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

CLOUD BYTE LLC, Plaintiff, v. DELL INC., and DELL TECHNOLOGIES INC., Defendants.	Civil Action No. 2:24-cv-00637 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Cloud Byte LLC ("Cloud Byte") brings this action against Defendants Dell Inc. and Dell Technologies Inc. (collectively "Dell" or "Defendants") for infringement of Cloud Byte's United States Patent Nos. 7,739,544 ("the '544 Patent"); 9,482,632 ("the '632 Patent"); 9,560,177 ("the '177 Patent"); 9,629,265 ("the '265 Patent"); 9,651,320 ("the '320 Patent"); 9,900,249 ("the '249 Patent"); and 10,628,273 ("the '273 Patent") (collectively, the "Asserted Patents"), and hereby alleges as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement. These claims arise under the patents laws of the United States, 35 U.S.C. §§ 1, *et seq*., as a result of Defendants' infringement of the Asserted Patents.

2. Cloud Byte owns the entire right, title, and interest in and to each of the Asserted Patents, and possesses all rights to sue for infringement of the Asserted Patents and recover past damages and/or royalties prior to the expiration of the Asserted Patents.

3. Without authorization from Cloud Byte, Defendants act in concert or individually to make, use, sell, offer for sale, and/or import into the United States certain server and networking devices, including Dell ethernet switches, SmartFabric services, and edge networking products ("Dell Networking Products"), Redundant Array of Independent Disks (RAID) technology and servers incorporating same ("Dell RAID Products"), and server systems supporting high availability or fault tolerance features, abnormality detection, airflow cooling and/or advanced temperature control ("Dell Server Products") (collectively, the "Accused Products").

PARTIES

4. Cloud Byte is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business at 850 Library Avenue, Suite 204, Newark, Delaware 19711.

5. On information and belief, Defendant Dell Technologies Inc. is a corporation organized under laws of the State of Delaware, with a principal place of business at One Dell Way, Round Rock, Texas, 78682. Dell Technologies Inc. is registered to do business in the State of Texas. Dell Technologies Inc. can be served with process through its registered agent of process at Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3128.

6. On information and belief, Defendant Dell Inc. is a corporation organized under the laws of the State of Delaware, with a principal place of business at One Dell Way, Round Rock, Texas 78682. Dell Inc. is registered to do business in the State of Texas. Dell Inc. can be served

with process through its registered agent of process at Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3128.

7. Defendants Dell Technologies Inc. and Dell Inc. (collectively "Dell") are related entities that work in concert to design, make, manufacture, sell, offer to sell, import, distribute, advertise and/or use the Accused Products in the United States and in this District.

JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction over this action for patent infringement pursuant to 28 U.S.C. §§ 1331 and 1338(a).

9. This Court has personal jurisdiction over each of the Defendants in this action pursuant to due process and/or the Texas Long Arm Statute. Defendants have committed acts within this District giving rise to this action and have established minimum contacts with this forum such that the exercise of jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice. Defendants have purposely availed themselves of the laws and protections of the United States and the State of Texas by knowingly making, using, selling, offering for sale, distributing and/or advertising the Accused Products in Texas and this District. Defendants maintain continuous and systematic contacts within this District by selling and offering for sale products and services to customers in this District and by offering for sale products and services that are used in this District. Defendants, directly or through subsidiaries or intermediaries, have regularly and systematically conducted and conduct substantial business in this District, including but not limited to: (i) making, using, offering for sale and/or selling infringing products or services in this District; (ii) engaging in at least part of the infringing acts alleged herein; (iii) purposefully and voluntarily placing one or more infringing products or services into the stream of commerce with the expectation that those products or services will be

purchased and/or used by consumers in this District; and/or (iv) regularly doing or soliciting business, engaging in other persistent courses of conduct or deriving substantial revenue from goods and services provided to individuals in Texas and in this District. Defendants have targeted the State of Texas and this District by conducting regular business therein, and have placed and continue to place infringing products into the stream of commerce through an established distribution channel with the expectation and/or knowledge that they will be purchased by consumers in the State of Texas and this District.

10. Cloud Byte's claims for patent infringement arise directly from and/or relate to the above-referenced activity.

11. Venue is proper in this District under 28 U.S.C. §§ 1391(b)-(d) and 1400(b) for the reasons set forth above.

12. Venue is also proper because, on information and belief, Dell has a regular and established place of business in this District, including making use of offices in Plano, Texas. Dell is registered with the Secretary of State to do business in the State of Texas. Dell also has authorized sellers and sales representatives that offer for sale and sell infringing products to consumers throughout Texas and in this District, including at least DatCom, LLC based in Tyler, Texas. On information and belief, Dell currently operates out of or makes use of leased, work-share, co-op or other arrangements for space, offices or facilities in this District, including through its partners and/or agents.

13. For example, on information and belief, Dell implements a comprehensive work-from-home policy under which Dell has adopted or ratified one or more additional places of business in this District, including but not limited to the homes of employees, such that the collection of these locations constitutes an aggregate network of regular and established places in

this District, in and from which business is operated. On information and belief, Dell specifically advertises for and solicits employees to reside and work remotely in this District, including to support its customers in the District, and provides and/or stores literature, equipment and/or inventory at those locations for the purpose of enabling these employees to conduct their jobs and use such literature, equipment and/or inventory specifically in this District. On information and belief, Dell employs service technicians and sales representatives in this District who provide support and sales services to existing Dell customers and prospective customers residing in this District. The work of these Dell service technicians and sales representatives is therefore inextricably tied to this District.

14. Further, Dell has admitted or not contested personal jurisdiction in this District. *See AX Wireless LLC v. Dell Inc. and Dell Technologies Inc.,* No. 2:22-cv-277-JRG-RSP, Dkt. 30 (E.D. Tex. Nov. 17, 2022).

FACTUAL ALLEGATIONS

15. This lawsuit relates to significant advancements in server and network technology, including server virtual machine scaling, advanced cooling systems, high availability and fault tolerance features, advanced routing algorithms and software-defined networking features, and systems and methods for RAID rebuilding, as further described in the Asserted Patents.

A. The Asserted Patents

16. The ’544 Patent is entitled “Disk Array System and Rebuild Method Thereof” and issued on June 15, 2010. The named inventors on the ’544 Patent are Junichi Yamato and Yoshihiro Kajiki. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’544 Patent. A true and correct copy of the ’544 Patent is attached hereto as Exhibit 1.

17. The ’632 Patent is entitled “Abnormality Detection Device” and issued on November 1, 2016. The named inventor on the ’632 Patent is Jun Yokoyama. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’632 Patent. A true and correct copy of the ’632 Patent is attached hereto as Exhibit 2.

18. The ’177 Patent is entitled “Network System and Network Flow Tracing Method” and issued on January 31, 2017. The named inventor on the ’177 Patent is Masaharu Morimoto. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’177 Patent. A true and correct copy of the ’177 Patent is attached hereto as Exhibit 3.

19. The ’265 Patent is entitled “Cooling Structure of Electronic Device” and issued on April 18, 2017. The named inventor on the ’265 Patent is Yorito Nagasaka. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’265 Patent. A true and correct copy of the ’265 Patent is attached hereto as Exhibit 4.

20. The ’320 Patent is entitled “ICT Equipment” and issued on May 16, 2017. The named inventor on the ’320 Patent is Kumiko Suzuki. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’320 Patent. A true and correct copy of the ’320 Patent is attached hereto as Exhibit 5.

21. The ’249 Patent is entitled “Communication System, Forwarding Node, Path Management Server, Communication Method, and Program” and issued on February 20, 2018. The named inventor on the ’249 Patent is Jun Awano. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’249 Patent. A true and correct copy of the ’249 Patent is attached hereto as Exhibit 6.

22. The ’273 Patent is entitled “Node System, Server Apparatus, Scaling Control Method, and Program” and issued on April 21, 2020. The named inventors on the ’273 Patent are

Yuki Yoshimura, Tadaaki Miyata, Hajime Zembutsu, Takuya Shoji, and Hironori Magatani. Cloud Byte owns by assignment the entire right, title, and interest in and to the ’273 Patent. A true and correct copy of the ’273 Patent is attached hereto as Exhibit 7.

B. The Accused Products

23. Defendants have, without Cloud Byte’s authority, made, used, offered to sell, sold, and/or imported into the United States, and/or instructed others regarding the making, use, sale, offer for sale, or importation of certain server and network devices, including the Dell Networking Products, Dell RAID Products, and Dell Server Products that directly infringe (literally or under the doctrine of equivalents), induce the infringement of, and/or are made or produced under, or by means of, a process covered by, one or more claims of each of the Asserted Patents.

24. Dell offers numerous infringing devices and products including, but not limited to, devices identified with the following exemplary device/product numbers: Dell S3048-ON, S3100, S4048-ON, S4048T-ON, S6100-ON, S6010-ON, S6000-ON, S4810, S4820T, S5000, S6000, Z9000, Z9100, Z9500, FN IOM, and MXL switches, Dell PowerEdge RAID Controllers, Dell PowerEdge rack servers (R250, R260, R350, R360, R450, R350, R550, R650xs, R660, R660xs, R750, R750xs, R750XA, R760, R760xa, R760xs, R760xd2, R860, R960, R6515, R6615, R6625, R7515, R7525, R7615, R7625), Dell PowerEdge tower servers (T150, T160, T350, T360, T550, T560), Dell PowerEdge module infrastructure (MX750c, MX760c), Dell PowerEdge edge servers (XR5610, XR11, XR12, XR7620), Dell acceleration optimized platforms (XE9680, XE9640, XE8640, R760xa), Dell PowerEdge cloud scale servers (HS5610, HS5620, R650xs CSP, R750xs CSP), and embedded management controllers and system management consoles (iDRAC and OpenManage Enterprise). The exemplary products listed in this Complaint are nonexhaustive and nonlimiting. Further discovery may reveal additional infringing devices and products.

25. Defendants, directly or indirectly through their affiliates, subsidiaries, agents, customers, or other representatives, make, use, sell and/or offer for sale the Accused Products in the United States in this District, and import the Accused Products into the United States, including in connection with supplying and selling the Accused Products to U.S. businesses residing in this District for incorporation into various OEM products. *See* https://www.dell.com/en-us/lp/dt/oem-solutions.

C. Defendants' Infringement of the Asserted Patents

26. Defendants have had knowledge of the Asserted Patents at least since the filing of this Complaint.

27. The allegations set forth herein, including the claim charts attached to this Complaint, are exemplary and without prejudice to infringement contentions provided pursuant to the Court's orders and local rules. By setting forth these allegations, Cloud Byte does not convey or imply any particular claim construction or the precise scope of the claims. These infringement allegations are based on currently available information and a reasonable investigation of the Accused Products. Cloud Byte reserves all rights, including the right to modify this description based on information obtained during discovery.

COUNT I

DEFENDANTS' INFRINGEMENT OF U.S. PATENT NO. 7,739,544

28. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

29. The claims of the '544 Patent relate to a redundant disk array system and rebuild method thereof. As noted in the '544 Patent itself, in prior art disk array systems, access performance would be degraded as the data is rebuilt following replacement of a failed disk. '544

Patent at 1:35-46. The claims of the ’544 Patent patentably improve the functioning of the disk array system by providing better access performance. The claimed approaches therefore present specific, non-abstract improvements to a very specific technological feature—access performance in redundant disk array systems.

30. The claims of the ’544 Patent are valid and enforceable.

31. Defendants’ infringing activities violate 35 U.S.C. § 271.

32. Defendants infringe at least claim 13 of the ’544 Patent. The exemplary claim chart, attached hereto as Exhibit 8, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants’ infringement as to at least one claim of the ’544 Patent.

33. For example, Claim 13 of the ’544 Patent recites:

13. A method of rebuilding a disk array system, said method comprising:

> backing up data in a disk array including a plurality of disk drives onto a backup storage device; and
>
> when a failed disk drive among said disk drives constituting said disk array is replaced with a replacement disk drive, rebuilding data in said replacement disk drive from the backed-up data in the backup storage device while simultaneously providing other devices with access to the disk drives that have not failed.

34. The Accused Products satisfy all claim limitations of one or more claims of the ’544 Patent. Defendants have infringed and continue to directly infringe one or more claims of the ’544 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

35. Defendants also knowingly and intentionally induce infringement of at least Claim 13 of the ’544 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’544 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’544 Patent and its infringement, Defendants continue to actively encourage and instruct their customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the ’544 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite their knowledge of the ’544 Patent, thereby specifically intending for and inducing their customers to infringe the ’544 Patent through the customers’ normal and customary use of the Accused Products.

36. Defendants have also infringed, and continue to infringe, at least Claim 13 of the ’544 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’544 Patent, are especially made or adapted to infringe the ’544 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’544 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

37. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and are liable for infringement of the ’544 Patent pursuant to 35 U.S.C. § 271.

38. As a result of Defendants’ infringement of the ’544 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants’ infringement, but in no

event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

39. Defendants also have knowledge of the ’544 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the ’544 Patent.

40. Defendants’ infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the ’544 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT II

DEFENDANTS’ INFRINGEMENT OF U.S. PATENT NO. 9,482,632

41. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

42. The claims of the ’632 Patent relate to the detection of an abnormality in the thermal management of computing equipment such as servers. As noted in the ’632 Patent itself, a server typically had cooling fans that helped regulate the temperatures of various parts of the server. *See* ’632 Patent at 1:20-25. The claims of the ’632 Patent patentably improve the functioning of the server’s thermal management system. The claimed approaches therefore present specific, non-abstract improvements to a very specific technological feature—ICT equipment thermal management.

43. The claims of the ’632 Patent are valid and enforceable.

44. Defendants’ infringing activities violate 35 U.S.C. § 271.

45. Defendants infringe at least claim 1 of the ’632 Patent. The exemplary claim chart, attached hereto as Exhibit 9, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants’ infringement as to at least one claim of the ’632 Patent.

46. For example, Claim 1 of the ’632 Patent recites:

> 1. An abnormality detection device for detecting an abnormality in Information and Communication Technology (ICT) equipment having a cooling fan, the abnormality detection device comprising:
>
> a hardware processor comprising:
>
> an estimating unit configured to estimate an upper limit of possible temperatures in a predetermined position of ICT equipment when a quantity of intake air into the ICT equipment is appropriate, based on a result of detection by an operational status detecting unit that detects an operational status of the ICT equipment and a result of detection by an intake-air temperature sensor that detects an intake air temperature of intake air of the ICT equipment, wherein the operational status of the ICT equipment and the intake air temperature of the ICT equipment determines a rotation speed of the cooling fan; and
>
> a determining unit configured to determine that an abnormality is occurring when a result of detection by a temperature sensor that detects a detected equipment temperature in the predetermined position is beyond the upper limit estimated by the estimating unit.

47. Defendants have infringed and continue to directly infringe one or more claims of the ’632 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

48. Defendants also knowingly and intentionally induce infringement of at least claim 1 of the ’632 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’632 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’632 Patent and its infringement, Defendants

continue to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the '632 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '632 Patent, thereby specifically intending for and inducing its customers to infringe the '632 Patent through the customers' normal and customary use of the Accused Products.

49. Defendants have also infringed, and continue to infringe, at least claim 1 of the '632 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the '632 Patent, are especially made or adapted to infringe the '632 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the '632 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

50. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and are liable for infringement of the '632 Patent pursuant to 35 U.S.C. § 271.

51. As a result of Defendants' infringement of the '632 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

52. Defendants also have knowledge of the '632 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the '632 Patent.

53. Defendants' infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '632 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT III

DEFENDANTS' INFRINGEMENT OF U.S. PATENT NO. 9,560,177

54. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

55. The claims of the '177 Patent relate to a switch apparatus, communication system, communication method, and a non-transitory recording medium. As noted in the '177 Patent itself, prior art network switches typically were inflexible devices incapable of supporting custom traffic flows or routing decisions. '177 Patent at Abstract, 1:20-3:10. The claims of the '177 Patent patentably improve the functioning of the network switch by supporting a more flexible, distributed switching architecture. The claimed approaches therefore present specific, non-abstract improvements to a very specific technological feature—network packet switching.

56. The claims of the '177 Patent are valid and enforceable.

57. Defendants' infringing activities violate 35 U.S.C. § 271.

58. Defendants infringe at least claim 1 of the '177 Patent. The exemplary claim chart, attached hereto as Exhibit 10, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants' infringement as to at least one claim of the '177 Patent.

59. For example, Claim 1 of the '177 Patent recites:

1. A switch apparatus, comprising:

> a storage storing a table, the table including rules and actions corresponding to the rules; and

a controller comprising:

a memory storing instructions; and

a processor configured to execute the instructions to:

receive the rules and the actions from a control apparatus;

identify, based on the rules, a received packet;

duplicate a part of a header of the identified packet as an additional header when the identified packet comprises a target of encapsulation;

encapsulate the identified packet by the additional header; and process, based on the actions, the identified packet.

60. Defendants have infringed and continue to directly infringe one or more claims of the '177 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

61. Defendants also knowingly and intentionally induce infringement of at least claim 1 of the '177 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the '177 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '177 Patent and its infringement, Defendants continue to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the '177 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts.

Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the ’177 Patent, thereby specifically intending for and inducing its customers to infringe the ’177 Patent through the customers’ normal and customary use of the Accused Products.

62. Defendants have also infringed, and continues to infringe, at least claim 1 of the ’177 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’177 Patent, are especially made or adapted to infringe the ’177 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’177 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

63. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and is liable for infringement of the ’177 Patent pursuant to 35 U.S.C. § 271.

64. As a result of Defendants’ infringement of the ’177 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants’ infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

65. Defendants also have knowledge of the ’177 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the ’177 Patent.

66. Defendants’ infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the ’177 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT IV

DEFENDANTS' INFRINGEMENT OF U.S. PATENT NO. 9,629,265

67. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

68. The claims of the '265 Patent relate to an electronic device with a specified structure that provides a cooling effect. As noted in the '265 Patent itself, prior art electronic devices typically had structures that were designed for a cooling effect but also had certain disadvantages. '265 Patent at 1:15-1:62. For example, one prior art solution required separate air passages for each logic unit and each power source unit, thereby increasing the overall weight of the device. '265 Patent at 1:22-42. Another prior art solution placed both power sources at the center of the housing, which applied the heat from one power source to the other and thereby reduced the cooling effect. '265 Patent at 1:43-62. The claims of the '265 Patent patentably improve the functioning of the electronic device by providing an electronic device with a better performing cooling structure. The claimed approaches therefore present specific, non-abstract improvements to a very specific technological feature—the layout of components within an electronic device to enhance or improve cooling or thermal management.

69. The claims of the '265 Patent are valid and enforceable.

70. Defendants' infringing activities violate 35 U.S.C. § 271.

71. Defendants infringe at least claim 1 of the '265 Patent. The exemplary claim chart, attached hereto as Exhibit 11, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants' infringement as to at least one claim of the '265 Patent.

72. For example, Claim 1 of the '265 Patent recites:

1. An electronic device comprising:

a housing comprising a front face and a rear face which are distanced from each other in a longitudinal direction;

a plurality of fans which are arranged inside the housing close to the front face so as to cause cooling air to flow downstream in the longitudinal direction from the front face to the rear face of the housing;

a central processing unit (CPU) which is arranged downstream of the plurality of fans in the housing and positioned to allow the cooling air to directly flow therethrough;

a plurality of memory devices adjacent to the CPU in a width direction, substantially normal to the longitudinal direction, of the housing; and

a plurality of power source units which are positioned opposite to each other and spaced out from each other in the width direction of the housing,

wherein the plurality of power source units are each positioned further downstream of the cooling air from the plurality of memory devices such that the cooling air passing through one of the memory devices passes into one of the power source units, and

wherein the plurality of power source units are each positioned not to be aligned linearly with the CPU in the longitudinal direction of the housing.

73. Defendants have infringed and continue to directly infringe one or more claims of the ’265 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

74. Defendants also knowingly and intentionally induce infringement of at least Claim 1 of the ’265 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’265 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’265 Patent and its infringement, Defendants continue to actively encourage and instruct their customers and end users (for example, through

user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the ’265 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite their knowledge of the ’265 Patent, thereby specifically intending for and inducing their customers to infringe the ’265 Patent through the customers’ normal and customary use of the Accused Products.

75. Defendants have also infringed, and continue to infringe, at least Claim 1 of the ’265 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’265 Patent, are especially made or adapted to infringe the ’265 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’265 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

76. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and are liable for infringement of the ’265 Patent pursuant to 35 U.S.C. § 271.

77. As a result of Defendants’ infringement of the ’265 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants’ infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

78. Defendants also have knowledge of the ’265 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the ’265 Patent.

79. Defendants' infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '265 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT V

DEFENDANTS' INFRINGEMENT OF U.S. PATENT NO. 9,651,320

80. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

81. The claims of the '320 Patent relate to ICT (Information and Communication Technology) equipment such as a server device having a cooling fan, a control device thereof, a temperature controlling method thereof, and a program. "Conventionally, ICT equipment such as a server device is installed in a machine room equipped with air conditioning, and is operated in an environment of an almost constant temperature in most cases." '320 Patent at 1:19-22. If the machine room is not equipped with air conditioning, however, then the external temperature of the room can vary widely. *Id*. at 1:22-28. For a variety of reasons, it is thus desired for ICT equipment to be able to regulate its own internal temperature. *Id*. at 1:28-30.

82. The '320 Patent explains that prior art systems whereby ICT equipment can thermo-regulate, without depending on air conditioning, could fail if the air intake temperature were to drop sharply. *Id*. at 1:31-2:4. That is because "a casing of a hard disk drive has air tightness of some extent," so "even if the intake air temperature drops sharply, the internal temperature of the casing of the hard disk drive will not drop sharply." *Id*. at 2:4-7. This can create "a large temperature difference [] between the internal temperature of the casing of the hard disk drive and

the inner wall temperature of the casing, which may cause condensation" and/or rust that may damage the electrical components within the ICT equipment. *Id*. at 2:7-15.

83. The '320 Patent accordingly "provide[s] ICT equipment capable of solving a problem that damage or malfunction may occur in electronic components when an intake air temperature drops sharply." *Id*. at 2:19:22. Among other components, it includes a "declination index value calculation unit that calculates an index value indicating a degree of declination of the component temperature of the electronic component." *Id*. at Claim 1. This index value is in turn used, among other factors, to control the cooling fan. *Id*. The claims of the '320 Patent thus patentably improve thermo-regulation within ICT equipment. The '320 Patent accordingly presents a specific, non-abstract improvement that addresses a problem that only exists in the context of ICT equipment.

84. The claims of the '320 Patent are valid and enforceable.

85. Defendants' infringing activities violate 35 U.S.C. § 271.

86. Defendants infringe at least Claim 1 of the '320 Patent. The exemplary claim chart, attached hereto as Exhibit 12, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants' infringement as to at least one claim of the '320 Patent.

87. For example, Claim 1 of the '320 Patent recites:

1. ICT (information and Communication Technology) equipment having an electronic component, the ICT equipment comprising:

   a cooling fan;

   a first temperature sensor that detects a component temperature of the electronic component included in the ICT equipment;

   a second temperature sensor that detects a temperature of an intake air; and

   a microprocessor including:

a declination index value calculation unit that calculates an index value indicating a degree of declination of the component temperature of the electronic component based on a detection result of the first temperature sensor; and

a control unit that controls the number of rotations of the cooling fan based on the index value calculated by the declination index value calculation unit and the temperature of the intake air by the second temperature sensor.

88. Defendants have infringed and continue to directly infringe one or more claims of the ’320 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

89. Defendants also knowingly and intentionally induce infringement of at least Claim 1 of the ’320 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’320 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’320 Patent and its infringement, Defendants continue to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the ’320 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the ’320 Patent, thereby specifically intending for and inducing its customers to infringe the ’320 Patent through the customers’ normal and customary use of the Accused Products.

90. Defendants have also infringed, and continue to infringe, at least Claim 1 of the ’320 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’320 Patent, are especially made or adapted to infringe the ’320 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’320 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

91. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and is liable for infringement of the ’320 Patent pursuant to 35 U.S.C. § 271.

92. As a result of Defendants’ infringement of the ’320 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants’ infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

93. Defendants also have knowledge of the ’320 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the ’320 Patent.

94. Defendants’ infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the ’320 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT VI

DEFENDANTS’ INFRINGEMENT OF U.S. PATENT NO. 9,900,249

95. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

96. The claims of the ’249 Patent relate to methods and apparatuses for forwarding data packets within a network. As noted in the ’249 Patent itself, “[i]n an IP network, . . . there is a problem in that . . . packets forwarding depends on the routing table of the respective forwarding nodes, and paths cannot be completely controlled.” ’249 Patent at 2:1-5. The claims of the ’249 Patent patentably improve the functioning of packet forwarding nodes by allowing them to control the path that a data packet travels through a network without every node needing to know the network topology. The claimed approaches therefore present specific, non-abstract improvements to a very specific technological feature—packet forwarding within a communications network.

97. The claims of the ’249 Patent are valid and enforceable.

98. Defendants’ infringing activities violate 35 U.S.C. § 271.

99. Defendants infringe at least claim 6 of the ’249 Patent. The exemplary claim chart, attached hereto as Exhibit 13, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants’ infringement as to at least one claim of the ’249 Patent.

100. For example, Claim 6 of the ’249 Patent recites:

6. A packet forwarding node, comprising:

> a storage unit including a non-transitory computer readable medium configured to store a packet forwarding table used for forwarding a packet based on an identifier which identifies an interface of a packet forwarding node; and
>
> at least one processor configured to execute program instructions to provide a forwarding unit configured to receive an incoming packet including a plurality of identifiers, determine a direction to forward the incoming packet, determine whether to forward to an external network, add to path or link information when the incoming packet is not forwarded to the external network, remove path or link information header when the incoming packet is forwarded to the external network, and to forward the incoming packet by using a path or link that corresponds to the identifier from among the plurality of identifiers.

101. Defendants have infringed and continue to directly infringe one or more claims of the ’249 Patent by making, using, selling, and/or offering for sale in the United States and/or

importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

102. Defendants also knowingly and intentionally induces infringement of at least Claim 6 of the ’249 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’249 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’249 Patent and their infringement, Defendants continue to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the ’249 Patent. Defendants do so knowing and intending that their customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite their knowledge of the ’249 Patent, thereby specifically intending for and inducing their customers to infringe the ’249 Patent through the customers’ normal and customary use of the Accused Products.

103. Defendants have also infringed, and continue to infringe, at least Claim 6 of the ’249 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’249 Patent, are especially made or adapted to infringe the ’249 Patent, and are not staple articles or commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’249 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

104. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and are liable for infringement of the '249 Patent pursuant to 35 U.S.C. § 271.

105. As a result of Defendants' infringement of the '249 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants' infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

106. Defendants also have knowledge of the '249 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the '249 Patent.

107. Defendants' infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the '249 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

COUNT VII

DEFENDANTS' INFRINGEMENT OF U.S. PATENT NO. 10,628,273

108. Cloud Byte realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

109. The claims of the '273 Patent relate to a node system in a redundant configuration. As noted in the '273 Patent itself, prior art systems typically provided redundancy with certain drawbacks, such as system downtime and/or service continuation. '273 Patent at 1:37-67. The claims of the '273 Patent patentably improve the functioning of the node system by providing a better performing redundant configuration for virtual CPUs. The claimed approaches therefore

present specific, non-abstract improvements to a very specific technological feature—high availability or fault tolerance in a virtual environment.

110. The claims of the ’273 Patent are valid and enforceable.

111. Defendants’ infringing activities violate 35 U.S.C. § 271.

112. Defendants infringe at least claim 1 of the ’273 Patent. The exemplary claim chart, attached hereto as Exhibit 14, which is hereby incorporated by reference in its entirety, provides a representative example of Defendants’ infringement as to at least one claim of the ’273 Patent.

113. For example, Claim 1 of the ’273 Patent recites:

1. A node system comprising:

> a first computer that executes processing when operating as an active system of a redundant system;
>
> a second computer that is able to perform at least one of scale-up and scale-down when operating as a standby system of the redundant system; and
>
> a controller that issues an instruction to the second computer operating as the standby system to perform the scale-up or the scale-down, when the active system needs to be scaled-up or scaled-down,
>
> wherein the second computer operating as the standby system, responsive to the instruction, in case of performing the scale-up, increases the number of virtual CPUs (Central Processing Units) included in the second computer and allocates one or more processes to one or more virtual CPUs added, while in case of performing the scale-down, the second computer decreases the number of virtual CPUs included in the second computer and releases allocation of one or more processes allocated to one or more virtual CPUs deleted, and transmits a completion notification to the controller when the scale-up or the scale-down is completed, and
>
> wherein, upon reception of the completion notification of the scale-up or the scale-down from the second computer of the standby system, the controller controls to execute system switching of the redundant system to switch the second computer operating as the standby system undergoing the scale-up or scale-down to a new active system and to switch the first computer operating as the active system to a new standby system.

114. Defendants have infringed and continue to directly infringe one or more claims of the ’273 Patent by making, using, selling, and/or offering for sale in the United States and/or importing into the United States the Accused Products. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Accused Products and claim element are insubstantial.

115. Defendants also knowingly and intentionally induce infringement of at least Claim 1 of the ’273 Patent in violation of 35 U.S.C. § 271(b). Through at least the filing and service of this Complaint, Defendants have had knowledge of the ’273 Patent and the infringing nature of the Accused Products. Despite this knowledge of the ’273 Patent and its infringement, Defendants continue to actively encourage and instruct their customers and end users (for example, through user manuals and online instruction materials on its website and various service and customer support) to use the Accused Products in ways that directly infringe the ’273 Patent. Defendants do so knowing and intending that its customers and end users will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Products, despite their knowledge of the ’273 Patent, thereby specifically intending for and inducing their customers to infringe the ’273 Patent through the customers’ normal and customary use of the Accused Products.

116. Defendants have also infringed, and continue to infringe, at least Claim 1 of the ’273 Patent by selling, offering for sale, or importing into the United States, the Accused Products, knowing that the Accused Products constitute a material part of the inventions claimed in the ’273 Patent, are especially made or adapted to infringe the ’273 Patent, and are not staple articles or

commodities of commerce suitable for non-infringing use. Defendants have been, and currently are, contributorily infringing the ’273 Patent in violation of 35 U.S.C. §§ 271(c) and (f).

117. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendants have injured Plaintiff and are liable for infringement of the ’273 Patent pursuant to 35 U.S.C. § 271.

118. As a result of Defendants’ infringement of the ’273 Patent, Plaintiff is entitled to monetary damages in an amount adequate to compensate for Defendants’ infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendants, together with interest and costs as fixed by the Court.

119. Defendants also have knowledge of the ’273 Patent at least due to the filing of this Complaint, and based on that knowledge, Defendants willfully infringe the ’273 Patent.

120. Defendants’ infringing activities have injured and will continue to injure Plaintiff, unless and until this Court enters an injunction prohibiting further infringement of the ’273 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court enter:

(a) A judgment in favor of Plaintiff that Defendants have infringed the ’544 Patent, the ’632 Patent, the ’177 Patent, the ’265 Patent, the ’320 Patent, the ’249 Patent, and the ’273 Patent;

(b) A judgment and order requiring Defendants to pay Plaintiff its damages, costs, expenses, and pre-judgment and post-judgment interest for Defendants’ infringement of the ’544 Patent, the ’632 Patent, the ’177 Patent, the ’265 Patent, the ’320 Patent, the ’249 Patent, and the ’273 Patent;

(c) A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against Defendants;

(d) An award of enhanced damages to Plaintiff as a result of Defendants' willful infringement;

(e) An injunction prohibiting further infringement of the '544 Patent, the '632 Patent, the '177 Patent, the '265 Patent, the '320 Patent, the '249 Patent, and the '273 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims; and

(f) Any and all other relief as the Court may deem appropriate and just under the circumstances.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Cloud Byte hereby demands a trial by jury on all issues so triable by right.

Dated: August 5, 2024

/s/ Yury Kapgan by permission Andrea Fair

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