

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

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

Plaintiffs,

v.

JUNIPER NETWORKS, INC.,

Defendant.

C.A. No.: 1:24-cv-01288-JLH

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs UMBRA Technologies Ltd. (UK) (“UMBRA (UK)”), UMBRA Technologies Limited (CN) (“UMBRA (CN)”) and UMBRA Technologies (US) Inc. (“UMBRA (US)”) (collectively “UMBRA” or “Plaintiffs”), for their First Amended Complaint against Defendant, Juniper Networks, Inc. (“Juniper” 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 (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 (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 4 Richmond Square, Suite 102, Providence, Rhode Island 02906.

5. Upon information and belief, Defendant Juniper is a corporation organized and existing under the laws of the state of Delaware, with a principal place of business located at 1133 Innovation Way, Sunnyvale, California 94089. Upon information and belief, Juniper sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

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

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

8. Venue is proper in this judicial district pursuant to 28 U.S.C. §1400(b).

9. On information and belief, Juniper is a resident of this judicial district as it is incorporated in the State of Delaware.

10. This Court has personal jurisdiction over Juniper under the laws of the State of Delaware, due at least to their substantial business in Delaware and in this judicial 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 in the State of Delaware. Further, this Court has personal jurisdiction and proper authority to exercise venue over Juniper because it is incorporated in Delaware and by doing so has purposely availed itself of the privileges and benefits of the laws of the State of Delaware.

BACKGROUND

The Invention

11. Carlos Eduardo Oré and Joseph E. Rubenstein are inventors of U.S. patent no. 10,574,482 (“the ’482 patent”). Joseph E. Rubenstein, Jørn Allen Dose Knutsen, Thibaud Auguste Bernard Jean Saint-Martin, Carlos Eduardo Oré, and Fred Broussard are inventors of U.S. patent no. 11,240,064 (“the ’064 patent”). Carlos Eduardo Oré, Thibaud Auguste Bernard Jean Saint-Martin, and Joseph E. Rubenstein are inventors of U.S. patent no. 11,799,687 (“the ’687 patent”). Joseph E. Rubenstein and Carlos Eduardo Oré are inventors of U.S. patent no. 12,160,328 (“the ’328 patent”). Collectively, the foregoing individuals are referred to as “the Inventors”. A true and correct copy of the ’482 patent is attached as Exhibit 1. A true and correct copy of the ’064 patent is attached as Exhibit 2. A true and correct copy of the ’687 patent is attached as Exhibit 3. A true and correct copy of the ’328 patent is attached as Exhibit 4.

12. The ’482 patent, the ’064 patent, the ’687 patent and the ’328 patent (collectively, the “patents in suit”) resulted from the pioneering efforts of 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 Juniper. Indeed, Juniper implements their products and services in virtualized network architectures having features which utilize the patented 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 inventions disclosed and claimed in the '482 patent and the '328 patent (both in the same family and with matching specifications) resolve 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 and '328 patents explain, 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 5:60-65; '328 patent, Ex. 4 at 5:62-6:05.) The inventions of the '482 and '328 patents increase 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 5:45–67; '328 patent, Ex. 4 at 5:53-6:06.)

16. The patented inventions disclosed and claimed in the '064 patent resolve technical problems related to systems and methods of operating a network system for connecting devices via a global virtual network. As the '064 patent explains, last mile connectivity has been improving but certain limitations of prior art systems have existed 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.*, '064 patent, Ex. 2 at 1:31-34.) The

inventions of the '064 patent increases security in managing traffic, as a communication path may be selected from a plurality of communication paths based on a security rating of the selected communication path. ('064 patent, Ex. 2 at 42:15 to 46:35.)

17. The patented inventions disclosed and claimed in the '687 patent also resolve technical problems related to systems and methods of operating a network system for connecting devices via a global virtual network. As the '687 patent explains, in a network system there is often little to no control over the routes between two points as they rely on the policies of middle players on the internet who carry their traffic over their networks. (*See, e.g.*, '687 patent, Ex. 3 at 2:23-26.) The virtual interfaces (VIFs) and VIF structures claimed in the '687 patent can act as hook points for multiple network tunnels and allow for the shifting of time and resource intensive operations. ('687 patent, Ex. 3 at 1:20-23 and 7:2-8.) The inventions of the '687 patent increases quality of service in the GVN related to network connectivity which improves general performance and enhances user experience. ('687 patent, Ex. 3 at 6:62-66.)

18. 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 patent 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.

19. 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.

20. 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.

21. 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.

22. 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.

Prior Litigation

23. The '482 patent was previously litigated in *UMBRA v. VMware, Inc.*, Northern District of California, Case No. 3:24-cv-01609 (dismissed) and is presently asserted in *UMBRA v. Cisco Systems, Inc.*, Western District of Texas, Case No. 1:23-cv-00903 (pending), which is stayed at the time of this filing. The '482 patent was previously the subject of a petition to the United States Patent and Trademark Office ("USPTO") Patent Trial and Appeal Board ("PTAB"), IPR2024-00498, filed by Cisco Systems Inc., requesting Inter Partes Review ("IPR") of the claims of the '482 patent. The petition requesting institution of an IPR proceeding was denied.

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

24. The allegations set forth in the foregoing paragraphs 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, Juniper has and continues to directly infringe at least one claim of the '482 patent by selling, offering to sell, making, using, and causing to be used Juniper 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 Juniper 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 the Juniper products and services identified in Exhibit 5 hereto (the “Accused Instrumentalities”).

28. Exemplary infringement analysis showing infringement of at least one claim 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 Juniper 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 claims of the '482 patent.

29. The Accused Instrumentalities infringed and continue to infringe at least one claim of the '482 patent.

30. UMBRA has been harmed by Juniper's infringing activities.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 11,240,064

31. The allegations set forth in the foregoing paragraphs are incorporated into this Second Claim for Relief.

32. On February 1, 2022, the '064 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".

33. UMBRA is the assignee and owner of the right, title and interest in and to the '064 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

34. Upon information and belief, Juniper has and continues to directly infringe at least one claim of the '064 patent by selling, offering to sell, making, using, and causing to be used Juniper 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 Juniper 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 the Juniper products and services identified in Exhibit 6 hereto (the "Accused Instrumentalities").

35. Exemplary infringement analysis showing infringement of at least one claim of the '064 patent is set forth in Exhibit 6. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Juniper with respect to the '064 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 '064 patent.

36. The Accused Instrumentalities infringed and continue to infringe at least one claim of the '064 patent.

37. UMBRA has been harmed by Juniper's infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 11,799,687

38. The allegations set forth in the foregoing paragraphs are incorporated into this Third Claim for Relief.

39. On October 24, 2023, the '687 patent was duly and legally issued by the United States Patent and Trademark Office under the title "SYSTEM AND METHOD FOR VIRTUAL INTERFACES AND ADVANCED SMART ROUTING IN A GLOBAL VIRTUAL NETWORK".

40. UMBRA is the assignee and owner of the right, title and interest in and to the '687 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

41. Upon information and belief, Juniper has and continues to directly infringe at least one claim of the '687 patent by selling, offering to sell, making, using, and causing to be used Juniper 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 Juniper 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 the Juniper products and services identified in Exhibit 7 hereto (the “Accused Instrumentalities”).

42. Exemplary infringement analysis showing infringement of at least one claim of the ’687 patent is set forth in Exhibit 7. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Juniper with respect to the ’687 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 ’687 patent.

43. The Accused Instrumentalities infringed and continue to infringe at least one claim of the ’687 patent.

44. UMBRA has been harmed by Juniper’s infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 12,160,328

45. The allegations set forth in the foregoing paragraphs are incorporated into this Fourth Claim for Relief.

46. On December 3, 2024, the ’328 patent was duly and legally issued by the United States Patent and Trademark Office under the title “MULTI-PERIMETER FIREWALL IN THE CLOUD”.

47. UMBRA is the assignee and owner of the right, title and interest in and to the ’328 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of them.

48. Upon information and belief, Juniper has and continues to directly infringe at least one claim of the ’328 patent by selling, offering to sell, making, using, and causing to be used Juniper 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 Juniper 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 the Juniper products and services identified in Exhibit 8 hereto (the “Accused Instrumentalities”).

49. Exemplary infringement analysis showing infringement of at least one claim of the ’328 patent is set forth in Exhibit 8. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Juniper with respect to the ’328 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 ’328 patent.

50. The Accused Instrumentalities infringed and continue to infringe at least one claim of the ’328 patent.

51. UMBRA has been harmed by Juniper’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 Juniper as follows:

- A. An adjudication that Juniper has infringed the patents in suit;
- B. An award of damages to be paid by Juniper adequate to compensate UMBRA for Juniper’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: December 20, 2024

Respectfully submitted,

DEVLIN LAW FIRM LLC

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