert testimony.

[2] The listing of relevant case law is exemplary. Vertiv reserve the right to rely on additional legal authorities to support their subject matter eligibility positions in this litigation.

	• *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016) • *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016) • *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) • *Yu v. Apple Inc.*, 1 F.4th 1040 (Fed. Cir. 2021) • *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278 (Fed. Cir. 2020). • *Smart Sys. Innovations, LLC. V. Chi. Transit Authority*, 873 F.3d 1364 (Fed. Cir. 2017) • *ChargePoint, Inc. v. Sema-Connect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019) • *Cybersource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011) <u>Cases relevant to abstract idea inquiry at *Alice* step one:</u> • *Move, Inc. v. Real Estate All., Ltd.*, 221 F. Supp. 3d 1149 (C.D. Cal. 2016), affirmed 721 F. App'x 950 (Fed. Cir. 2018) • *Rothschild Location Techs. LLC v. Geotab USA, Inc.*, 2016 WL 3584195 (E.D. Tex. Jan. 4, 2016), report and rec. adopted, 2016 WL 2847975 (E.D. Tex. May 16, 2016) • *Peschke Map Techs. LLC v. Rouse Props. Inc.,* 168 F. Supp. 3d 881 (E.D. Va. 2016) • *Encyc. Britannica, Inc. v. Dickstein Shapiro LLP*, 128 F. Supp. 3d 103 (D.D.C. 2015), aff'd 653 F. App'x 764 (D.C. Cir. 2016) • *Concaten, Inc. v. Ameritrak Fleet Solutions, LLC*, 131 F. Supp. 3d 1166 (D. Colo. 2015) • *Location Based Services, LLC v. Google LLC*, C.A. No. 17-83-LPS, 2019 WL 2904670 (D. Del. July 5, 2019) • *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.,* 841 F.3d 1288 (Fed. Cir. 2016) • *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157 (Fed. Cir. 2018) • *Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161 (Fed. Cir. 2019) • *PersonalWeb Technologies LLC v. Google LLC*, 8 F.4th 1310 (Fed. Cir. 2021) • *Mortgage Grader, Inc. v. First Choice Loan Services, Inc.*, 811, F.3d 1314 (Fed. Cir. 2016) • *WhitServe LLC v. Dropbox, Inc.*, 854 F. App'x 367, 372 (Fed. Cir. 2021) <u>Cases relevant to inventive concept inquiry at *Alice* step two:</u> • *Amdocs (Israel) Ltd. v. Opennet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016)

	• *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015) • *Data Engine Technologies LLC v. Google LLC*, 906 F.3d 999 (Fed. Cir. 2018) • *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322 (Fed. Cir. 2017) • *Intellectual Ventures I LLC v. Capital One Bank (NA)*, 792 F.3d 1363 (Fed. Cir. 2015) • *Elec. Commc'n Techs., LLC v. Shopperschoice.com*, 958 F.3d 1178, 1183 (Fed. Cir. 2020) • *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) • *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161 (Fed. Cir. 2018) • *Digitech Image Technologies, LLC v. Elctronics for Imaging, Inc., et al.*, 758 F.3d 1344 (2014) • *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) Other relevant authority: • *Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir. 2016) • *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014)

B. Chart Identifying Exception to Eligibility, Representative Claims, Relevant Industry and Time Period, Materials That Support Patent Ineligibility, And Relevant Case Law

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
1. A method of cooling a plurality of racks in a data	The relevant industry for the '179 patent is the cooling systems for buildings industry. As detailed below, each claim element was well-understood, routine, and conventional in that industry as of November 26, 2002.[3] In addition, the claim elements in combination were also well-understood,

[3] Vertiv notes that, under Supreme Court and Federal Circuit precedent, the Court need not, and should not, consider whether each and every element of each Challenged Claim was well understood, routine, and conventional. Rather, the only elements which should be

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
center, said method comprising:	routine, and conventional. Collectively, the claim elements recite nothing more than a combination of components, each of which is generic and well-known in the art. Nothing about the claimed method is anything other than generic, functional, well-understood, routine, or conventional. Vertiv incorporates by reference the prior art identified in the '179 patent, the prosecution history of the '179 patent, any related litigations, and any related PTAB proceedings. Vertiv further incorporates by reference any prior art identified or to be identified in their invalidity contentions and/or expert reports that will be provided according to the schedule provided by the Court's Docket Control Order, including the state of the art addressed in Section IV of Vertiv's invalidity contentions and claim charts, C-1, *et seq.* attached to Vertiv's invalidity contentions. To the extent the preamble is limiting, methods for controlling atmospheric conditions within a building were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that the preamble was well understood, routine, and conventional. *See, e.g.*, '179 patent at 1:45–63 (describing known methods of controlling atmospheric conditions within a data center using one or more air conditioning units). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for the preamble found in claim charts C-1, *et seq.*
[a] activating a cooling device and opening a controllable partition	Methods of cooling data center racks comprising activating a cooling device and opening a controllable partition configured to vary a supply of cooling fluid within a zone of said data center including at least

considered under Alice step 2 are the elements that fall outside the scope of the abstract idea. *See Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 221–224 (2014); *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since Alice that 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.").

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
configured to vary a supply of cooling fluid within a zone of said data center, said zone including at least one associated rack of said plurality of racks;	one rack were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 1:64–2:10 (describing capability of conventional data center cooling systems to vary supply of cooling fluid based on the estimated cooling requirement); *see, e.g.*, '179 patent at 3:41–56 and Fig. 1 (describing raised floor cooling system for racks of a data center without specifying any special feature or improvement thereto, indicating that the claimed feature is generic, well-known, and conventional); *see, e.g.*, '179 patent at 4:45–5:2 (describing implementing disclosed invention using various well known components of a cooling system (e.g., cooling coil, compressor, condenser, chilled water heat exchange, etc.) in a manner generally known to those of ordinary skill in the art). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
[b] sensing the temperature of said at least one associated rack;	Methods of cooling data center racks comprising sensing the temperature of said at least one associated rack were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 8:33–9:15 (describing temperature sensors associated with racks without specifying any special feature or improvement thereto, indicating that the claimed feature is generic, well-known, and conventional). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
[c] determining whether said sensed temperature is within a predetermined temperature range; and	Methods of cooling data center racks comprising determining whether said sensed temperature is within a predetermined temperature range were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 12:61–13:10 (describing use of conventional controller for determining whether sensed rack temperatures are within a predetermined temperature range). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
[d] manipulating said controllable partition to vary said supply of said cooling fluid to said zone in response to said sensed temperature being outside said predetermined temperature range.	Methods of cooling data center racks comprising manipulating a controllable partition to vary said supply of said cooling fluid to said zone in response to said sensed temperature being outside said predetermined temperature range were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 3:41–55 and Fig. 1 (describing raised floor cooling system for racks of a data center without specifying any special feature or improvement thereto, indicating that the claimed feature is generic, well-known, and conventional); *see, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
	the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 13:32–60 (describing use of conventional controller for adjusting a partition to vary flowrate of cooling fluid in response to sensed temperature being out of range). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
2. The method according to claim 1, further comprising: [a] determining whether the measured temperature of said at least one associated rack is below or equal to a predetermined minimum set point temperature; and	Methods of cooling data center racks comprising determining whether the measured temperature of said at least one associated rack is below or equal to a predetermined minimum set point temperature were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 12:61–13:10 (describing use of conventional controller for determining whether sensed rack temperatures are within a predetermined temperature range). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
decreasing the supply of said cooling fluid to said zone in response to said at least one	Methods of cooling data center racks comprising decreasing the supply of said cooling fluid to said zone in response to said at least one associated rack having a measured temperature that falls below or

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
associated rack having a measured temperature that falls below or equal said predetermined minimum set point temperature.	equal said predetermined minimum set point temperature were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 13:32–60 (describing use of conventional controller for adjusting a partition to vary flowrate of cooling fluid in response to sensed temperature being out of range). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
3. The method according to claim 1, further comprising: sensing a pressure of a supply of said cooling fluid; determining whether said sensed pressure is within a predetermined pressure range; and varying an output of said cooling device in response to said sensed pressure falling outside of	Methods of cooling data center racks comprising sensing a pressure of cooling fluid supply, determining whether said sensed pressure is within a predetermined pressure range, and varying an output of a cooling device in response to said sensed pressure falling outside of said predetermined pressure range were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
said predetermined pressure range.	computer); *see, e.g.*, '179 patent at 15:22–63 (describing use of conventional controller for determine that sensed pressure outside of predetermined range and adjusting flowrate of cooling fluid in response). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
4. The method according to claim 2, further comprising: increasing the supply of said cooling fluid to said zone in response to said at least one associated rack having a measured temperature that exceed said predetermined minimum set point temperature.	Methods of cooling data center racks comprising decreasing the supply of said cooling fluid to said zone in response to said at least one associated rack having a measured temperature that falls below or equal said predetermined minimum set point temperature were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 13:32–60 (describing use of conventional controller for adjusting a partition to vary flowrate of cooling fluid in response to sensed temperature being out of range). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
5. The method according to claim 3, wherein said step of varying said cooling device output includes determining whether said measured pressure falls below or equals a predetermined minimum set point pressure.	Methods of cooling data center racks comprising determining whether said measured pressure falls below or equals a predetermined minimum set point pressure were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 15:22–63 (describing use of conventional controller for determine that sensed pressure outside of predetermined range and adjusting flowrate of cooling fluid in response). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
6. The method according to claim 4, further comprising: decreasing an output of said cooling fluid from said cooling device in response to said decrease in cooling fluid supply to said zone exceeding said increase in cooling fluid supply to said zone.	Methods of cooling data center racks comprising decreasing an output of said cooling fluid from said cooling device in response to said decrease in cooling fluid supply to said zone exceeding said increase in cooling fluid supply to said zone were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
	computer); *see, e.g.*, '179 patent at 13:32–60 (describing use of conventional controller for adjusting a partition to vary flowrate of cooling fluid). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
9. The method according to claim 4, further comprising: [a] receiving temperatures from a movable device configured to detect at least one environmental condition at various locations of said data center;	Methods of cooling data center racks comprising receiving temperatures from a movable device configured to detect at least one environmental condition at various locations of said data center were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 8:33–61 (describing use of conventional controller for receiving sensed temperature data). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
[b] determining whether at least one of said sensed temperatures and received temperatures are within a	*See* disclosures for claim element 1[c].

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
predetermined temperature range; and	
manipulating said controllable partition to vary said supply of said cooling fluid to said zone in response to at least one of said sensed and received temperatures being outside of said predetermined temperature range.	*See* disclosures for claim element 1[d].
10. The method according to claim 4, further comprising: performing a numerical modeling of a temperature distribution and flow characteristics of the data center; and manipulating said cooling device in response to said numerical modeling.	Methods of cooling data center racks comprising performing a numerical modeling of a temperature distribution and flow characteristics of the data center; and manipulating said cooling device in response to said numerical modeling were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 16:37–57 (describing known and commercially available computational fluid dynamics tools operable to perform numerical modeling of flow and temperature characteristics of air-conditioned data centers). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
11. The method according to claim 5, further comprising: increasing the output of said cooling device in response to said measured pressure falling below or equaling said predetermined minimum set point pressure.	Methods of cooling data center racks comprising increasing the output of said cooling device in response to said measured pressure falling below or equaling said predetermined minimum set point pressure were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 15:22–63 (describing use of conventional controller for determine that sensed pressure outside of predetermined range and adjusting flowrate of cooling fluid in response). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
12. The method according to claim 5, further comprising: decreasing the output of said cooling device in response to said measured pressure exceeding said predetermined minimum set point pressure.	Methods of cooling data center racks comprising decreasing the output of said cooling device in response to said measured pressure exceeding said predetermined minimum set point pressure were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional

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	computer); *see, e.g.*, '179 patent at 15:22–63 (describing use of conventional controller for determine that sensed pressure outside of predetermined range and adjusting flowrate of cooling fluid in response). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*
13. The method according to claim 6, further comprising: increasing an output of said cooling fluid from said cooling device in response to said decrease in cooling fluid supply to said zone falling below said increase in cooling fluid supply to said zone.	Methods of cooling data center racks comprising increasing an output of said cooling fluid from said cooling device in response to said decrease in cooling fluid supply to said zone falling below said increase in cooling fluid supply to said zone were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 13:32–60 (describing use of conventional controller for adjusting a partition to vary flowrate of cooling fluid). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*

Asserted Claims of '179 Patent	Section 101 Contentions Regarding Whether Claim Elements Were Well Understood, Routine, and Conventional
15. The method according to claim 10, further comprising: implementing said numerical modeling to correlate at least two of temperature, velocity and pressure of said cooling fluid and power draw of at least one of said zone and said racks within said data center to thereby infer a thermal condition throughout said data center, wherein said manipulating step further comprises manipulating said cooling device in response to said inferred thermal condition.	Methods of cooling data center racks comprising implementing said numerical modeling to correlate at least two of temperature, velocity and pressure of said cooling fluid and power draw of at least one of said zone and said racks within said data center to thereby infer a thermal condition throughout said data center, wherein said manipulating step further comprises manipulating said cooling device in response to said inferred thermal condition were well understood, routine, and conventional in the relevant industry at the relevant time period. For example, the intrinsic record, including the specification of the '179 patent, establishes that this element was well understood, routine, and conventional. *See, e.g.*, '179 patent at 9:44–65 (describing conventional programmable controller for implementing the functions of the disclosed method); *see, e.g.*, '179 patent at 11:48–12:12 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 14:50–15:15 (indicating that the disclosed method may be implemented with the aid of software running on a conventional computer); *see, e.g.*, '179 patent at 16:37–57 (describing known and commercially available computational fluid dynamics tools operable to perform numerical modeling of flow and temperature characteristics of air-conditioned data centers); *see, e.g.*, '179 patent at 17:11–18:15 (describing use of conventional CFD tool to correlate temperature, velocity and pressure of said cooling fluid and rack power draw to thereby infer a thermal condition throughout said data center, and use of conventional controller to manipulating cooling device in response to inferred thermal conditions). Vertiv further incorporates by reference the state of the art addressed in Section IV of Vertiv's invalidity contentions and citations for this claim element found in claim charts C-1, *et seq.*