

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION**

UMBRA TECHNOLOGIES LTD. (UK),
UMBRA TECHNOLOGIES LIMITED (CN)
& UMBRA TECHNOLOGIES (US) INC.,
dba UMBRA TECHNOLOGIES,

Plaintiffs,

v.

VMWARE, INC.,

Defendant.

Civil Action No.: 1:23-cv-904

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs UMBRA Technologies Ltd. (UK) (“UMBRA Ltd. (UK)”), UMBRA Technologies Limited (CN) (“UMBRA Ltd. (CN)”) and UMBRA Technologies (US) Inc. (“UMBRA (US)”) (collectively “UMBRA”, “UMBRA Technologies” or “Plaintiffs”), for their Complaint against Defendant, VMware, Inc. (“VMware” or “Defendant”), allege the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff UMBRA Ltd. (UK) is a company organized under the laws of the United Kingdom for the British Virgin Islands with a place of business at OMC Chambers, Wickhams Cay 1, Road Town, Tortola, British Virgin Islands, United Kingdom.

3. Plaintiff UMBRA Limited (CN) is a company organized under the laws of the Hong Kong Basic Law for the Hong Kong Special Administrative Region of the People's Republic of China with a place of business at Suite 2006, 20th Floor, Hua Qin International Building, 340 Queen's Road Central, Hong Kong 100015, People's Republic of China.

4. Plaintiff UMBRA (US) is a company organized under the laws of the state of Delaware with a place of business at 155 Main Street, Suite 301, Providence, Rhode Island 02903.

5. Upon information and belief, Defendant VMware is a corporation organized and existing under the laws of the state of Delaware, with a principal place of business located at 3401 Hillview Avenue, Palo Alto, California 94304.

6. Upon information and belief, Defendant sells and offers to sell products and services throughout the United States, including in this District, and introduces products and services into the stream of commerce and incorporates infringing technology knowing that they would be sold in this District and elsewhere in the United States.

JURISDICTION AND VENUE

7. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

8. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

9. Venue is proper in this judicial district pursuant to 28 U.S.C. §1400(b). On information and belief, VMware has committed acts of infringement in this District and maintains multiple established places of business in the state of Texas including in this District, specifically including 6500 River Place Boulevard, Building 6, Austin, Texas 78730, a regular and established place of business in this district.

10. Upon information and belief, VMware is subject to this Court’s general and specific personal jurisdiction due at least to its substantial business in Texas and in this District, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals and entities in the State of Texas.

BACKGROUND

The Invention

11. Jørn Allen Dose Knutsen and Joseph E. Rubenstein are inventors of U.S. patent nos. 10,574,482 (“the ’482 patent”), 10,630,505 (“the ’505 patent”), 11,108,595 (“the ’595 patent”) and 11,146,632 (“the ’632 patent”). A true and correct copy of the ’482 patent is attached as Exhibit 1. A true and correct copy of the ’505 patent is attached as Exhibit 2. A true and correct copy of the ’595 patent is attached as Exhibit 3. A true and correct copy of the ’632 patent is attached as Exhibit 4.

12. The ’482 patent, the ’505 patent, the ’595 patent and the ’632 patent (collectively, the “patents in suit”) resulted from the pioneering efforts of Messrs. Knutsen and Rubenstein (hereinafter “the Inventors”) in the 2010s, in the areas related to secure network optimization, virtual networks including large area or global virtual networks (GVNs), next generation software-defined wide area networking (SD-WAN), advanced smart routing (ASR), slingshot interconnection systems for sending files for example via remote direct memory access (RDMA), security such as multiple perimeter firewalls and other technologies. These efforts resulted in the development of systems and methods for improving the performance of internet connections and large networks. For example, the inventions improve quality of service in a

virtualized network. The SD-WAN inventions provide a wide range of benefits for individuals and distributed organizations, including improved architectures for implementing highly efficient, secure, optimized virtual WAN architectures over the top of the regular internet and other fabrics. The slingshot inventions improve substantially beyond past technologies to overcome limitations such as needing to packetize and send data over next-hop routing.

13. At the time of these pioneering efforts, the most widely implemented technology in use involved multiprotocol label switching, or MPLS, a networking technology that routed traffic using the shortest path based on “labels,” rather than network addresses. MPLS networks have the disadvantage of needing to transmit all traffic from the branch to a centralized data center and have limited capabilities for low latency/high performance access to cloud applications. In addition, the security and management requirements associated with disparate traffic flows in MPLS adds to the complexity of managing network operations, thus increasing operational requirements. The inventions claimed in the patents in suit overcome these limitations in traditional MPLS networks as well as other limitations in various prior art technologies. As one example, the patented inventions disclosed in the patents in suit provide a number of advantages over the prior art and improve the operations of virtualized networks implementing highly efficient, secure, optimized virtual WAN architectures.

14. Because of these significant advantages that can be achieved using various embodiments of the patented inventions, the patents in suit have significant commercial value for companies like VMware. Indeed, VMware implement their products and services in virtualized network architectures having features which utilize the patent inventions, providing convenience and efficiency for its customers, enhancing the customer engagement and experience of its

customers, and increasing the efficiency of its own operations and those of their customers and affiliates, in addition to other benefits.

Technological Innovation

15. The patented invention disclosed and claimed in the '482 patent resolves technical problems related to a multi-perimeter firewall system in a cloud in a virtualized network, particularly problems related to the utilization of stateful and deep-packet inspections in the firewall system in the cloud. As the '482 patent explains, one of the limitations of the prior art use of firewalls in, for example, a “firewall has traditionally been placed at the edge between one network such as a local area network (LAN) and another network such as an uplink to a broader network”. (*See, e.g.*, '482 patent, Ex. 1 at 5:61-63.) The invention of the '482 patent increases the utility of firewalls by extending and improving their use into the cloud, thus addressing sensitivities by network administrators as to the placement of their firewalls. ('482 patent, Ex. 1, at 5:55–67.)

16. The patented invention disclosed and claimed in the '505 patent resolves technical problems related to systems and methods of operating a control server and a plurality of intermediate access point servers in a network system, for example problems related to selecting at least one end-to-end tunnel for communications between devices in the network system. As the '505 patent explains, certain limitations of prior art systems related to long distance connectivity and throughput over a network, due to distance, protocol limitations, peering, interference, and/or other problems and threats. (*See, e.g.*, '505 patent, Ex. 2 at 1:31-34.) The invention of the '505 patent increases versatility in managing traffic, as the tunnel can represent a neutral third layer of a virtualized network within which it is possible to run traffic that would normally transit over the internet. ('505 patent, Ex. 2 at 34:1-11.)

17. The patented invention disclosed and claimed in the '595 patent resolves technical problems related to systems and methods of developing and transmitting an ordered list of available servers for building a tunnel in a network based on one or more records associated with an ordered device. (*See, e.g.*, '595 patent, Ex. 3 at 11:2-26; 14:46-48 and 15:43-67.) As the '595 patent explains, among other limitations of prior art network systems, devices often had to interact directly with each other in order to avoid potential conflicts in building a connection between them ('595 patent, Ex. 3 at 15:62-65) and server availability was not prioritized for selection to build a tunnel in a network ('595 patent, Ex. 3 at 11:15-20). The invention of the '595 patent increases the efficiency and effectiveness of a virtualized network as, for example, the ordered server availability list can prioritize address and port combinations based on expected best performance of the tunnels to be built while also looking at other available information, such as contextual information for specific devices. ('595 patent, Ex. 3 at 11:21-26.)

18. The patented invention disclosed and claimed in the '632 patent resolves technical problems related to systems for providing data beacons (DB) that include a first node and a second node with respective parallel file systems, the first node of the DB writing data to the second node parallel file system and the second node reading the data and placing it in a read queue of the second node (*see, e.g.*, '632 patent, Ex. 4 at 23:2-12). The invention resolves, for example, problems related to the utilization of TCP/IP (transmission control protocol/internet protocol) and UDP/IP (user datagram protocol/internet protocol) over long distances. As the '632 patent explains, the DB invention does not have the same congestion and inefficiencies as TCP/IP and UDP/IP, instead offering reliability and superior speed over distance. ('632 patent, Ex. 4 at 5:20-32.)

19. The claims of the patents in suit do not merely recite the performance of some well-known business practice from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the patents in suit recite inventive concepts that are deeply rooted in engineering technology and overcome problems specifically arising out of how to improve the reliability, speed, and efficiency of a virtualized network.

20. In addition, the claims of the patents in suit recite inventive concepts that improve the functioning of a virtualized network, particularly in overcoming the disadvantage of needing to transmit all traffic from a branch to a centralized data center and addressing the limited capabilities of an MPLS network for low latency while providing high performance access to cloud applications.

21. Moreover, the claims of the patents in suit recite inventive concepts that are not merely routine or conventional use of networking technology. Instead, the patented inventions disclosed and claimed in the patents in suit provide a plethora of new and novel solutions to specific problems related to improving the reliability, speed, and efficiency of a virtualized network.

22. The patented inventions disclosed and claimed in the patents in suit do not preempt all the ways that the claimed inventive features in a virtualized network architecture may be used to improve its reliability, speed, or efficiency, nor do the patents in suit preempt any other well-known or prior art technology.

23. Accordingly, the claims in the patents in suit each recite a combination of elements sufficient to ensure that each claim in substance and in practice amounts to significantly more than a patent-ineligible abstract idea.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 10,574,482

24. The allegations set forth in the foregoing paragraphs 1 through 23 are incorporated into this First Claim for Relief.

25. On February 25, 2020, the '482 patent was duly and legally issued by the United States Patent and Trademark Office under the title MULTI-PERIMETER FIREWALL IN THE CLOUD.

26. UMBRA is the assignee and owner of the right, title and interest in and to the '482 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

27. Upon information and belief, VMware has and continues to directly infringe one or more claims of the '482 patent by selling, offering to sell, making, using, and causing to be used VMware systems and methods, including one or more hardware and software products for network virtualization and related services, which by way of example include but are not limited to VMware SD-WAN, (see, e.g., VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (see, e.g., VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (see, e.g., VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (see, e.g., VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and downloaded July 31, 2023).

28. Exemplary infringement analysis showing infringement of claims 1-9 of the '482 patent is set forth in Exhibit 5. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by VMware with respect to the '482 patent. UMBRA reserves all rights to amend, supplement and modify this preliminary infringement

analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the '482 patent.

29. The Accused Instrumentalities infringed and continue to infringe claims 1-9 of the '482 patent.

30. On information and belief, VMware had knowledge of the '482 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

31. Upon information and belief, since VMware had knowledge of the '482 patent, VMware has induced and continues to induce others to infringe at least claims 1-9 of the '482 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to VMware's partners and customers, whose use of the Accused Instrumentalities constitutes direct infringement of at least claims 1-9 of the '482 patent.

32. In particular, VMware's actions that aid and abet others such as their partners and customers to infringe include distributing the Accused Instrumentalities and providing materials and/or services related to the Accused Instrumentalities. On information and belief, VMware has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because VMware has had actual knowledge of the '482 patent and that its acts were inducing infringement of the '482 patent since VMware has had knowledge of the '482 patent.

33. In particular, VMware had knowledge of the '482 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates

and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

34. Upon information and belief, since VMware had knowledge of the '482 patent, Defendant is liable as a contributory infringer of the '482 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States network virtualization products, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and downloaded July 31, 2023), to be especially made or adapted for use in an infringement of the '482 patent. The Accused Instrumentalities are material components for use in practicing the '482 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

35. On information and belief, since VMware had knowledge of the '482 patent, VMware's infringement has been and continues to be willful.

36. UMBRA has been harmed by VMware's infringing activities.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 10,630,505

37. The allegations set forth in the foregoing paragraphs 1 through 36 are incorporated into this Second Claim for Relief.

38. On April 21, 2020, the '505 patent was duly and legally issued by the United States Patent and Trademark Office under the title SYSTEM AND METHOD FOR A GLOBAL VIRTUAL NETWORK.

39. UMBRA is the assignee and owner of the right, title and interest in and to the '505 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

40. Upon information and belief, VMware has and continues to directly infringe one or more claims of the '505 patent by selling, offering to sell, making, using, and causing to be used VMware systems and methods, including one or more hardware and software products for network virtualization and related services, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and downloaded July 31, 2023).

41. Exemplary infringement analysis showing infringement of claim 1 of the '505 patent is set forth in Exhibit 6. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by VMware with respect to the '505 patent. UMBRA reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '505 patent.

42. The Accused Instrumentalities infringed and continue to infringe claim 1 of the '505 patent.

43. On information and belief, VMware had knowledge of the '505 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

44. Upon information and belief, since VMware had knowledge of the '505 patent, VMware has induced and continues to induce others to infringe at least claim 1 of the '505 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to VMware's partners and customers, whose use of the Accused Instrumentalities constitutes direct infringement of at least claim 1 of the '505 patent.

45. In particular, VMware's actions that aid and abet others such as their partners and customers to infringe include distributing the Accused Instrumentalities and providing materials and/or services related to the Accused Instrumentalities. On information and belief, VMware has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because VMware has had actual knowledge of the '505 patent and that its acts were inducing infringement of the '505 patent since VMware has had knowledge of the '505 patent.

46. In particular, VMware had knowledge of the '505 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

47. Upon information and belief, since VMware had knowledge of the '505 patent, Defendant is liable as a contributory infringer of the '505 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States network virtualization products, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and downloaded July 31, 2023)) to be especially made or adapted for use in an infringement of the '505 patent. The Accused Instrumentalities are material components for use in practicing the '482 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

48. On information and belief, since VMware had knowledge of the '505 patent, VMware's infringement has been and continues to be willful.

49. UMBRA has been harmed by VMware's infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 11,108,595

50. The allegations set forth in the foregoing paragraphs 1 through 49 are incorporated into this Third Claim for Relief.

51. On August 31, 2021, the '595 patent was duly and legally issued by the United States Patent and Trademark Office under the title SYSTEMS AND METHODS FOR PROVIDING A GLOBAL VIRTUAL NETWORK (GVN).

52. UMBRA is the assignee and owner of the right, title and interest in and to the '595 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

53. Upon information and belief, VMware has and continues to directly infringe one or more claims of the '595 patent by selling, offering to sell, making, using, and causing to be used VMware systems and methods, including one or more hardware and software products for network virtualization and related services, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and downloaded July 31, 2023).

54. Exemplary infringement analysis showing infringement of claim 1 of the '595 patent is set forth in Exhibit 7. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by VMware with respect to the '595 patent. UMBRA reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '595 patent.

55. The Accused Instrumentalities infringed and continue to infringe claim 1 of the '595 patent.

56. On information and belief, VMware had knowledge of the '595 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or

its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

57. Upon information and belief, since VMware had knowledge of the '595 patent, VMware has induced and continues to induce others to infringe at least claim 1 of the '595 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to VMware's partners and customers, whose use of the Accused Instrumentalities constitutes direct infringement of at least claim 1 of the '595 patent.

58. In particular, VMware's actions that aid and abet others such as their partners and customers to infringe include distributing the Accused Instrumentalities and providing materials and/or services related to the Accused Instrumentalities. On information and belief, VMware has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because VMware has had actual knowledge of the '595 patent and that its acts were inducing infringement of the '595 patent since VMware has had knowledge of the '595 patent.

59. In particular, VMware had knowledge of the '595 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

60. Upon information and belief, since VMware had knowledge of the '595 patent, Defendant is liable as a contributory infringer of the '595 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States network virtualization products, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware

SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the “Accused Instrumentalities”) (all cited URLs last accessed and downloaded July 31, 2023)), to be especially made or adapted for use in an infringement of the ’595 patent. The Accused Instrumentalities are material components for use in practicing the ’595 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

61. On information and belief, since VMware had knowledge of the ’595 patent, VMware’s infringement has been and continues to be willful.

62. UMBRA has been harmed by VMware’s infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 11,146,632

63. The allegations set forth in the foregoing paragraphs 1 through 62 are incorporated into this Third Claim for Relief.

64. On October 12, 2021, the ’632 patent was duly and legally issued by the United States Patent and Trademark Office under the title DATA BEACON PULSER(S) POWERED BY INFORMATION SLINGSHOT.

65. UMBRA is the assignee and owner of the right, title and interest in and to the ’632 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

66. Upon information and belief, VMware has and continues to directly infringe one or more claims of the ’632 patent by selling, offering to sell, making, using, and causing to be

used VMware systems and methods, including one or more hardware and software products for network virtualization and related services, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the “Accused Instrumentalities”) (all cited URLs last accessed and downloaded July 31, 2023).

67. Exemplary infringement analysis showing infringement of claims 1 and 7 of the ’632 patent is set forth in Exhibit 8. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by VMware with respect to the ’632 patent. UMBRA reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’632 patent.

68. The Accused Instrumentalities infringed and continues to infringe claims 1 and 7 of the ’632 patent.

69. On information and belief, VMware had knowledge of the ’632 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA’s intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

70. Upon information and belief, since VMware had knowledge of the ’632 patent, VMware has induced and continues to induce others to infringe at least claims 1 and 7 of the ’632 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful

blindness, actively aiding and abetting others to infringe, including but not limited to VMware's partners and customers, whose use of the Accused Instrumentalities constitutes direct infringement of at least claim 1 of the '632 patent.

71. In particular, VMware's actions that aid and abet others such as their partners and customers to infringe include distributing the Accused Instrumentalities and providing materials and/or services related to the Accused Instrumentalities. On information and belief, VMware has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because VMware has had actual knowledge of the '632 patent and that its acts were inducing infringement of the '632 patent since VMware has had knowledge of the '632 patent.

72. In particular, VMware had knowledge of the '632 patent stemming from at least in-person, telephonic and email discussions between representatives for VMware or its affiliates and UMBRA pertaining to UMBRA's intellectual property, and its products and services occurring in or near May 2016, and for at least months thereafter.

73. Upon information and belief, since VMware had knowledge of the '632 patent, Defendant is liable as a contributory infringer of the '632 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States network virtualization products, which by way of example include but are not limited to VMware SD-WAN, (*see, e.g.*, VMware SD-WAN, <https://www.vmware.com/products/sd-wan.html>), VMware NSX software-defined data center (*see, e.g.*, VMware NSX, <https://www.vmware.com/products/nsx.html>), VMware vSphere (*see, e.g.*, VMware vSphere, <https://www.vmware.com/products/vsphere.html>), and VMware Horizon (*see, e.g.*, VMware Horizon, <https://www.vmware.com/products/horizon.html>) and related earlier versions (the "Accused Instrumentalities") (all cited URLs last accessed and

downloaded July 31, 2023)), to be especially made or adapted for use in an infringement of the '632 patent. The Accused Instrumentalities are material components for use in practicing the '632 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

74. On information and belief, since VMware had knowledge of the '632 patent, VMware's infringement has been and continues to be willful.

75. UMBRA has been harmed by VMware's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, UMBRA demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, UMBRA demands judgment for itself and against VMware as follows:

- A. An adjudication that VMware has infringed the patents in suit;
- B. An award of damages to be paid by VMware adequate to compensate UMBRA for VMware's past infringement of the patents in suit, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of UMBRA's reasonable attorneys' fees; and
- D. An award to UMBRA of such further relief at law or in equity as the Court deems just and proper.

Dated: August 2, 2023

Respectfully submitted,

DEVLIN LAW FIRM LLC

/s/ Timothy Devlin

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