

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

VALTRUS INNOVATIONS LTD. AND
KEY PATENT INNOVATIONS LTD.,

Plaintiffs,

v.

TIERPOINT, LLC.

Defendant.

Civil Action No. 2:25-cv-00323-JRG

TIERPOINT, LLC.,

Counter Claimant,

v.

VALTRUS INNOVATIONS LTD. AND
KEY PATENT INNOVATIONS LTD.

Counter Defendant.

**DEFENDANT'S INVALIDITY AND INELIGIBILITY CONTENTIONS AND
DISCLOSURES PURSUANT TO PATENT RULE 3-3**

EXHIBITS

Exhibit	Invalidity Claim Charts
A-1 – A-2	Invalidity claim charts for U.S. Patent No. 9,310,855
B-1 – B-6	Invalidity claim charts for U.S. Patent No. 7,057,509
C-1 – C-7	Invalidity claim charts for U.S. Patent No. 7,939,967
Appendix 1	Ineligibility Contention Chart for U.S. Patent No. 9,310,855
Appendix 2	Ineligibility Contention Chart for U.S. Patent No. 7,057,509
Appendix 3	Ineligibility Contention Chart for U.S. Patent No. 7,939,967

INTRODUCTION

Defendant TierPoint, LLC (“Defendant”) hereby submits their Invalidity Contentions concerning patent claims asserted by Plaintiffs Valtrus Innovations Limited and Key Patent Innovations Limited (“Plaintiffs”). The citation of prior art herein and the accompanying exhibits are being disclosed as, and should be construed as nothing more than, Defendant’s Invalidity Contentions, and may, in part, be based on Plaintiffs’ apparent view as to the scope of the Asserted Claims as reflected in its Infringement Contentions. Defendant in no way accepts Plaintiffs’ apparent reading of the claims as reflecting the proper scope of the claims.

Defendant’s Invalidity Contentions are based on their current knowledge, understanding of the prior art and information reasonably available. Thus, Defendant expressly reserves the right to amend, or supplement these Invalidity Contentions based on further investigation, discovery, evaluation of the scope and content of the prior art, admissions, the Court’s claim construction, any other reasonable basis, and as permitted by the Court, Local Rules and the Federal Rules of Civil Procedure.

Further, the Court has not yet construed the Asserted Claims. Plaintiffs’ subsequent assertions, and the Court’s construction may alter the materiality and relevance of some references and moot the Invalidity Contentions while simultaneously giving rise to new issues regarding invalidity of the Asserted Patents.

These Invalidity Contentions are based in large part on what Defendant believes are Plaintiffs’ claim constructions. They shall not be treated as an admission that Defendant agrees with Plaintiffs’ claim constructions, or that Plaintiffs’ contentions on the meaning of the claims are correct. To the extent Defendant determines that a different meaning is appropriate for any claim term, they will assert that in connection with Court’s procedures, and reserve the right to

update these Invalidity Contentions as a result of the *Markman* hearing, or any other subsequent clarification or alteration of the meaning of claim terms.

Much of the prior art identified in the attached exhibits reflect common knowledge and the state of the art before the filing date of the Asserted Patents. In many instances where a particular contention calls for combining references, any one of a number of references can be combined. The inclusion of certain exemplary combinations of prior art references does not exclude other combinations based upon the claim charts attached hereto.

I. ASSERTED PATENTS

Plaintiffs' Infringement Contentions assert the following patents and patent claims (collectively, the "Asserted Patents" and "Asserted Claims"):

Asserted Patent	Asserted Claims
9,310,855 ("the '855 patent")	1, 3-7, 8-11
7,057,509 ("the '509 patent")	17-19
7,939,967 ("the '967 patent")	1, 3-8, 9-11

II. RESERVATION OF RIGHTS

Defendant's Invalidity Contentions are based on their current knowledge of the Asserted Patents, the prior art, Plaintiffs' Infringement Contentions, and upon information presently and reasonably available to Defendant. This litigation is in the early stages, and Defendant's investigation of the prior art is ongoing. Consistent with the local Patent Rules (including P.R. 3-6) and the Federal Rules of Civil Procedure, Defendant reserves the right to supplement, amend, modify, revise, or correct any aspect of their Invalidity Contentions and to provide additional information as such information becomes available through discovery or otherwise.

No aspect of Defendant's Invalidity Contentions shall be deemed to be an admission that their contentions are complete. In particular, Defendant reserves the right to supplement their Invalidity Contentions as discovery continues and after any further claim construction by the Court. In addition, Defendant also reserves the right to supplement their Invalidity Contentions should Plaintiffs subsequently attempt to amend their P.R. 3-1 or 3-2 disclosures in any way, or to otherwise modify their infringement allegations against Defendant or seek to establish an earlier date of invention (while reserving all rights to challenge any attempt by Plaintiffs to do so).

Defendant further reserves the right to supplement their Invalidity Contentions with information subsequently provided by Plaintiffs concerning their infringement contentions. Plaintiffs' Infringement Contentions fail to identify specifically for many of the asserted claim limitations the allegedly infringing structures and acts in the accused products and methods, in contravention of P.R. 3-1. Plaintiffs' failure to identify specifically infringing structures and acts prevents Defendant from searching for, locating, presenting, and relying on prior art having all or some of such structures and acts, thus effectively denying Defendant the opportunity to rely on the fundamental principle that whatever infringes a claim if later in time anticipates the claim if earlier in time, and further denying Defendant the opportunity to conduct other invalidity analytical methods.

Moreover, Defendant reserves the right to revise their ultimate contentions concerning the invalidity of the claims of the Asserted Patents based upon the Court's construction of the claims of the Asserted Patents, any findings as to the priority dates of the Asserted Claims, and/or positions that Plaintiffs, Defendant, or any expert witness may take concerning claim interpretation, infringement, and/or invalidity issues. Prior art not included in this disclosure, whether known or not known to Defendant, may become relevant.

In particular, Defendant is currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendant. To the extent Plaintiffs contend limitations of the Asserted Claims are not disclosed in the prior art identified by Defendant, Defendant reserves the right to identify other references that would have made the addition of the allegedly missing limitation to the disclosed device or method obvious or show that the allegedly missing limitation would have been known or readily apparent to one of ordinary skill in the art at the time of the alleged invention in light of the disclosure of the prior art at issue. Defendant reserves the right to rely on any reference found in the prosecution histories of the applications leading to the Asserted Patents or otherwise identified in connection with this litigation.

Further, Defendant reserves the right to rely on any reference or item sought or to be sought from third parties that is solely within those third parties' possession, custody, or control, and has not yet been produced during discovery. Defendant may issue subpoenas to third parties believed to have knowledge, documentation and/or corroborating evidence concerning some of the prior art listed herein and/or additional prior art. These third parties include, but are not limited to, the authors, employers of authors, inventors, assignees, or former or current employee of assignees, of the references identified or the Asserted Patents, and of other parties accused of infringing the Asserted Patents in this or related litigation matters.

Defendant reserves the right to supplement these Invalidity Contentions in light of any newly discovered information produced by these or other companies from which Defendant may seek discovery. Much of the art identified in the attached exhibits reflects common knowledge and the state of the art before the filing date of the Asserted Patents. In many instances where a particular contention calls for combining references, any one of a number of references can be

combined. The inclusion of certain exemplary combinations of prior art references does not exclude other combinations based upon the claim charts attached hereto. Each of the Asserted Claims of the Asserted Patents is anticipated by and/or obvious in view of one or more of the items of prior art identified herein alone or in combination with other prior art references.

Defendant's claim charts cite to or reference particular teachings and disclosures of the prior art as applied to features of the Asserted Claims, but persons having ordinary skill in the art generally may view an item of prior art in the context of other publications, literature, products, and understanding. As such, the cited portions are examples only, and Defendant reserves the right to rely on uncited portions of the prior-art references and on other publications and expert testimony as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation.

Defendant further reserves the right to rely on uncited portions of the prior-art references, other publications, and testimony to establish reasons for combining certain cited references that render the Asserted Claims obvious. The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. Defendant intends to rely on admissions concerning the scope of the prior art relevant to the Asserted Patents found in, inter alia: the Asserted Patents and related patents and/or patent applications; the patent prosecution histories for the Asserted Patents and related patents and/or patent applications (including all prior art cited therein); any deposition testimony of the named inventors of the Asserted Patents and related patents and/or patent applications in this matter or any other matter; evidence and testimony relating to the level of ordinary skill in the art; evidence from prior litigation, administrative proceedings, and correspondence involving the Asserted Patents and related patents; and the

papers filed and any evidence submitted by Plaintiffs in connection with this matter or the related matters involving the Asserted Patents.

To the extent these Invalidity Contentions rely on or otherwise embody particular constructions of terms or phrases in the Asserted Claims, Defendant is not proposing or adopting any such constructions as proper constructions of those terms or phrases at this time. The Court has established, or will establish separate deadlines for the parties' proposed claim constructions in a Docket Control Order, and Defendant will disclose their proposed constructions according to those deadlines. For purposes of these Invalidity Contentions, Defendant may adopt alternative claim construction positions and broadly interpret each term or phrase. Certain of these contentions may be based on claim constructions that appear to underlie Plaintiffs' Infringement Contentions or claim construction positions. Defendant, however, does not concede that Plaintiffs' apparent constructions are proper, and expressly reserves the right to contest any such constructions. In addition, to the extent that these Invalidity Contentions suggest or imply a particular order in which the steps of method claims are performed, Defendant does not necessarily propose that the method claims must be limited to such order, although Defendant reserves the right to propose such an order.

Moreover, Defendant does not admit that any accused product, method, or service infringes any of the Asserted Claims. Nothing stated herein shall be treated as an admission, acknowledgement, acquiescence, or suggestion regarding the scope of any of the Asserted Claims or that any accused technology meets any limitations of the claims. Nothing stated herein shall be construed as an admission or a waiver of any particular construction of any claim term. Moreover, use of terms herein from the Asserted Patents should not be understood to mean that such terms as

used in the Asserted Patents, or claims, thereof are definite, enabled, or supported by adequate written description in accordance with 35 U.S.C. §§ 112(1), (2), (6).

Likewise, use of terms herein from the Asserted Patents should not be understood to suggest or imply a common, usual, ordinary, customary, plain, or accepted meaning in the art for any such term. Defendant's Invalidity Contentions are made in a variety of alternatives and do not represent Defendant's agreement or view as to the meaning, definiteness, written description support for, or enablement of any claim contained therein. Given that the Court has not yet made any claim construction ruling in this action, Defendant's Invalidity Contentions are made in a variety of alternatives and are not intended to necessarily be consistent with each other and/or Defendant's other contentions in this action, and should not be otherwise construed. Defendant's contentions herein are not, and should in no way be seen as, admissions or adoptions as to any particular claim scope or construction, or as any admission that any particular claim element is met in any particular way. Defendant objects to any attempt to imply claim constructions from any identification of potential prior art.

Additionally, Defendant's Invalidity Contentions may use Plaintiffs' improper assertions of infringement and improper applications of the claims to understand Plaintiffs' view of the scope of the Asserted Claims. Defendant does not agree with Plaintiffs' application of the claims and deny infringement. Further, to the extent an accused product or feature comprises or arises from prior art, Defendant contends, without admitting purported infringement, that the Asserted Patents are anticipated and/or made obvious in light of that prior art and Plaintiffs' own Infringement Contentions.

In those instances where Defendant asserts that the claims are invalid under 35 U.S.C. § 112 (e.g., no written description, not enabled, and/or indefinite), Defendant has applied the prior

art in part in accordance with Defendant's assumptions that Plaintiffs: (1) contend those claims are definite, (2) find written description support for those claims, and (3) contend that those claims are enabled. However, Defendant's prior art invalidity contentions do not necessarily represent Defendant's agreement or view as to the meaning, definiteness, written description support for, or enablement of any claim contained therein. In fact, Defendant notes numerous grounds for invalidity on such bases below.

Pursuant to P.R. 3-3(c), Defendant has, in the attached appendices, identified examples of where the subject matter recited in the preambles of the Asserted Claims may be found in various prior art references, without regard to whether the preambles are properly considered to be limitations of the Asserted Claims. Defendant reserves the right to argue that any of the preambles are or are not limiting during the claim construction proceedings in this case.

Defendant's Invalidity Contentions are based at least in part on the claimed priority dates that appear on the faces of the Asserted Patents and may also address any claims by Plaintiffs to have sworn behind such dates. Defendant reserves the right to challenge Plaintiffs' claimed priority dates for the Asserted Patents, based on the faces of the Asserted Patents or sworn behind or otherwise, as discovery continues and after any further claim construction by the Court, including based on Plaintiffs' proposed (or implicit) claim construction positions or other facts learned during discovery.

Discovery is ongoing, and Defendant reserves the right to assert invalidity under 35 U.S.C. §§ 101 and 102(a)-(g) to the extent that discovery or further investigation yield additional information forming the basis for such claims. Defendant reserves the right to assert that any Asserted Patent is invalid under 35 U.S.C. §§ 102(f) and 116, in the event Defendant obtains evidence that one or more of the named inventors should not have been named as an inventor, or

that one or more persons who should have been named as an inventor was not named. In either event, Defendant will supplement their Invalidity Contentions to address the misjoinder and/or non-joinder of inventors by, inter alia, identifying the persons who should not have been named inventors (or who should have been named) and describing the relevant facts and circumstances. Pursuant to P.R. 3-3 and 3-4, Defendant has provided disclosures and related documents pertaining only to the Asserted Claims as identified by Plaintiffs in their Infringement Contentions. Defendant reserves the right to modify, amend, or supplement these Invalidity Contentions to show the invalidity of any additional claims that the Court may allow Plaintiffs to later assert. Defendant further reserves the right to supplement their P.R. 3-4 document production should it later find additional, responsive documents.

Defendant incorporates by reference all other bases for invalidity that may be identified in other filings, including in any interrogatory responses or in submissions before the patent office (e.g., during *Inter Partes* Review proceedings) concerning the Asserted Patents and all related patents and/or parent applications, including but not limited to statements made by Defendant, the Patent Owner, APJs, and references cited therein.

Defendant further incorporates by reference any and all invalidity contentions previously served or subsequently served in the above captioned matters, including those served by other parties Plaintiffs have accused of infringement.

III. PRIORITY AND CONCEPTION DATES FOR THE ASSERTED CLAIMS

Plaintiffs have alleged that the Asserted Claims are entitled to the priority dates shown below:

Asserted Patent	Asserted Claims	Priority Date
9,310,855	1, 3-7, 8-11	July 12, 2010 (filing date of U.S. App. 13/703,911)

7,057,509	17-19	June 29, 2004 (filing date of U.S. App. 10/881,575)
7,939,967	1, 3-8, 9-11	June 25, 2009 (filing date of U.S. App. 12/491,733)

Defendant understands Plaintiffs are not asserting an invention date, conception, reduction to practice, design, and/or development of the claimed invention, prior to the asserted priority dates identified above. To the extent Plaintiffs later allege that any such activities occurred prior to the priority dates identified above, Defendant reserves the right to object to such belated changes in position and/or to supplement these Invalidity Contentions to address any such contention, including by identifying and/or charting additional prior art that may become relevant in view of such assertion. To the extent Plaintiffs allege that any prior art relied on in these Invalidity Contentions do not actually qualify as prior art to the Asserted Patents, Defendant reserves the right to rebut those allegations (e.g., by demonstrating an earlier critical date for the challenged prior art and/or a later priority date and/or date of invention for a particular Asserted Claim). Defendant also reserves the right to rely on additional documents, information, and evidence to demonstrate public availability or public availability by a certain date of a prior art reference or to rebut any efforts by Plaintiffs to allege any reference was not publicly available or publicly available by a certain date or otherwise available as prior art.

IV. STATE OF THE ART

This section describes the general state of the art surrounding the claimed inventions at the time of the alleged invention and identifies a number of prior art references providing additional background, detail, and context, on which Defendant may rely. Defendant sets forth additional description and summary of the state of the art for each of the Asserted Patents in the Sections regarding the Disclosures of the Asserted Patents below. Defendant also intends to rely on each of the prior art references discussed below and in exhibits to these Invalidity Contentions for purposes

of demonstrating the state of the art for the Asserted Patents. Defendant also reserves the right to rely on the discussions of the state of the art and prior art in each of the Asserted Patents and their file histories including explanations of the state of the art and the correspondence of prior art references with the claims of the Asserted Patents. Defendant further expressly reserves the right to supplement their summary of the state of the art, including for example, by information from any of the authors or named inventors on any of the prior art references, by personnel familiar with systems based on any of the prior art, or by technical experts retained on behalf of any party.

The '855 Patent

The '855 patent relates to a method and system of deploying a flexible data center using a combination of blocks and perimeter structures for server rows of server racks and, connecting structures used to monitor support systems, and various options for power and cooling configurations. The '855 patent emphasizes deploying data centers in discrete and repeatable blocks of server housing structures (perimeter structures) connected by a central hum (connecting structure). *See* '855 patent at Abstract. The '855 patent also discloses methods to calculate the number of perimeter structures or blocks, including an analysis of whether or not they are partially filled. Further, the '855 patent discloses methods and systems of integrating cooling and power units specific to perimeter structure with the purported goal of increasing efficiency.

However, the '855 patent itself admits that both traditional brick and mortar data centers and containerized modular data centers were known in the art before the earliest claimed priority date of the '855 patent. *See, e.g.,* '855 patent at 1:5-56. Traditional brick and mortar data centers already typically comprised of multiple buildings or blocks tailored to customer size, with server racks in rows, corridors, and associated cable, cooling, and power systems. Modular, scalable, and industrialized IT approaches were also already known. Even without the '855 patent, brick and

mortar data centers have been able to anticipate growth and adjusted their capabilities to meet fluctuating demands. Hence, the '855 patent merely “bridge[s] the gap between containerized data centers and brick and mortar data centers” ('855 patent at 2:22-43) – which are two standard approaches known in the art. The '855 patent’s disclosure of “allow[ing] for segregation of IT assets ... by group, security level, and/or function type” ('855 patent at 5:16-25) is a known function in data center design.

The prior art cited in the '855 patent collectively suggest that combinations of modular blocks for data centers, each configurable with climate-adaptive cooling and distributed power units, predate the '855 patent’s earliest priority date. Key elements of the '855 patent’s claim, including constructing blocks, perimeter modules, connecting hubs, maximizing fill before expansion, use of modular cooling or power units, separation of power/cooling duties are all described or alluded to in the cited prior art. Specific improvements such as selecting type of cooling unit according to climate, or using menu-driven selection and energy optimization processes for cooling/power allocation, are directly addressed in the non-patent literature and referenced patent filings in the context of best practices for designing and optimizing data centers. Therefore, based solely on the content of the '855 patent, its own admissions and disclosed prior art, the invention and its claims were already known or obvious in light of the state of the art at the time of filing.

The '509 Patent

The '509 patent relates to a method of monitoring a person or object by identifying them and tracking them. This concept is ubiquitous throughout human history. Moreover, the '509 patent acknowledges that monitoring systems existed before the claimed priority date of the '509 patent. Specifically, the '509 patent states “monitoring systems have been developed for specific

applications. These monitoring systems attempt to let a user be aware of what is happening in the monitored environment and what objects are involved. Examples of objects include persons, vehicles, boxes, pallets, carts, and any other kind of object.” 1:12-18. According to the ‘509 patent prior art systems included monitoring systems “that focus on identifying objects” and other monitoring systems that focused on “tracking what is happening in the monitored environment.” 1:22-46. While the ‘509 patent purports to combine the identifying and tracking aspects, prior art to the ‘509 patent, *e.g.*, that identified in B1 *et seq.*, discloses numerous applications that combined identification and tracking as part of the monitoring of persons, places and objects. *See, e.g.*, Kreiner at [0004]-[0013] (detailing various prior art systems that relate to object locating and tracking systems).

Moreover, the ‘509 patent recites the use of known computer hardware, software and other known technologies to compile the information, store it and generate reports. For example, for securing identifying information the ‘509 patent references the use of “typical human-assisted identification” or known automatic identification means such as face recognition, iris recognition, fingerprint recognition, voice recognition or RFID technology. 4: 20-23. The ‘509 patent also describes tracking and monitoring via the use of known “cameras” or “sensors.” 2:52-60. The data is compiled and stored on general purpose computers or computer-readable media. For example, the ‘509 patent states “computer-executable instructions stored in a computer-readable medium, such as a magnetic disk, CD-ROM, an optical medium, a floppy disk, a flexible disk, a hard disk, a magnetic tape, a RAM, a ROM, a PROM, an EPROM, a flash-EPROM, or any other medium from which a computer can read.” 14:20-26. All of these electronic means of securing, compiling, storing and then producing information to a user existed before the priority date of the ‘509 patent.

The ‘967 Patent

The '967 patent claims are directed to using redundant power supplies for alerting and handling power failures. The '967 patent acknowledges that "[v]arious devices and systems use multiple power supplies in order to increase reliability or "up time" through redundancy." 1:5-7. The '967 patent discusses how in these situations each power supply typically "bears an approximately equal share of the load." 1:7-10. The '967 patent purports to claim a system wherein a power failure or anomaly is sensed and, upon that event, the other power supply takes on more of the load. However, the '967 patent states that "[o]ne having ordinary skill in the electrical and related arts will appreciate that sensing and signaling instrumentation is well known, and that further particular elaboration is not required for an understanding of the present teachings." 3:2-5.

The "power supplies" are also disclosed as any source of independent power including "power distribution utility, a generator set, an inverter powered by solar or wind energy, etc. . " 2:25-27. Moreover the '967 patent refers the inclusion with the power supply of "any circuitry, processor(s) or other resources as needed in order to perform in accordance with the present teachings. Such resources can include, for purposes of non-limiting illustration, one or more state machines, digital logic, analog circuitry, digital/analog hybrid circuitry, one or more processors or microcontrollers, lookup tables, voltage or current sensing elements, etc.." 2:62-3:2. Hence the methods and systems of the '967 patent are comprised entirely of known components used in known ways within the electrical arts.

* * *

Further details regarding relevant design, functions, features, principles of operation, and optimization of data center environmental control systems, widely known and available as of the respective priority dates of the Asserted Patents, are provided in the claim charts attached as A-1 *et seq.*, B-1 *et seq.*, C-1 *et seq.*, and the references and other evidence cited therein.

V. P.R. 3-3(C) – INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

Each Asserted Claim of the Asserted Patents is invalid as anticipated by the prior art under various subsections of 35 U.S.C. § 1021 and/or as obvious in view of the prior art under 35 U.S.C. § 103. Pursuant to P.R. 3-3(c), the charts attached to these invalidity contentions as charts A-1 *et seq.*, B-1 *et seq.*, C-1 *et seq.*, set forth how prior art identified by Defendant anticipate either expressly or inherently, and/or renders obvious, each Asserted Claim.

In the charts, Defendant cites various relevant portions of the identified prior art references, but other portions may contain additional or different support for a particular claim limitation, and thus may additionally anticipate, either expressly or inherently, and/or render obvious, one or more of the Asserted Claims. Persons of ordinary skill in the art at the time of the filing of the Asserted Patents knew to read references as a whole, and in the context of other publications and literature and the general knowledge in the field.

Defendant also reserves the right to rely on other references disclosed or incorporated by reference in these Invalidity Contentions, in prior art references identified or charted in these contentions, in the Asserted Patents, any patents or applications related to the Asserted Patents, in the file history of the Asserted Patents, or any related patents or applications. Defendant's claim charts may disclose multiple theories of invalidity in a single chart.

Each chart directed to an anticipatory product/system may also describe that the product/system alone, in light of the knowledge and skill in the art, or in light of one or more other prior art references, renders each Asserted Claim obvious. Where Defendant cites to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure as well as any text relating to the figure in addition to the figure itself.

Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well. Furthermore, while Defendant has generally identified at least one citation per limitation present in a reference or combination, every disclosure of the same or similar limitation in the same reference or combination is not necessarily identified. To focus the issues, Defendant cites particularly pertinent portions of identified references, even where a reference or combination may contain additional support for a particular claim element.

Thus, Defendant may rely on uncited portions of the prior art references for additional support or context for a particular element. Defendant may rely upon other prior art identified in future supplements, corroborating references, documentation, source code, products, and testimony, including materials obtained through further investigation and third-party discovery of the prior art identified herein, that demonstrates the invalidating functionality identified in these Invalidity Contentions or that show the state of the art in the relevant time period (irrespective of whether such references themselves qualify as prior art to the Asserted Patent), and expert testimony to provide context to or aid in understanding the cited portions of the identified prior art. Similarly, where there are multiple references relating to a single prior art product or system, Defendant may cite only to a single reference for a particular limitation, even though other references may also contain similar teachings. Thus, Defendant may rely on uncited references relating to a particular prior art document or system for additional support for a particular element. Any prior art disclosed as anticipating a limitation also renders that limitation obvious.

Additionally, persons of ordinary skill in the art at the time of the alleged inventions generally read a prior art reference as a whole and in the context of other publications and literature. Numerous prior art references, including those identified herein and in the attached exhibits, reflect common knowledge and the state, scope, and content of the prior art before the priority date of the

Asserted Claims of the Asserted Patents. Defendant may rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited.

In general, a claimed invention is invalid due to obviousness “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art.” 35 U.S.C. § 103; *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: “(1) the scope and content of the prior art; (2) the differences between the prior art and the claims; (3) the level of ordinary skill in the art at the time of invention; and (4) objective evidence of nonobviousness.” *See Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 877 (Fed. Cir. 1993); *Graham*, 383 U.S. at 17-18. The U.S. Supreme Court decision *KSR Int’l Co. v. Teleflex Inc.* reaffirmed *Graham*, 127 S. Ct. 1727, 1739 (2007), but further held that a claimed invention can be obvious even if there is no explicit teaching, suggestion, or motivation for combining the prior art to produce that invention.

To the extent that any claim limitation is not anticipated pursuant to 35 U.S.C. § 102, Defendant contends that any purported difference is such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged inventions, in view of the state of the art and knowledge of those skilled in the art under 35 U.S.C. § 103. Each Asserted Claim would have been obvious in view of each reference cited in the attached Exhibits pertaining to that Asserted Patent, either alone or combined with the knowledge that was possessed by one of ordinary skill in the art. Additionally, each Asserted Claim would have been obvious to one of ordinary skill in the art in view of the combination of any one of the prior art references identified

in the attached Exhibits with one or more of the other references identified or discussed in the same Exhibits. Defendant reserves the right to illustrate the knowledge of one of ordinary skill in the art using any of the prior art references identified throughout these Invalidity Contentions, expert testimony, learned treatises, and/or testimony of prior art fact witnesses.

Statements made by applicants of the Asserted Patents (“Applicants”) in the specification and/or during prosecution of the Asserted Patents and any related patents/applications, such as in the “Background of the Invention” section that describes the related art known to Applicants, are admissions that can be relied upon for both anticipation and obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories set forth in 35 U.S.C. § 102. *See* MPEP §§ 2129 and 608.01(c). To the extent Plaintiffs contend that the Asserted Claims are not invalid as anticipated by and/or obvious in view of the prior art under 35 U.S.C. §§ 102 and 103, Defendant reserves the right to rely on the inventors’ admitted prior art to demonstrate the invalidity of the Asserted Claims.

Additionally, Defendant believes that certain non-parties and current or former employees thereof may have possession of relevant information and/or documents constituting prior art to the Asserted Patents, including parties in related litigations. Defendant is continuing the investigation into these and other companies and their products. Defendant reserves the right to supplement these Invalidity Contentions to identify additional references, combinations, motivations to modify, or explanations for particular references based on any information and/or documents provided by the former employees and/or successors-in-interests of companies or individuals who may possess relevant information and/or documents constituting prior art to the Asserted Patents.

The concepts disclosed and claimed in each of the Asserted Patents are not new, and had been disclosed, used, offered for sale, sold, and/or practiced by others prior to the claimed priority

date of the patents. The prior art identified herein and in the claim charts, individually or in combination, invalidates the Asserted Claims under 35 U.S.C. §§ 102 (a), (b), (e), (g) and §103. Because discovery is ongoing, Defendant expects to gather additional information about the identified prior art, and other prior art, through third-party discovery or other discovery, and will thus amend and supplement these Invalidity Contentions once they obtain that discovery and have meaningful and reasonable time to analyze it. As described in more detail below, claims of the Asserted Patents are also invalid under 35 U.S.C. §§ 101 and 112.

Moreover, Defendant reserves the right to rely on inventor admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the prosecution histories of the Asserted Patents or related patents and/or patent applications, any testimony or declarations of the named inventors concerning the Asserted Patents or related patents, and any papers or evidence submitted by Plaintiffs in connection with this litigation, any other pending or future litigation brought by Plaintiffs involving the Asserted Patents or related patents, or *inter partes* review proceedings involving the Asserted Patents or related patents. Defendant may also establish what was known to a person having ordinary skill in the art (“POSITA”) through references discussed above in connection with the state of the art and treatises, published industry standards, other publications, products, and/or testimony.

In this section, Defendant identifies products and systems that were sold, on-sale or publicly used or disclosed before the priority dates of the respective Asserted Patents. The products and/or systems offered for sale or publicly disclosed, and related information known, are identified below and in the claim charts.

A. P.R. 3-3(C) Disclosures for the ‘855 Patent

1. Identification of Prior Art for the ‘855 Patent

Patent References

Chart	Patent Number	Citation	Country of Origin	Pub. Date
A-1	PCT WO2011/159150 A1	Meulen- Broeks	NL	Priority date: June 14, 2010 Publication date: Dec. 22, 2011
A-2	U.S. Pub. No. 2011/0307102 A1	Czamara	USA	Filed: Sep. 28, 2009 Publication date: Dec. 15, 2011

In addition, the below references are prior art to the '855 Patent and relevant to the state of the art, obviousness and the knowledge of a POSITA as of the '855 Patent priority date.

Patent/Publication No.	Country of Origin	Date of Issue/ Publication	Relevant Priority Date	Short Title
EP2354378 A1	EP	8/10/2011	1/2/2010	Zwinkels
FR2957163 A1	FR	9/9/2011	3/03/2010	Demange
US20090050591 A1	US	2/26/2009	1/15/2007	Hart
US20090168345 A1	US	7/02/2009	6/15/2007	Martini
US20090251860 A1	US	10/08/2009	4/2/2008	Belady
US20090254763 A1	US	10/08/2009	4/2/2008	Belady
US20100130117 A1	US	5/27/2010	1/20/2010	Larsen
US20100141105 A1	US	6/10/2010	6/10/2010	Slessman
US20100165565 A1	US	7/01/2010	12/31/2008	Hellriegel
US20100290197 A1	US	11/18/2010	5/15/2009	Bergthold
US20100302744 A1	US	12/02/2010	5/29/2009	Englert
US20110100045 A1	US	5/05/2011	11/2/2009	Carlson
US20110189936 A1	US	8/04/2011	2/1/2010	Haspers
US20110316337 A1	US	12/29/2011	6/29/2010	Pelio
US7425682 B2	US	9/16/2008	10/31/2002	Rasmussen
US7669431 B2	US	3/02/2010	4/7/2005	Bash
US7724513 B2	US	5/25/2010	9/25/2006	Coglitore
WO2008143503 A1	NL	11/27/2008	5/18/2007	Lodder
WO201370104 A1	RU	5/16/2013	11/7/2011	Lysakov

2. The Asserted Claims of the '855 Patent Would Have Been Obvious

If not anticipated, the Asserted Claims of the '855 Patent would have been obvious.

For starters, the charted references in A-1 *et seq.* are single reference obviousness references in light of the knowledge of a POSITA. Further, a person having ordinary skill in the art would have been motivated to modify or combine the references discussed in charts A-1 *et seq.* based on the disclosures identified and/or information that would have been generally known to a POSITA with reasonable expectations of success. Rationales and/or motivations for such modifications or combinations include:

- Combining the prior art elements according to known methods would have yielded predictable results.
- Simple substitution of one known limitation for another would have yielded predictable results.
- Use of a known technique to improve similar devices in the same ways.
- Applying a known technique to a known system ready for improvement.
- Choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success.
- Variations based on known work in the field.
- Teachings, suggestions, and/or motivations provided in the references themselves.

In particular, the '855 Patent discloses a modular data center system and methods of deployment. The system includes a flexible data center that can be deployed by constructing a number of blocks, consisting of perimeter structures that house server racks, and connecting structures that house operations and monitoring equipment. *See, e.g.*, '855 Patent at Abstract. The design allows for modularity, scalability, and flexibility, attempting to bridge the gap between traditional brick-and-mortar data centers and containerized data centers. *See* '855 Patent at 2:22-

43. The flexible data center is intended to be responsive to growth requirements and meet changing aspects of data center technology.’855 Patent at 2:44-50.

In other words, the ’855 Patent purportedly seeks to resolve problems associated with the initial design and deployment delays that traditional data centers face. Brick-and-mortar data centers require significant initial capital expenditure and long construction times, taking anywhere from 9 to 24 months to design and build. ’855 Patent at 1:16-27. Containerized data centers can be prefabricated, and while more cost-effective and quicker to deploy, are often perceived as short-term, low-reliability solutions. ’855 Patent at 1:28-41. The ’855 Patent purportedly seeks to provide a cost-effective, long-term solution that combines the benefits of both approaches, offering improved optimization of availability, energy efficiency, and total cost of ownership, while being responsive to growth requirements and flexible to meet changing technology demands. ’855 Patent at 2:22-50.

A POSITA would have been motivated by several factors, including:

- A POSITA’s knowledge of the utility of modular construction units, especially as related to scalability and growth;
- the desire to optimize the operation of energy-efficient, upgradeable cooling delivered via readily scalable modules;
- the known concept of organizing separate, modular data center elements and modular cooling units to create aisles that improve inspection access and support efficient hot/cold air separation;
- a POSITA’s knowledge of the fundamental technique of sensor-driven, zonal cooling and power distribution, where racks or rack groups are assigned to

specific cooling actuators (e.g., with airflow and temperature sensor feedback) and the system enables both local and zonal control;

- a POSITA's knowledge that making adjustments based on inefficiencies of classical open-cooling schemes;
- the known concept of modular/container-based data centers with partitioned plant/power/climate areas, movable racks, flexible cable management, and multiple power options presented in combination to allow rapid deployment and adaptable power and cooling while maintaining ease of maintenance/upgrades;
- the use of cold aisle/hot aisle separation and air containment in modular or containerized data centers and cold aisle containment combined with modular cooling architecture to maximize energy efficiency; and
- the known concept of redundant, distributed cooling and power with monitoring, rapid replacement of failed modules, and capability for non-disruptive scaling.

Indeed, as shown below in this section, and in the corresponding claim charts, each of the prior art references recognize the need to achieve these objectives and provide solutions, including the underlying rationale of each of these obviousness combinations that addresses improving scalability, cost-effectiveness, operability, responsiveness to evolving needs, and energy efficiency of data center construction and operation. To the extent there are variations among the references in terms of how they achieve these common objectives, such variations represent a finite number of alternative approaches that a POSITA would have reasonably understood would succeed. All told, the nature of these problems to be solved would have led a POSITA to incorporate any combination of the finite number of solutions disclosed, available and/or otherwise

known with predictable results, an exercise involving nothing more than routine optimization of well-understood principles and components of data center design and optimization.

For example, Czamara describes pre-fabricated computing modules, air handling modules, and electrical power modules that are separately transportable and can be joined on-site, offering rapid deployment, scalability, and independent replacement, all motivated by efficiency, reliability, and simplified maintenance. These features are combined with hot/cold aisle air management for modularity and operational optimization.

Similarly, Zwinkels discloses separate, modular data center elements and modular cooling units that can be placed above or below the server module, and aligned to create aisles that improve inspection access and support efficient hot/cold air separation. With modularity and separate maintenance/IT layers for both access and security, and flexibility in configuration, this approach is promoted as superior to static, monolithic data center layouts.

Meulen-Broeks provides for a data center completely constructed of containerized modules, with separate containers for power, cooling, server racks, and control, all interfaced through a backbone/coupling module, so that any capacity can be expanded by simply adding containers of the required type. All modules comply with ISO container standards, facilitating transport and field assembly. Power and cooling modules are dedicated and removable, and the system is designed for staged expansion. The system supports containerized modules for server space, power supply (with backup), cooling (with recirculation), and backbone cabling, all easily deployed, merged, or extended in the field. Air recirculation, local or centralized cooling/power, and the means for omitting unnecessary container structures further map to the core inventive features of the '855 patent. Meulen-Broeks espouses the easily understood benefits of modularity,

rapid deployment, and cost minimization, which sums up the field rationale that would motivate a POSITA to implement the claimed combinations.

The use of sensor-driven, zonal cooling and power distribution is shown in Bash, where racks or rack groups are assigned to specific cooling actuators, with airflow and temperature sensor feedback, and the system enables both local and zonal control logic. The motivation is flexible management, reliability, and efficiency—all of which encourage modular, intelligent control schemes.

Belady discloses the modularization and minimalization of resource items, stripping down IT modules and using unconditioned outside air for cooling, as well as non-serviceability in the field. This is intended to replace modules wholesale when failure occurs, rather than repair. Belady illustrates this, coupling modular, expendable IT resource elements with minimalized infrastructure (e.g., airflow unconditioned by in-row fans or intermediate structures), and managing packs of replaceable modules according to observed efficiency.

Bergthold discloses a modular data center comprised of independently transported structural modules that connect to form an open interior. Modules are designed without unnecessary sidewalls, and a separate, transportable power module is added to supply the equipment. The assembly process is off-site until final deployment, and each module may include minimal structure, permitting rapid staged assembly and minimizing complexity. Equipment rows and hot/cold aisle arrangements, local and central cooling, optional direct outside air intake, and scalable redundancy all parallel the '855 patent's claim requirements. The methods described for fabricating, transporting, assembling such systems, and the omission of superfluous structure and field upgrades are recognized as industry-motivated preferences.

Hart teaches container-based data centers with partitioned plant/power/climate areas, movable/compressible racks, flexible cable management, and multiple power options. These elements are presented in combination to allow rapid deployment, robust and adaptable power and cooling, and ease of maintenance/upgrades.

Hellriegel discloses a data center system integrated into a shipping container. The interior uses a dual-plenum (upper/lower) design and modular carriages or racks arranged along the sides. Cooled air circulates upward through the racks via fans, while hot air exits to an upper plenum before being cooled again by heat exchangers. The system allows for ease of transport, rapid deployment, redundancy through multiple independent cooling systems, flexible network/power layouts, and can include integrated UPS backup solutions.

Haspers discloses modular data center elements with modular housing units, multiple modular units stackable or alignable, module-based hot/cold aisle strategies, integrated cooling modules stacking on data racks (providing cooled airflow and returning hot air), scalable container-like structure, claim support for modular, prefab, scalable multi-unit construction, and layout flexibility. It teaches modular/pre-fabricated data center building elements, modular cooling integration, scalable arrangement, module stackability, air handling integration, and operational flexibility which align with primary features relevant to the field of the '855 patent.

Furthermore, a POSITA would have been motivated to combine with reasonable expectations of success, based on the disclosures identified therein and/or information that would have been generally known to a POSITA, any of the primary references A-1 *et. seq.* charted above with: (1) any other such A-1 *et seq.* primary reference(s); (2) any reference disclosed in the section above for specific concepts claimed in the patent; (3) any statements made in the intrinsic record of the '855 Patent, and/or (4) the knowledge of one of ordinary skill in the art. By way of example

and without prejudice to any other combinations of references, Defendant provides the following exemplary combinations, which would obviate the invention of the '855 Patent.

Exemplary Reference Combinations

Reference	In Combination With	Claims
Meulen-Broeks	Bergthold Haspers	1, 3-7, and 8-11
Czamara	Bash Belady	1, 3-7, and 8-11

B. P.R. 3-3(C) Disclosures for the '509 Patent

1. Identification of Prior Art for the '509 Patent

Patent References

Chart	Patent Number	Citation	Country of Origin	Issue/ Pub. Date
B-1	WO200490778_A1	Lim	US	10/21/2004
B-2	US20050171876_A1	Golden	US	8/04/2005
B-3	US20050088320_A1	Kovach	US	4/28/2005
B-4	US20040084525_A1	Kreiner	US	5/06/2004
B-5	US7494060_B2	Zagami	US	2/24/2009
B-6	US5317309_A1	Vercellotti	US	5/31/1994

In addition, the below references are prior art to the '509 Patent and relevant to the state of the art, obviousness and the knowledge of a POSITA as of the '509 Patent priority date.

Patent/Publication No.	Country of Origin	Date of Issue/ Publication	Relevant Priority Date	Short Title
US7355627_B2	US	4/08/2008	Jan. 25, 2002	Yamazaki
US20020165733_A1	US	11/07/2002	April 5, 2001	Pulkkinen
WO200593455_A1	AU	10/06/2005	March 29, 2004	Murdoch

2. The Asserted Claims of the '509 Patent Would Have Been Obvious

If not anticipated, the Asserted Claims of the '509 Patent would have been obvious. In particular, the '509 patent is directed to monitoring a person or object by identifying them and tracking them. The '509 patent recites the use of general "identification data" and "tracking data", the merging and storing of that data, and the generating of reports from that data, via conventional

computer and software. To one of skill in that art this would have been an obvious method to accomplish the stated goal of “monitoring” an object which the ‘509 says can be any person or thing.

In terms of the prior art, the charted references in B-1 to B-6 are, if not anticipatory (which they are), a minimum single reference obviousness references in light of the knowledge of a POSITA. Furthermore, a person having ordinary skill in the art would have been motivated to modify or combine the references discussed in charts B-1 *et seq.* based on the disclosures identified and/or information that would have been generally known to a POSITA with reasonable expectations of success. Rationales and/or motivations for such modifications or combinations include:

- Combining the prior art elements according to known methods would have yielded predictable results.
- Simple substitution of one known limitation for another would have yielded predictable results.
- Use of a known technique to improve similar devices in the same ways.
- Applying a known technique to a known system ready for improvement.
- Choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success.
- Variations based on known work in the field.
- Teachings, suggestions, and/or motivations provided in the references themselves.

In particular, the ‘509 Patent discloses a method of monitoring people and things that involves identifying them and tracking them. The ‘509 patent acknowledges the prior art included various monitoring systems that focused on identifying and also various monitoring systems that tracked

a monitored environment. As to merging the identifying and tracking data, the prior art shows this was well-known. Moreover,

A POSITA would have been motivated by several factors, including:

- The need to reliably to know what object is being tracked (i.e., identify it)
- The conventional practice of monitoring that includes both knowing what one is monitoring and tracking its progress (i.e., inherent in the concept of “monitoring”)
- The need to improve the efficiency or minimize excess operating expenses by a system that includes both identifying and tracking information.
- The need for security and information about the location of assets

Indeed, as shown below in this section, and in the corresponding claim charts, each of the prior art references recognizes the need to achieve these objectives and provide solutions similar to those of the ‘509 Patent. Further, as provided in the corresponding claim charts, it was widely known to address these objectives by the method of collecting identifying and tracking information and combining and storing that information in a database as claimed in the ‘509 Patent. To the extent there are variations among the references in terms of how they achieve common objectives, such variations represent finite number alternative approaches that a POSITA would have reasonably understood would succeed. All told, the nature of these problems to be solved would have led a POSITA to incorporate any combination of the finite number of solutions disclosed, available and/or otherwise known with predictable results, an exercise involving nothing more than routine optimization of well-understood principles and components of cooling systems.

For example, Lim discloses methods and systems “for enhanced security of goods shipments and for secure supply chain management and control.” Abstract. According to Lim “[r]ecent world events particularly murders perpetrated by terrorists have led to an increasing

awareness of the need for secure methods and systems for transport of items such as cargo from a source location to a destination.” Background Art. Lim addresses this with a method of monitoring goods, that involves providing identification information about the goods and storing it, monitoring the shipment in transit and recording this information, combining this data and making it available for retrieval or report generation in order to better track and secure goods.

In another example, Golden discloses a wireless asset management system that allows for the identification, monitoring and tracking of people or objects. Abstract. Golden states that “[c]ommercial and industrial sites are looking for increased efficiency and effectiveness by installing systems to handle various aspects of their operations. Areas in need of a better strategy to fulfill day to day operations are asset management, safety and security, human resources, physical plant, and communications.” [0005]. Golden states that “asset management” “deals with the ability to identify, monitor, and/or track any known item that may be valuable to anyone else.” [0006]. Golden states this can be beneficial for security, safety, and efficiency, and describes a system of data acquisition “modules” and the process and storing of that combined information use of routers and the Internet. Fig 1 and related discussion.

Kovach similarly discloses monitoring and tracking objects, but focuses on the registering and tracking of vehicles, such as passenger vehicles within a municipality. Abstract and Fig 1 and related discussion. Kovach notes the increased need to register vehicles and “the constant need to monitor traffic pattern movements and the speed of vehicles.” [0005]. Kovach discloses the use of RFID tags affixed to a vehicle and involves a database that includes both identification and tracking information, to address the otherwise “labor-intensive” nature of enforcing vehicle registration and traffic laws.

Kreiner “a system that uses a plurality of monitors in combination with a plurality of identification tags attached to objects in order to track and monitor those objects.” Abstract. Kreiner is directed to a system used to locate and recover lost or misplaced items, [0023], and details various prior art systems that relate to object locating and tracking systems. [0004]-[0013]. While all of these systems, as well as the invention disclosed in Kreiner, involve identifying and tracking objects, Kreiner offers what it sees as a lower cost solution that involves associating “tags” with objects and as the tags pass monitors, the monitors receive signals from the identification tags that permits tracking. [0016].

Zagami discloses an “information-based access control system for sea port terminals.” Title and Abstract. Zagami highlights the “increased threats to maritime commerce” and the need for “a fully integrated system for automation of sea port security operations that integrates the collection of personnel data for all persons and vehicles entering a port, the collection of ship, vehicle and cargo tracking information, and the authentication of various identification, registration, and manifest documents.” 1:60-66. Zagami discloses collecting identification information at the “front end” and processing at certain security checkpoints that enable security and tracking and involves stored information in a database. 4:61-6:12.

Vercellotti discloses a “dual mode electronic identification system” that Vercellotti states may be useful in airports, government facilities or industrial sites. 1:20-22. Vercellotti states “[t]he protection and tracking of personnel and property in high security areas continues to be a vexing problem.” 1:19-21. Vercellotti, discloses the use of “tags” that operate “in two modes that provide for identification of personnel or objects for access control at portals and badge readers, and allows for a wide area mode permitting position tracking of the identification tag.” 2:19-4.

These references each alone disclose the limitations of the asserted claims of the ‘509 patent but could also be combined in any combination. Many of the same stated concerns of safety, security and efficiency underlie each of the prior art references. This would motivate one of skill in the art to seek or combine references addressed to solutions to the same stated concerns. Moreover, all of the prior art reference relate to identifying and tracking objects or people. Many of the references recite the same “tag” or RFID technologies, and general “data bases” and general purposes computer/Internet hardware and software is recited throughout these reference. One of skill in the art would be motivated to consider and combine prior art using the same or similar technologies for the same or similar purposes of identification and tracking.

Furthermore, a POSITA would have been motivated to combine with reasonable expectations of success, based on the disclosures identified therein and/or information that would have been generally known to a POSITA, any of the primary references B-1 *et seq.* charted above with: (1) any other such B-1 *et seq.* primary reference(s); (2) any reference disclosed in the section above for specific concepts claimed in the patent; (3) any statements made in the intrinsic record of the patent, and/or (4) the knowledge of one of ordinary skill in the art. By way of example and without prejudice to any other combinations of references, Defendant provides the following exemplary combinations, which would obviate the invention of the ‘509 Patent.

Exemplary Reference Combinations

Reference	In Combination With	Claims
Lim	Golden Kovach Kreiner Zagami Vercellotti	17-19
Golden	Kovach Kreiner Zagami Vercellotti	17-19

Kovach	Kreiner Zagami Vercellotti	17-19
Kreiner	Zagami Vercellotti	17-19
Zagami	Vercellotti	17-19

C. P.R. 3-3 (C) Disclosures for the '967 Patent

The tables below list prior art that anticipates and/or renders obvious one or more of the Asserted Claims. The attached claim charts in Exhibits C-1 *et seq.* demonstrate where each limitation of the claims is found, either expressly or inherently in the larger context of the passage, or rendered obvious by, certain of the references listed below, as understood by a person having ordinary skill in the art. The following patents, publications, products and/or services are prior art under at least 35 U.S.C. §§ 102(a), (b), and/or (e).

1. Identification of Prior Art for the '967 Patent

Patent References

Chart	Patent Number	Citation	Country of Origin	Issue/ Pub. Date
C-1	US2006/0262464A1	Bemat	US	11/23/2006
C-2	US7679217B2	Dishman	US	3/16/2010
C-3	US7906871B2	Freeman	US	3/15/2011
C-4	US9831670B2	Humphrey	US	11/28/2017
C-5	US20080164759A1	Sharma	US	7/10/2008
C-6	US5668417A	Wiscombe	US	9/16/1997
C-7	US20040070279A1	Liu	US	4/15/2004

In addition, the below references are prior art to the '967 Patent and relevant to the state of the art, obviousness and the knowledge of a POSITA as of the '967 Patent priority date.

Patent/Publication No.	Country of Origin	Date of Issue/ Publication	Relevant Priority Date	Short Title
US3761733 A	US	9/25/1973	8/15/1972	Wolpert
US4087697 A	US	5/02/1978	10/1/1976	Johnson
US4659942 A	US	4/21/1987	6/3/1985	Volp
US5939799 A	US	8/17/1999	7/16/1997	Weinstein
US6020657 A	US	2/01/2000	8/27/1997	Liran
US6184593 B1	US	2/06/2001	7/29/1999	Jungreis

US6501196 B1	US	12/31/2002	9/12/2000	Lo
US6608403 B2	US	8/19/2003	10/10/2002	Liu
US6747369 B2	US	6/08/2004	8/22/2002	Griffith
US6768225 B2	US	7/27/2004	8/30/2001	Chang
US7141894 B2	US	11/28/2006	11/3/2003	Kraus
US7237134 B2	US	7/26/2007	12/12/2001	Heberlein
US20040155527 A1	US	8/12/2004	2/10/2003	Bryde
US20050141154 A1	US	6/30/2005	12/3/2003	Consadori
US20070278860 A1	US	12/06/2007	6/1/2006	Krieger
US20090164824 A1	US	6/25/2009	12/19/2007	Langgood
US20090167089 A1	US	7/02/2009	12/28/2007	Dishman
US20080164759A1	US	7/10/2008	1/4/2008	Sharma
US5631814	US	8/20/1997	6/16/1995	Zak
US2009/0243391	US	10/1/2009	3/31/2008	Susong
US2003/0042798	US	3/6/2003	8/30/2001	Chang
US2006/0226706	US	10/12/2006	8/8/2005	Edelen

2. The Asserted Claims of the ‘967 Patent Would Have Been Obvious

If not anticipated, the Asserted Claims of the ‘967 Patent would have been obvious. In particular, the concept of redundancy is ubiquitous in critical infrastructure and mechanical operation (e.g., aviation systems). In the specific context of power supply for data centers, redundancy in power sources was common and well understood and used prior to the priority date of the ‘967 patent, and it would have been obvious to both notify of a power failure and transition so that one power source carries the load in the event of a failure.

Inter partes review No. 2025-01157 includes a petition and a declaration of Jacob Baker that provides additional and detailed disclosure regarding the state of the art at the time of the priority date of the ‘967 patent as well as details and combinations of various prior art references that render the claims of the ‘967 patent unpatentable. The IPR petition and Baker declaration are each incorporated by reference as if fully set forth herein, and have been included in the accompanying production of documents with these contentions. The IPR petition and accompanying declaration disclose five grounds to invalidate the ‘967 patent: (1) Ground 1: Claims 1-3, 8, and 14-15 are anticipated by Zak; (2) Ground 2: Claims 1-7, and 9-15 are obvious

over Susong; (3) Ground 3: Claims 2, 8, 11, and 14-15 are obvious over Susong and Zak; (4) Ground 4: Claims 1, 4-7, 9-10, and 13 are obvious over Chang; and (5) Ground 5: Claims 1-15 are obvious over Chang and Edelen.

Moreover, the charted references further illustrate prior art exemplifying the obviousness of the claimed invention of the '957 patent. The charted references in C-1 *et seq.* are single reference obviousness references in light of the knowledge of a POSITA. Furthermore, a person having ordinary skill in the art would have been motivated to modify or combine the references discussed in charts C-1 *et seq.* based on the disclosures identified and/or information that would have been generally known to a POSITA with reasonable expectations of success. Rationales and/or motivations for such modifications or combinations include:

- Combining the prior art elements according to known methods would have yielded predictable results.
- Simple substitution of one known limitation for another would have yielded predictable results.
- Use of a known technique to improve similar devices in the same ways.
- Applying a known technique to a known system ready for improvement.
- Choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success.
- Variations based on known work in the field.
- Teachings, suggestions, and/or motivations provided in the references themselves.

In particular, the '967 Patent is directed to system(s) and method(s) of power redundancy where one power source provides the load in the event of a power anomaly.

A POSITA would have been motivated by several factors, including:

- The need to reliably deliver power without interruption.
- The need receive notification of power disruption.
- The desire to eliminate a situation in which power is lost to critical infrastructure
- The conventional practice of redundancy or backup for protection from failures.

Indeed, as shown below in this section, and in the corresponding claim charts, each of the prior art references recognize the need to achieve these objectives and provide solutions similar to those of the '967 Patent. Further, as provided in the corresponding claim charts, it was widely known to address these objectives by systems of redundancy. To the extent there are variations among the references in terms of how they achieve common objectives, such variations represent finite number alternative approaches that a POSITA would have reasonably understood would succeed. All told, the nature of these problems to be solved would have led a POSITA to incorporate any combination of the finite number of solutions disclosed, available and/or otherwise known with predictable results, an exercise involving nothing more than routine optimization of well-understood principles and general concepts of redundancy for safety and security of an operation.

For example, Bemat discloses redundant power supplies with load sharing via an interface board. By way of background, Bemet explains that “some types of electronics systems (e.g., server computers) use more than one power supply for redundancy so that if one power supply fails, another power supply can provide the needed current to the load.” [0001] Moreover Bemat recognizes that the output voltages may be connected together using conventional equipment like a circuit board. *Id.* In Bemat, an output signal is indicative of the operational status and logic coupled to the power supply receives uses the signaling to increase output of the other source when the first power supply has experienced a failure. Abstract.

Dishman discloses a “high efficiency redundant power system.” Abstract. The stated goals of the system are implementing redundant power supplies “for increased efficiency ay low power output.” 1:9-10. Dishman describes the redundant power supplies as known in the art and discusses inefficiencies in systems where two power supplies are sharing a load and not operating at full load capacity. 1:30-45 Dishman states “[c]onventional art addresses this problem by completely shutting down one of two redundant power supplies when only one power supply is needed or when using two power supplies in parallel is more inefficient than operating a single power supply.” 1:45-49. Dishman purports to improve efficiency with use of “a first power supply and a second power supply operated in parallel to provide power to a load wherein each power supply is configured to supply full power to the load in response to a failure of the other power supply. 2:26-31. This employs conventional electrical devices and computer equipment. See, e.g., 6:31-37.

Freeman is directed to an “apparatus, system and method for reducing power consumption on devices with multiple power supplies.” Title. It states that a goal is increasing the efficiency, and it describes a background of the art in which “[t]he regulation of power supplies is typically done by incorporating circuitry to tightly control the output voltage and/or current of the power supply to a specific value.” 1:20-22. Freeman states that as to redundancy “[t] is common practice on equipment that requires high availability to be fitted with multiple redundant power supplies.” 1:52-54. Freeman notes that “[r]edundant power supplies are usually sized such that if a power supply fails, the remaining power supplies are capable of supplying power to a load fed by the redundant power supplies” and states that one of the functions may be to provide standby power. 1:60- 2:3. Freeman teaches a system using disconnection modules when a low power mode is sensed. 2:51-3:2.

Humphrey discloses a redundant power supply system that remains online while not providing output current. Abstract. Humphrey teaches that “[f]or loads that require a high degree of fault tolerance, it is common to employ redundant power supplies.” 1:25-27. Humphrey discloses that there are two general categories of redundant power supply systems: power-supply redundant systems and AC-redundant systems. 1:27-43. Humphrey states that “[s]witching electric power supplies (also known variously as switch-mode power supplies, switched-mode power supplies and other similar terms) are those that make use of active switching circuitry along with inductive elements to accomplish the energy conversion task with a minimum of energy loss.” 1:47-51. Humphrey states [p]rior art switching power supplies also include the ability to enable or disable an output converter while the other components of the power supply are operating.” 2:26-28.

Sharma discloses a redundant power supply architecture where in one of the power supplies sources all the current requirements of the load while the other power supply remains in standby mode. Abstract. Upon failure of the first supply, the second supply takes over the function of the failed supply and powers the load. Abstract. Sharma references “The Power Sources Manufacturers Association’s (PSMA) Handbook of Standardized Terminology for the Power Sources Industry which includes discussions of AC and DC converters and the operation of electronic equipment. [0003]. Sharma notes that in the art “output feed back circuits are typically used for regulating the power supply output” and Sharma discusses the two types of feedback methods used in the art. [0006]. Sharma describes “an advantage of one embodiment of the present invention is that the voltage level range based load switching architecture permits the use of regulated, unregulated or semi-regulated power supplies in an arrangement that can meet the

redundancy requirements of standards like the MicroTCA specification while overcoming the limitations of the diode-drop based redundancy configuration.” [0024].

Wiscombe discloses a power loss detection system that distinguishes between failure of one supply and failure of a secondary power supply. Abstract. Wiscombe notes that “[r]edundant power supplies are often used to maintain power to an electronic system,” which is “is desirable, for example, in a server system providing service to a plurality of users, where it is desired to keep the server running at all times without interruption, or at least to reduce the chance of unexpected failure.” 1:14-24. Wiscombe notes that some “manufacturers provide custom power supply circuitry for indicating source versus supply failure [but] [t]his approach is not standard, however, and significantly adds to the cost of the overall system.” 1:62-65. Wiscombe employs a circuit and activation signal to notify and address failures and states that “[t]he present invention is particularly advantageous in a redundant power supply system for supplying power to a computer system, where both power supplies provide standby power.” Abstract.

Liu discloses a system and method for providing continuous power supply via standby uninterrupted power supplies (UPSs). Abstract. The system uses a switch device connected to the standby to provide power in the event of malfunction on the primary supply. Abstract. The monitoring device that enables this “includes a programmable monitoring module (40) for collecting information, a shutdown controlling module (42) for giving shutdown instructions, and a switch controlling module (44) for controlling the switch device.” Abstract. In terms of the context of this invention within the art, Liu notes that “[i]n recent years, information technology and web technology have advanced rapidly” and the need to provide an uninterrupted power supply to electronically stored information is increasingly important. [0004].

Susong discloses a multi-functional power supply for distributed networking environments, and includes redundancy, backup support, failover detection, and monitoring/reporting capabilities. The invention details the use of a lithium-ion polymer chargeable battery as a secondary power supply and an AC input interface.

Zak discloses an uninterruptible power supply (UPS) with two independent sources of power (main AC and batteries) that connects an auxiliary power source to a main power supply without requiring modifications to the main power supply. The invention in Zak also allows for the connection of a high voltage DC backup directly to the holdover capacitor of the main power supply. The UPS disclosed includes a backup power supply that supplies DC power from an emergency DC energy storage device to the holdover capacity of the switch power supply.

Chang discloses a multiple power sources control system that can switch between power sources when one becomes abnormal, ensuring continuous power supply to loads. The system includes power input sides, voltage and current detecting modules, control modules, power source switching modules, and power output sides. The control module manages power source switching based on input from detecting modules, allowing for immediate switching without lag. The system can also connect to multiple independent power sources in parallel to increase output power.

Edelen discloses a power supply apparatus and methods for transferring loads among multiple power sources. The apparatus includes an uninterruptible power supply (UPS) with an input configured to be coupled to a power source and an output configured to be coupled to a load. The controller circuit is configured to control the static switches to transfer the load to the second power source.

Furthermore, a POSITA would have been motivated to combine with reasonable expectations of success, based on the disclosures identified therein and/or information that would

have been generally known to a POSITA, any of the primary references C-1 *et seq.* charted above with: (1) any other such C-1 *et seq.* primary reference(s); (2) any reference disclosed in the section above for specific concepts claimed in the patent; (3) any statements made in the intrinsic record of the patent, and/or (4) the knowledge of one of ordinary skill in the art. By way of example and without prejudice to any other combinations of references, Defendant provides the following exemplary combinations, which would obviate the invention of the '967 Patent.

Reference	In Combination With	Claims
Bemat	Dishman Freeman Humphrey Sharma Wiscombe Liu	1, 3-8, 9-11
Dishman	Freeman Humphrey Sharma Wiscombe Liu	1, 3-8, 9-11
Freeman	Humphrey Sharma Wiscombe Liu	1, 3-8, 9-11
Sharma	Wiscombe Liu	1, 3-8, 9-11
Wiscombe	Liu	1, 3-8, 9-11
Susong	Zak	1, 3-8, 9-11
Chang	Edelen	1, 3-8, 9-11

VI. P.R. 3-4 (D) – INVALIDITY UNDER 35 U.S.C. § 112

Pursuant to P.R. 3-3(d), and subject to Defendant's reservation of rights, Defendant provides the following contentions relating to the invalidity of the Asserted Claims under 35 U.S.C. § 112. The Asserted Claims of the Asserted Patents are invalid for lack of written description and/or enablement under 35 U.S.C. § 112, ¶1 and/or for failing to comply with the definiteness requirements of 35 U.S.C. § 112, ¶2. Defendant's contentions that the following

claims are invalid under 35 U.S.C. § 112 are made in the alternative, and do not constitute, and should not be interpreted as, admissions regarding the construction or scope of the Asserted Claims, or that any of the Asserted Claims are not anticipated or rendered obvious by any prior art.

Defendant sets forth exemplary limitations that are invalid for failing to comply with these requirements. The disclosures below do not attempt to identify all recitations of a given term or phrase in each claim. Where Defendant has identified an instance of a term, phrase, or limitation in a particular claim that renders the claim invalid under Section 112, Defendant contends that every instance of the challenged term, phrase, or limitation, or similar term, phrase or limitation, in the claim renders the claim invalid for the same reasons. Where a particular claim term, phrase, or limitation is identified, Defendant contends that the identified term, phrase, or limitation, as well as the surrounding claim language in context as recited in the applicable claim, suffer from the identified Section 112 defect. Although complete phrases are sometimes identified below, Defendant reserves the right to argue any word or sub-phrase within a larger phrase also violates the written description, enablement, and/or definiteness requirements of 35 U.S.C. § 112. Furthermore, where a particular claim term, phrase, or limitation is identified with respect to one or more particular claims, Defendant contends that each other Asserted Claim that recites the same claim term, phrase, or limitation, or similar claim term, phrase, or limitation, is subject to the same Section 112 defect. Defendant contends that each dependent claim that depends from an independent claim that is invalid, as identified below, is also invalid for the same reasons.

In some instances, grounds upon which the Asserted Claims are invalid for failure to meet the requirements of 35 U.S.C. §112 may be based upon the apparent constructions being employed by Plaintiffs. These contentions shall not be construed as an admission that any claim construction

advanced by Defendant in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Defendant from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, these invalidity positions. Further these contentions shall not be construed as an admission of acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiffs during the course of this litigation. Defendant's invalidity contentions under 35 U.S.C. §112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' alleged scope of the Asserted Claims. Consequently, Defendant identifies only the issues under 35 U.S.C. §112 of which they are presently aware.

Defendant's investigation of the Asserted Patents is ongoing, and Defendant reserves the right to amend or supplement these disclosures based on further investigation and in a manner consistent with the Federal Rules of Civil Procedure, the Local Patent Rules for the Eastern District of Texas, and the Docket Control Order, or otherwise in accordance with any order or direction of this Court or agreement of the parties. These contentions are being proffered without expert disclosure or discovery. Further, Plaintiffs' Infringement Contentions fail to provide sufficient detail to fully understand its proposed application of the Asserted Claims, and Defendant reserves the right to assert additional grounds for invalidity under 35 U.S.C. § 112 in response to Plaintiffs' claim interpretations. Defendant also reserves the right to supplement, modify, or otherwise amend these grounds for invalidity under 35 U.S.C. § 112 based on the Court's claim construction rulings or opinions or the parties' positions or arguments taken in connection with the claim construction process. Consequently, Defendant only identifies the issues under 35 U.S.C. § 112 of which they are presently aware. A more detailed basis for Defendant's indefiniteness, enablement, and/or written description defenses will be set forth in Defendant's claim construction briefing and/or

expert reports on invalidity and/or in Motion[s] for Summary Judgment of Invalidity, to be served in accordance with the Court’s Docket Control Order.

Subject to Defendant’s reservation of rights, Defendant identifies the following indefiniteness, written description, and enablement grounds with respect to the following Asserted Claims. The following does not purport to list every claim limitation to the foregoing disclosed grounds.

A. Legal Principles

1. Indefiniteness

The claims of a patent must “particularly point[] out and distinctly claim[] the subject matter which the inventor or a joint inventor regards as the invention.” 35 U.S.C. § 112, second paragraph. Claims are indefinite if they, “read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). “[I]t cannot be sufficient that a court can ascribe some meaning to a patent’s claim; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters post hoc.” *Id.* at 2130.

In evaluating indefiniteness, courts “look to the patent record—the claims, specification, and prosecution history—to ascertain if they convey to one of skill in the art with reasonable certainty the scope of the invention claimed.” *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). Although “some modicum of uncertainty” is allowed to ensure “the appropriate incentives for innovation,” the claims nonetheless must be “precise enough to afford clear notice of what is claimed, thereby appris[ing] the public of what is still open to them.” *Nautilus*, 572 U.S. at 899 (alteration in original) (citations and internal quotation marks omitted).

Ultimately, the indefiniteness inquiry is not whether “a court can ascribe *some* meaning to a patent’s claims,” but rather whether the claims provide “objective boundaries.” *Interval Licensing LLC v. AOL Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (quotation omitted) (discussing *Nautilus*). Claim scope cannot depend solely on the unrestrained, subjective opinion of a particular individual purported to be practicing the invention. *Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005).

A claim term can be indefinite based on multiple grounds ranging from the substantive concerns to unresolvable drafting errors, each of which can be fatal to the validity of the claims as a matter of law. For example, the Federal Circuit has repeatedly held that apparatus claims that contain method claim limitations are indefinite because it is impossible to determine when direct infringement occurs. *See, e.g., Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339-40 (Fed. Cir. 2723) (an independent claim that recited both an apparatus and a method of using that apparatus was indefinite, as was its dependent claims); *IPXL Holdings v. Amazon.com*, 430 F.3d 1377, 1384 (Fed. Cir. 2005); *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1318 (Fed. Cir. 2723) (mixed claims “create confusion as to when direct infringement occurs because they are directed both to systems and to actions performed by” users). Claim terms that lack antecedent basis are indefinite. *See, e.g., Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1348-49 (Fed. Cir. 2002) (claim ending in the middle of a claim limitation was indefinite because it was “impossible to discern the scope of such a truncated limitation”). Furthermore, means-plus-function claims, which invoke 35 U.S.C. § 112 ¶6, may be invalid as indefinite where a patent owner has failed to disclose adequate corresponding structure linked to the recited claim functionality. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311-12 (Fed. Cir. 2012).

Furthermore, when a claim includes a term of degree, such as “substantially” or “essentially,” the patent must provide “some standard for measuring” that degree. *See Exmark Mfg. Co. v. Briggs & Stratton Power Prods. Group, LLC*, 879 F.3d 1332, 1346 (Fed. Cir. 2018). When a claim includes a term of degree, the patent “must provide ‘some standard for measuring that degree’ such that the claim language provides ‘enough certainty to one of skill in the art when read in the context of the invention.’” *GE Lighting Solutions, LLC v. Lights of Am., Inc.*, 663 Fed. Appx. 938, 940 (Fed. Cir. 2016) (alteration in original) (citation omitted); *see also Interval Licensing LLC*, 766 F.3d at 1370. For terms of degree, “the patent must provide that additional information in the form of ‘objective boundaries.’” *GE Lighting Solutions*, 663 Fed. Appx. at 940 (citation omitted). And the Federal Circuit’s “case law is clear that the objective boundaries requirement applies to terms of degree.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1364 (Fed. Cir. 2018). A claim may also be indefinite if its language “‘might mean several different things’ and the patent itself identifies ‘no informed and confident choice . . . among the contending definitions.’” *Otsuka Pharm. Co., Ltd. v. Torrent Pharm. Ltd.*, 151 F. Supp. 3d 525, 545 (D.N.J. 2015) (quoting *Nautilus*, 135 S. Ct. at 2130 n.8).

Claims that depend from claims that are indefinite inherit the indefiniteness of the claims from which they depend and are therefore also indefinite.

2. Written Description

The first paragraph of 35 U.S.C. § 112 requires a patent specification to contain “a written description of the invention.” The written description must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1350 (Fed. Cir. 2010) (en banc) (citation omitted). If the claimed invention does not appear in the specification, the claim fails regardless of whether

one of skill in the art could make or use the claimed invention. *See id.* at 1348. Establishing possession as of the filing date is crucial as “[t]he purpose of the written description requirement is to prevent an applicant from later asserting that he invented that which he did not; the applicant for a patent is therefore required to ‘recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.’” *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003). For example, a written description is inadequate where the claim in question exceeds the scope of what the patent discloses by omitting an attribute of the described invention from the limitations, thereby over-extending the reach of the claim. *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377-78 (Fed. Cir. 2009). It is also insufficient that one of ordinary skill in the art might recognize that the disclosure could be modified in light of the prior art to arrive at the claimed subject matter. *Id.* at 1378-79 (citing *Eli Lilly*, 119 F.3d at 1566-67 (explaining that “an applicant complies with the written description requirement by describing the invention, with all its claimed limitations, not that which makes it obvious.” (internal quotation marks omitted, emphasis added))).

Claims that depend from claims that are invalid for lack of written description support inherit the deficiencies of the claims from which they depend and are also invalid.

3. Enablement

The enablement requirement of § 112 is separate from and in addition to the written description requirement. *Ariad*, 598 F.3d at 1344. To meet the enablement requirement, the specification must enable a POSITA to “make and use the invention” across the full scope of the claim, “without undue experimentation.” *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988); *see Wyeth & Cord/s Corp. v. Abbott Labs.*, 720 F.3d 1380, 1384 (Fed. Cir. 2013); *see also LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1344-45 (Fed. Cir. 2005) (A patentee must

“describe the manner and process of making and using the invention so as to enable a person of skill in the art to make and use the full scope of the invention without undue experimentation.”). When “the teachings set forth in the specifications provide no more than a ‘plan’ or ‘invitation’ for those of skill in the art to experiment,” the claims are not enabled. *Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1374 (Fed. Cir. 1999). To determine whether “undue” experimentation is required, a court considers: “(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.” *Wands*, 858 F.2d at 737.

Claims that depend from claims that are invalid for lack of enablement inherit the deficiencies of the claims from which they depend and are also invalid.

B. Indefiniteness Contentions

Defendant contends that the Asserted Claims fail to particularly point out and distinctly claim the subject matter that the listed inventor regarded as his invention. Defendant contends that several Asserted Claims are invalid for indefiniteness under § 112 ¶2 because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claimed invention. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014). Defendant provides below an identification of terms or phrases in Asserted Claims that render the Asserted Claims, at least as apparently construed by Plaintiffs in their Infringement Contentions, as discussed above, invalid, pursuant to 35 U.S.C. § 112 ¶2 as indefinite.

1. ‘855 Patent

The following terms or phrases of the Asserted Claims of the ‘855 patent are indefinite. Each such term or phrase lacks adequate precision or objective boundaries to afford clear notice of what is claimed and/or requires the exercise of subjective judgment. The specification and prosecution history do not adequately describe the term or phrase such that a POSITA would understand with reasonable certainty the scope of the limitation[s] incorporating such term or phrase.

- “block”
- “perimeter structure”
- “connecting structure”
- “energy optimization evaluation”

2. ‘509 Patent

The following terms or phrases of the Asserted Claims of the ‘509 patent are indefinite. Each such term or phrase lacks adequate precision or objective boundaries to afford clear notice of what is claimed and/or requires the exercise of subjective judgment. The specification and prosecution history do not adequately describe the term or phrase such that a POSITA would understand with reasonable certainty the scope of the limitation[s] incorporating such term or phrase.

- “merging and storing said identification data and said tracking data of each monitored object to form monitoring data for each monitored object.”

3. ‘967 Patent

The following terms or phrases of the Asserted Claims of the ‘967 patent are indefinite. Each such term or phrase lacks adequate precision or objective boundaries to afford clear notice of what is claimed and/or requires the exercise of subjective judgment. The specification and

prosecution history do not adequately describe the term or phrase such that a POSITA would understand with reasonable certainty the scope of the limitation[s] incorporating such term or phrase.

- a second power supply coupled to the electrical load and a second source of electrical energy, the second power supply configured to transition from a lesser output level to a greater output level in response to an activation signal” (claim 1)
- “activation signal” (claims 1, 4, 6, 7, 8, 9)
- “alert signal” (claims 1, 3, 4, 9)
- “the first power supply further configured to transition from a lesser output level to a greater output level in response to a first activation signal, the second power supply further configured to transition from a lesser output level to a greater output level in response to a second activation signal.” (claim 9))

* * *

These are merely examples and are not intended to be limiting. Defendant reserves all rights to amend their Invalidity Contentions under 35 U.S.C. § 112 ¶2, including after an Asserted Claim is ultimately construed by the Court, in response to any interpretation of an Asserted Claim embodied in Plaintiffs’ infringement positions, and/or to account for any changes in the law concerning indefiniteness. Defendant additionally reserves the right to provide additional explanation and/or argument for their Invalidity Contentions under § 112 ¶2 including, for example, based on expert testimony. Plaintiffs have not yet revealed their proposed constructions for the terms in these patents. Once Plaintiffs have identified their proposed constructions, Plaintiffs’ constructions may render certain terms indefinite. Defendant further expressly reserves

the right to raise and address, once the parties have exchanged claim terms and constructions, any indefiniteness issues arising out of those exchanges.

C. Written Description Contentions

Defendant contends that the Asserted Claims are invalid because the Asserted Patents do not include sufficient written description of the purported inventions claimed therein, and of the manner and process of making and using said inventions, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which the inventions pertain, or which they are most nearly connected, to make and use any of the claimed inventions. 35 U.S.C. § 112 ¶1.

Defendant contends that the specifications to which priority is sought fail to describe the full scope of the claimed inventions in sufficient detail such that one skilled in the art could reasonably conclude that the inventor had possession of the claimed invention as of the filing dates to which the Asserted Patents claim priority. The specifications of the Asserted Patents fail to describe the claimed inventions in a manner understandable to one of ordinary skill in the art and fail to show that the listed inventors actually invented the claimed inventions. Accordingly, each of the Asserted Claims is invalid for lack of adequate written description under 35 U.S.C. § 112 ¶1.

Defendant provides below an identification of terms or phrases in Asserted Claims that lack written description support in the specification of the corresponding Asserted Patent, at least as apparently construed by Plaintiffs in their Infringement Contentions, as discussed above, rendering the Asserted Claims invalid pursuant to 35 U.S.C. § 112 ¶1.

1. ‘855 Patent

The Asserted Claims of the ‘855 patent are invalid for failure to comply with the written description and/or enablement requirements of Section 112 ¶1.

The ‘855 patent specification describes an arrangement of elements in a data center using constructs that the patent refers to as “blocks,” “perimeter structures,” and “connecting structures” for the placement and operational functionality of rows of server racks. The patent emphasizes the ability of this arrangement to facilitate expansion and describes the invention as bridging the gap between brick-and-mortar facilities and containerized facilities. Based on Defendant’s understanding of Plaintiffs’ Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in written specification and prosecution history of the ‘855 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the ‘855 patent was filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. Plaintiffs’ apparent claim constructions render the Asserted Claims of the ‘855 patent overly broad in scope and would extend those claims well beyond the purported inventions described in the specification of the ‘855 patent.

The specification of the ‘855 patent does not provide sufficient written description or enablement of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the ‘855 patent in which they appear (and any claims depending therefrom) invalid:

Claim Term	Asserted Claims
Blocks	All Asserted Claims
Perimeter structures	All Asserted Claims
Connecting structures	All Asserted Claims
energy optimization evaluation	Claim 1

2. ‘509 Patent

The Asserted Claims of the ‘509 patent are invalid for failure to comply with the written description and/or enablement requirements of Section 112 ¶1.

The ‘509 patent specification describes a method of monitoring that merges “identification data” and “tracking data” and then compares new compiled data with prior compiled data. Based on Defendant’s understanding of Plaintiffs’ Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in written specification and prosecution history of the ‘509 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the ‘509 patent was filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. Plaintiffs’ apparent claim constructions render the Asserted Claims of the ‘509 patent overly broad in scope and would extend those claims well beyond the purported inventions described in the specification of the ‘509 patent.

The specification of the ‘509 patent does not provide sufficient written description or enablement of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the ‘509 patent in which they appear (and any claims depending therefrom) invalid:

Claim Term	Asserted Claims
merging and storing said identification data and said tracking data of each monitored object to form monitoring data	Claim 17

3. ‘967 Patent

The Asserted Claims of the ‘967 patent are invalid for failure to comply with the written description and/or enablement requirements of Section 112 ¶1.

The ‘967 patent specification describes a system of redundant power supplies where in the event of a power disruption one power source detects an “alert signal” and the other receives an “activation signal” after which the secondary power supply supplies the needed load. Based on Defendant’s understanding of Plaintiffs’ Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in the written specification and prosecution history of the ‘967 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the ‘967 patent was filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. Plaintiffs’ apparent claim constructions render the Asserted Claims of the ‘967 patent overly broad in scope and would extend those claims well beyond the purported inventions described in the specification of the ‘967 patent.

The specification of the ‘967 patent does not provide sufficient written description or enablement of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the ‘967 patent in which they appear (and any claims depending therefrom) invalid:

Claim Term	Asserted Claims
alert signal	Claim 1, 3, 4, 9
activation signal	Claim 1, 3, 4, 6, 7, 8, 9
the second power supply configured to transition from a lesser output level to a greater output level in response to an activation signal	Claim 1
the first power supply further configured to transition from a lesser output level to a greater output level in response to a first activation signal, the second power supply further configured to transition from a lesser output level to a greater output level in response to a second activation signal.	Claim 9

D. Enablement Contentions

Defendant contends that, at the time of Plaintiffs' claimed priority date, the patent applications to which Plaintiffs claim priority did not enable one of ordinary skill in the art to make and use the full scope of the claimed inventions without undue experimentation. Accordingly, each of the Asserted Claims is invalid for lack of enablement under 35 U.S.C. § 112 ¶1.

For example, the specification of the Asserted Patents does not provide sufficient enablement of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims in which they appear (and any claims depending therefrom) invalid.

1. '855 Patent

The Asserted Claims of the '855 patent are invalid for failure to comply with the enablement requirement of Section 112 ¶1.

The '855 patent specification recites an arrangement of elements in a data center using constructs that the patent refers to as "blocks," "perimeter structures," and "connecting structures" for the placement and operational functionality of rows of server racks. The patent emphasizes the ability of this arrangement to facilitate expansion and describes the invention as bridging the gap between brick-and-mortar facilities and containerized facilities. Based on Defendant's understanding of Plaintiffs' Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in written specification and prosecution history of the '855 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the '855 patent was filed. In particular, Plaintiffs seemingly contend ANY arrangement of server racks and operational equipment within a datacenter, including a brick-and-mortar facility infringe the claims. These allegations are inconsistent with the plain language of the claims,

the supporting description, and the prosecution history. Defendant's apparent claim constructions render the Asserted Claims of the '855 patent overly broad in scope and would extend those claims well beyond the purported inventions enabled by the specification of the '855 patent.

The specification of the '855 patent does not provide an enabling disclosure of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the '855 patent in which they appear (and any claims depending therefrom) invalid:

Claim Term	Asserted Claims
blocks	All Asserted Claims
perimeter structures	All Asserted Claims
a connecting structure	All Asserted Claims

2. '509 Patent

The Asserted Claims of the '509 patent are invalid for failure to comply with the enablement requirement of Section 112 ¶1.

The '509 patent specification describes a method of monitoring that merges identification data and tracking data and then compares new compiled data with prior compiled data. Based on Defendant's understanding of Plaintiffs' Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in written specification and prosecution history of the '509 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the '509 patent was filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. Plaintiffs' apparent claim constructions render the Asserted Claims of the '509 patent overly broad in scope and would extend those claims well beyond the purported inventions enabled by the specification of the '509 patent.

The specification of the ‘509 patent does not provide an enabling disclosure of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the ‘509 patent in which they appear (and any claims depending therefrom) invalid:

Claim Terms	Asserted Claims
merging and storing said identification data and said tracking data of each monitored object to form monitoring data	Claim 17

3. ‘967 Patent

The Asserted Claims of the ‘967 patent are invalid for failure to comply with the enablement requirement of Section 112, ¶1.

The ‘967 patent specification describes a system of redundant power supplies where in the event of a power disruption one power source detects an “alert signal” and the other receives an “activation signal” after which the secondary power supply supplies the needed load. Based on Defendant’s understanding of Plaintiffs’ Infringement Contentions, Plaintiffs are attempting to construe the Asserted Claims in an idiosyncratic manner that is entirely inconsistent with the narrowly disclosed purported invention described in written specification and prosecution history of the ‘967 patent as well as with the understanding of one of ordinary skill in the art at the time the application that issued as the ‘967 patent was filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. Plaintiffs’ apparent claim constructions render the Asserted Claims of the ‘967 patent overly broad in scope and would extend those claims well beyond the purported inventions enabled by the specification of the ‘967 patent.

The specification of the ‘967 patent does not provide an enabling disclosure of the aspects of the alleged invention corresponding to following claim limitations, rendering the Asserted Claims of the ‘967 patent in which they appear (and any claims depending therefrom) invalid:

Claim Term	Asserted Claims
alert signal	Claim 1, 3, 4, 9
activation signal	Claim 1, 3, 4, 6, 7, 8, 9
the second power supply configured to transition from a lesser output level to a greater output level in response to an activation signal	Claim 1
the first power supply further configured to transition from a lesser output level to a greater output level in response to a first activation signal, the second power supply further configured to transition from a lesser output level to a greater output level in response to a second activation signal.	Claim 9

VII. P.R. 3-4 – DOCUMENT PRODUCTION

A. P.R. 3-4(a) Disclosures

Pursuant to P.R. 3-4(a), Defendant previously produced in co-pending litigation under which there is a cross-use agreement various information regarding the accused Data Centers, including information about layout and equipment within each of the data centers. Moreover, with these contentions, Defendant has produced additional representative technical documentation within their possession, custody, and control that show the operation of aspects or elements of the Accused Instrumentalities identified by Plaintiffs in their Infringement Contentions. See TP323_0000001-165. Defendant reserves the right to supplement these disclosures with additional documentation. Defendant will produce relevant computer source code for inspection at the office of its outside counsel upon request.

B. P.R. 3-4(b) Disclosures

In accordance with P.R. 3-4(b), Defendant is producing a set of prior art references identified in these Invalidity Contentions for prior art related to the Asserted Patents. Defendant is also producing numerous prior art references. Such documents can be found at the following Bates range: TP323_0000166-1363. Any prior art references not in English are produced with an English

translation of the portion(s) relied upon. These prior art references are cited herein and support the contentions presented. Defendant's search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems and methods is ongoing. Accordingly, Defendant reserves the right to supplement their production, as provided by the local rules, as additional prior art references, additional documentation, and/or corroborating evidence concerning prior art documents/apparatuses, and methods are obtained during the course of discovery. Such additional evidence may include physical equipment specimens and/or source code evidence associated one or more prior art systems or methods obtained through further investigation and discovery.

VIII. PATENT SUBJECT MATTER INELIGIBILITY CONTENTIONS

The following Subject Matter Ineligibility Contentions incorporate by reference the Subject Matter Ineligibility Contentions set forth in Appendices 1 – 3. These Subject Matter Ineligibility Contentions are subject to revision and amendment pursuant to F.R.C.P. 26(e) and the Court's Docket Control Order, to the extent appropriate, in light of further investigation and discovery regarding the defenses below, the Court's construction of the Asserted Claims of the Asserted Patents, and/or the review and analysis of expert witnesses.

Whether an invention is eligible for patent protection under 35 U.S.C. § 101 is a “threshold test.” *See Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010). Section 101 lists four broad categories of patent-eligible subject matter but is subject to “an important implicit exception” that “[l]aws of nature, natural phenomena, and abstract ideas,” which form the “basic tools of scientific and technological work,” are not eligible for patent protection. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (internal quotation marks omitted). “The ‘abstract ideas’ category embodies ‘the longstanding rule that an idea of itself is not patentable.’” *Id.* at 209 (quoting

Gottschalk v. Benson, 409 U.S. 63, 67 (1972) (quoting *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498 (1874)).

Alice set forth a two-step inquiry. “First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* at 217 (emphasis added). In making this inquiry, the claims “must be considered as a whole.” *Alice*, 573 U.S. at 218 n.3 (quoting *Diamond v. Diehr*, 450 U.S. 175, 188 (1981)). In analyzing step one, courts consider “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 process and machinery.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017); *see also Free Stream Media Corp. v. Alphonso Inc.*, 996 F.3d 1355, 1363 (Fed. Cir. 2021).

“[M]ental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); *see also Cybersource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 99 USPQ2d 1690 (Fed. Cir. 2011) (claim “fails to recite patent-eligible subject matter because it is drawn to an unpatentable mental process—a subcategory of unpatentable abstract ideas”). For example, a patent that claims use of a mathematical formula for calculating updated values of alarm limits for alarms that monitor process variables (such as temperature) during a chemical process was directed to ineligible subject matter. *Parker v. Flook*, 437 U.S. 584, 594-95 (1978). The Supreme Court rejected the notion that the recitation of a practical application for the calculation could alone make the invention patentable, stating that any “competent draftsman could attach some form of post-solution activity to almost any mathematical formula.” *Id.* at 590.

If the claims recite an abstract idea, the second step requires a “search for an ‘inventive concept’—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.” *Alice*, 573 U.S. at 218 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2016)). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the claim is more than a drafting effort designed to monopolize the abstract idea.’” *Id.* at 221 (quoting *Mayo*, 566 U.S. at 78) (alterations omitted). The recited “additional features must be more than well- understood, routine, conventional activity.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 1335, 1339 (Fed. Cir. 2013) (internal quotations omitted).

Application of an abstract idea using “conventional and well understood techniques” does not “supply an inventive concept.” *BSG Tech. LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290–91 (Fed. Cir. 2018); *see also Baggage Airline Guest Servs., Inc. v. Roadie. Inc.*, 351 F. Supp. 3d 753, 761 (D. Del. 2019), *aff’d*, 2019 WL 5703890 (Fed. Cir. Nov. 5, 2019) (finding that “reciting generic computer functions and the use of generic computer elements to achieve a more efficient way of ‘coordinating and monitoring baggage delivery’” is not an inventive concept). A “critical difference” exists between “patenting a particular concrete solution to a problem” and “attempting to patent the abstract idea of a solution to the problem in general,” because the overbroad functional claiming of the latter “purport[s] to monopolize every potential solution to the problem.” *BSG*, 899 F.3d at 1290–91. Further, claims are subject matter ineligible if “[w]hat is claimed is simply a generic environment in which to carry out the abstract idea.” *Yu v. Apple Inc.*, 1 F.4th 1040, 1043 (Fed. Cir. 2021)

As required by the Standing Order, Defendant identifies each Asserted Claim of the ‘855, ‘509, and ‘967 patents as being directed to the abstract ideas. The Asserted Claims of the ‘855 patent are directed to the abstract idea of organizing and arranging the layout of a datacenter to conveniently locate operational equipment and anticipate expansion. The Asserted Claims of the

‘509 patent are directed to the abstract idea of monitoring a person or object by identifying them and tracking them. The Asserted Claims of the ‘967 patent are directed to the abstract idea of redundant power supplies for alerting and handling power failures. There is nothing in any of the Asserted Claims to transform these abstract ideas into inventive concepts or patent eligible subject matter. See Appendices 1 – 3.

Dated: August 27, 2025

Respectfully Submitted,

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CERTIFICATE OF SERVICE

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