

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

WSOU INVESTMENTS, LLC D/B/A  
BRAZOS LICENSING AND DEVELOPMENT,

Plaintiff,

v.

JUNIPER NETWORKS, INC.,

Defendant.

No. 6:20-cv-00813

**JURY TRIAL DEMANDED**

**BRAZOS’S COMPLAINT AGAINST JUNIPER FOR  
INFRINGEMENT OF U.S. PATENT NO. 7,483,998**

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos”), by and through its attorneys, files this Complaint for Patent Infringement against defendant Juniper Networks, Inc. (“Juniper”) and alleges:

**NATURE OF THE ACTION**

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.*, including §§ 271, 281, 284, and 285.

**THE PARTIES**

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 605 Austin Avenue, Suite 6, Waco, Texas 76701.

3. On information and belief, Juniper is a corporation organized and existing under the laws of Delaware, with a regular and established place of business located at 1120 South Capital of Texas Highway, Suite 120, First Floor, Building 2, Austin, Texas 78746. Juniper may be served through its designated agent for service of process, CT Corporation System, 1999

Bryan Street, Suite 900, Dallas, Texas, 75201. On information and belief, Juniper is registered to do business in the State of Texas and has been since at least April 27, 2017.

**JURISDICTION AND VENUE**

4. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has specific and general personal jurisdiction over Juniper pursuant to due process and/or the Texas Long Arm Statute because Juniper has committed and continues to commit acts of patent infringement, including acts giving rise to this action, within the State of Texas and this Judicial District. The Court's exercise of jurisdiction over Juniper would not offend traditional notions of fair play and substantial justice because Juniper has established minimum contacts with the forum. For example, on information and belief, Juniper has committed acts of infringement in this Judicial District, directly and/or through intermediaries, by, among other things, making, using, offering to sell, selling, and/or importing products and/or services that infringe the Asserted Patent, as alleged herein.

6. Upon information and belief, Juniper has continuous and systematic business contacts with the State of Texas. Juniper is registered to do business in the State of Texas, has offices and facilities in the State of Texas, and actively directs its activities to customers located in the State of Texas. Juniper, directly and/or through affiliates and/or intermediaries, conducts its business extensively throughout the State of Texas, by shipping, importing, manufacturing, distributing, offering for sale, selling, and/or advertising its products and services in the State of Texas and this Judicial District.

7. Venue is proper in this Court pursuant to 28 U.S.C. § 1400(b). Juniper is registered to do business in the State of Texas, and, upon information and belief, Juniper has transacted business in this Judicial District, and has committed acts of direct and indirect

infringement in this Judicial District by, among other things, importing, offering to sell, and selling products that infringe the Asserted Patent. Juniper has regular and established places of business in this Judicial District, as set forth below.

8. Juniper maintains a regular and established place of business in this Judicial District, at least at 1120 South Capital of Texas Highway, Suite 120, First Floor, Building 2, Austin, Texas 78746. Upon information and belief, Juniper conducts business, serves customers, and markets and/or sells its products from its regular and established place of business in Austin, Texas, in this Judicial District.

9. Upon information and belief, Juniper maintains additional regular and established places of business in the State of Texas, nearby to this Judicial District, including at Granite Park V, 5830 Granite Pkwy #850, Plano, Texas 75024.

10. Juniper's Form 10-K for the fiscal year ended December 31, 2019 states, in part:

Juniper Networks designs, develops, and sells products and services for high-performance networks to enable customers to build scalable, reliable, secure and cost-effective networks for their businesses . . . . We organize and manage our business by major functional departments on a consolidated basis as one operating segment. We sell our high-performance network products and service offerings across routing, switching, and security technologies. In addition to our products, we offer our customers services, including maintenance and support, professional services, and education and training programs.<sup>1</sup>

11. Upon information and belief, Juniper designs, manufactures, uses, imports into the United States, sells, and/or offers for sale in the United States products that infringe the Asserted Patent, directly and or through intermediaries, as alleged herein. Juniper markets, sells, and/or offers to sell its products and services, including those accused herein of infringement, to actual and potential customers and end-users located in the State of Texas and in this Judicial District, as alleged herein.

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<sup>1</sup> See [https://s1.q4cdn.com/608738804/files/doc\\_financials/2019/q4/2019-10-K-Final.pdf](https://s1.q4cdn.com/608738804/files/doc_financials/2019/q4/2019-10-K-Final.pdf) at 3.

12. Juniper's website advertises and promotes its products and services to customers nationwide, and permits customers to request a quote<sup>2</sup> or buy directly from Juniper by requesting a direct call or email from a Juniper representative.<sup>3</sup>

**COUNT I**  
**Infringement of U.S. Patent No. 7,483,998**

13. Brazos re-alleges and incorporates by reference the preceding paragraphs 1–12 of this Complaint.

14. On January 27, 2009, the U.S. Patent & Trademark Office duly and legally issued U.S. Patent No. 7,483,998 (the "'998 Patent"), entitled "Software Configurable Cluster-Based Router Using Heterogeneous Nodes as Cluster Nodes." A true and correct copy of the '998 Patent is attached as Exhibit A to this Complaint.

15. Brazos is the owner of all rights, title, and interest in and to the '998 Patent, including the right to assert all causes of action arising under the '998 Patent and the right to any remedies for the infringement of the '998 Patent.

16. Juniper makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this Judicial District, switches supporting Juniper's Virtual Chassis technology,<sup>4</sup> including, but not limited to, Juniper's QFX Series switches,<sup>5</sup> including model

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<sup>2</sup> See, e.g., <https://www.juniper.net/us/en/products-services/switching/qfx-series/qfx5200/>.

<sup>3</sup> See <https://www.juniper.net/us/en/how-to-buy/>.

<sup>4</sup> See [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/virtual-chassis-switches-overview.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/virtual-chassis-switches-overview.html).

<sup>5</sup> See <https://www.juniper.net/us/en/products-services/switching/qfx-series/>; [https://www.juniper.net/documentation/en\\_US/release-independent/licensing/topics/topic-map/software\\_features\\_that\\_require\\_licenses.html](https://www.juniper.net/documentation/en_US/release-independent/licensing/topics/topic-map/software_features_that_require_licenses.html).

numbers QFX3500, QFX3600, QFX5100, and QFX5110, and Juniper’s EX Series switches,<sup>6</sup> including model number EX4300 (collectively, the “Accused Products”).

17. The Accused Products are router cluster nodes of a plurality of router cluster nodes interconnected in a cluster router.

18. Juniper Virtual Chassis (*i.e.*, a “cluster router”) interconnects multiple member switches (*i.e.*, “router cluster nodes”) so that they operate as a single logical device: “A[] . . . Virtual Chassis is a supported combination of interconnected . . . switches operating as one logical device and managed as a single chassis. Switches in a Virtual Chassis are called *member switches*.”<sup>7</sup>

19. The member switches in a Virtual Chassis are routers. The Virtual Chassis, and each switch in it, learns dynamic routes and uses routing tables, routes traffic using the same Junos OS that Juniper routers use, and support the same routing protocols (BGP, BFD, OSPF, RIP, etc.) that Juniper routers use:<sup>8</sup>

#### **How to Use a Junos Switch as a Router**

Juniper . . . switches support many of the standard Junos OS routing protocols, including static routing, RIP, OSPF, IS-IS, and BGP, as well as features such as VRRP. To enable inter-VLAN communication, you configure a Layer 3 (routing) logical interface on the switch for each VLAN. The switch treats these just like any other interface, so you can route traffic to and from VLANs through these interfaces.

The switch maintains routing tables to compile information learned from the routing protocols and from other routing information sources. The switch creates

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<sup>6</sup> See <https://www.juniper.net/us/en/products-services/switching/ex-series/>; [https://www.juniper.net/documentation/en\\_US/release-independent/licensing/topics/topic-map/understanding\\_software\\_licenses.html](https://www.juniper.net/documentation/en_US/release-independent/licensing/topics/topic-map/understanding_software_licenses.html).

<sup>7</sup> See [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/virtual-chassis-ex4200-overview.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/virtual-chassis-ex4200-overview.html).

<sup>8</sup> See <https://www.dummies.com/programming/networking/juniper/how-to-use-a-junos-switch-as-a-router/> (including as a co-author Walter Goralski, “a Senior Staff Engineer and technical writer at Juniper Networks”).

the same routing tables (and forwarding tables) and uses then in the same way as JUNOS routers do.

20. Every switch in a Virtual Chassis has a Packet Forwarding Engine (PFE), which is router technology: “Packet Forwarding Engine (PFE): Portion of the router that processes packets by forwarding them between input and output interfaces.”<sup>9</sup>

21. The master switch in the Virtual Chassis has the role of “Routing Engine,” which receives and transmits routing information: “Routing Engine: Calculates and maintains the forwarding table and provides it to the PFEs in other member switches. The RE also receives and transmits routing information. The master switch is always the Routing Engine.”<sup>10</sup>

22. The Accused Products comprise a plurality of cluster router internal interconnecting links connected thereto, the internal interconnecting links enabling the exchange of packets with adjacent cluster nodes in the cluster router; and at least one cluster router external link connected to each of the cluster router nodes interconnected in the cluster router, the at least one external link enabling exchange of packets between communications network nodes external to said cluster router and the cluster router.

23. Each switch of a Virtual Chassis has two types of links: (1) Virtual Chassis ports (VCP) (*i.e.*, “internal interconnecting links”) for exchanging data (*i.e.*, “packets”) with other (*i.e.*, “adjacent”) member switches; and (2) access ports (also referred to as ingress or egress ports) (*i.e.*, “external links”) for communicating to nodes outside of the Virtual Chassis, such as PCs or phones:<sup>11</sup>

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<sup>9</sup> See <https://www.juniper.net/us/en/local/pdf/implementation-guides/8010018-en.pdf> at 28.

<sup>10</sup> See *supra* note 9 at 28.

<sup>11</sup> See [https://www.juniper.net/documentation/en\\_US/junos/information-products/pathway-pages/ex-series/virtual-chassis-4200-4500-ex-series.pdf](https://www.juniper.net/documentation/en_US/junos/information-products/pathway-pages/ex-series/virtual-chassis-4200-4500-ex-series.pdf) at 23, 104.

You set up a Virtual Chassis by configuring Virtual Chassis ports (VCPs) on the member switches, and interconnecting the switches using the VCPs. VCPs are responsible for passing all data and control traffic between member switches in the Virtual Chassis.

### ***Virtual Chassis Port Options***

Some switches have dedicated VCPs; you can only use these ports as VCPs and you can't reconfigure them as network ports. Dedicated VCPs allow you to interconnect switches into a Virtual Chassis without requiring any additional interface configuration.

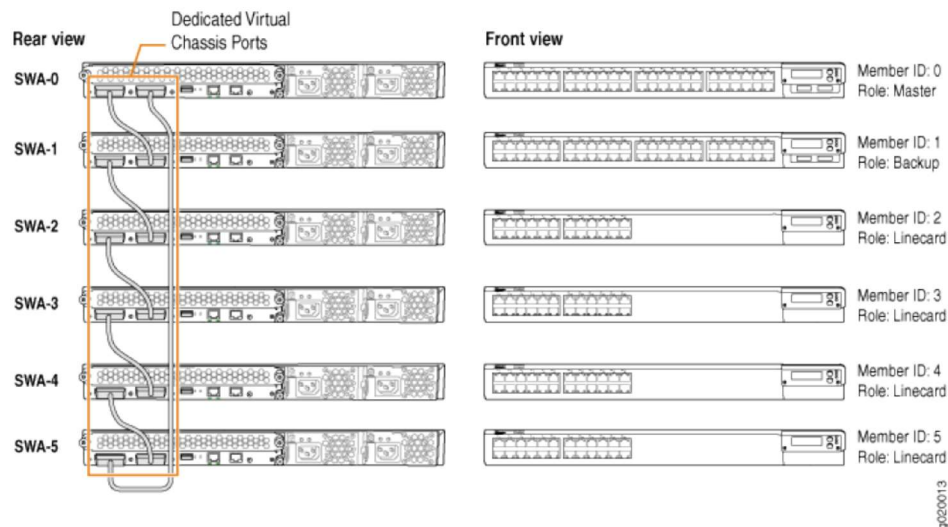
Some switches have ports that are configured as VCPs by default. You don't need to explicitly configure those as VCPs to use them to interconnect the switches into a Virtual Chassis.

Most switches have optical or uplink ports that you can also configure as VCPs.

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A Virtual Chassis configuration can be expanded without disrupting the site's network connectivity. This example describes adding a member switch into an existing Virtual Chassis configuration to provide additional access ports for connecting more PCs and Voice over IP (VoIP) phones at this location . . .

24. The figure below shows an example where each member switch has 2 VCP ports in the rear, and 12 or 24 access ports on the front:<sup>12</sup>



25. The Accused Products comprise a router-cluster-node-centric configuration to effect distributed routing of the conveyed packets.

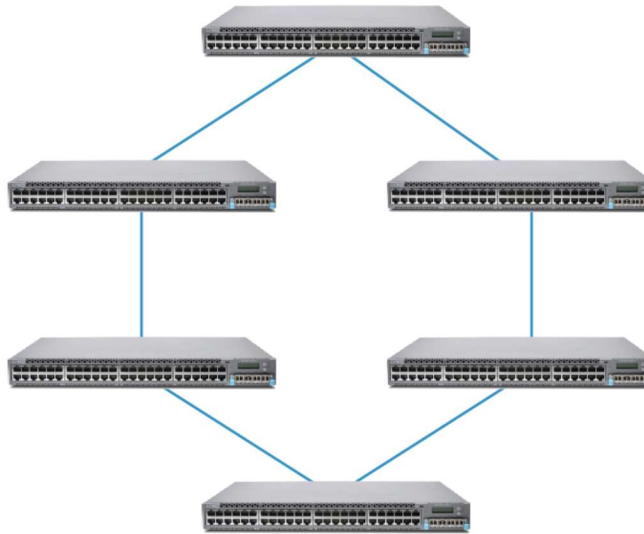
<sup>12</sup> See *supra* note 11 at 125 (Figure 13).

26. A Virtual Chassis is configured to distribute routing of packets across member switches by operating as a single entity. The Virtual Chassis determines the single best path through its member switches to route packets that arrive from the rest of the network at ingress ports and exit to the rest of the network at egress ports:<sup>13</sup>

### Forwarding Path

A Virtual Chassis configuration uses an internal shortest path forwarding algorithm to determine the path for routing packets internally through the member switches. When a Virtual Chassis is deployed, its Virtual Chassis Control Protocol (VCCP) builds a forwarding table that includes information about each switch component and its location. From this table, the system determines the shortest forwarding path for data between the ingress port and the egress port in a Virtual Chassis configuration.

27. The “most commonly deployed topology” for a Virtual Chassis is a “single ring topology,” as shown in the figure below:



28. Juniper’s Virtual Chassis technology achieves a “lower deployment cost” when compared to “a traditional modular chassis” and “provides flexibility in the physical deployment

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<sup>13</sup> See *supra* note 9 at 14 (Figure 8)



of devices across extended distances, enabling unique network designs to reduce deployment and operational costs.”<sup>14</sup>

29. The inclusion by the Accused Products of said at least one external link in each of the router cluster nodes in the cluster router provides a scalable router.

30. Juniper’s Virtual Chassis is scalable up to 10 switches (“cluster nodes”):<sup>15</sup>

**Better performance, scale and flexibility without trade-offs:** The ability to span access and aggregation network tiers and interconnect up to 10 switches in a Virtual Chassis configuration enables flexible scaling as business requirements change. Pay-as-you-grow scalability on fixed configuration switches—for instance, from 24 to 480 10/100/1000BASE-T ports with Juniper Networks EX4200 Ethernet Switches, and from 32 to 450 10GbE small form-factor pluggable transceiver (SFP) ports on the Juniper Networks EX4500 Ethernet Switches—allows flexible growth as requirements change. Location flexibility can be derived by extending Virtual Chassis configurations across vertical or horizontal distances up to 80 km with redundant fiber links.

31. Each switch added to the Virtual Chassis provides additional access ports:<sup>16</sup>

Provides a flexible model for expanding your network: You can easily add Virtual Chassis member switches to increase the number of access ports on your network to support more servers, computers, phones, or other devices with minimal complications to the existing network topology and switch configurations.

32. In view of the preceding paragraphs 17–31, each and every element of at least claim 17 of the ’998 Patent is found in the Accused Products.

33. Juniper continues to directly infringe at least one claim of the ’998 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this Judicial District, without the authority of Brazos. Juniper’s infringing use of the Accused Products includes its internal use and testing of the Accused Products.

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<sup>14</sup> See *supra* note 9 at 27.

<sup>15</sup> See <https://www.juniper.net/us/en/local/pdf/whitepapers/2000427-en.pdf> at 5.

<sup>16</sup> See *supra* note 4.

34. Juniper has received notice and actual or constructive knowledge of the '998 Patent since at least the date of service of this Complaint.

35. Since at least the date of service of this Complaint, through its actions, Juniper has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '998 Patent throughout the United States, including within this Judicial District, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://www.juniper.net/assets/us/en/local/pdf/books/day-one-poster-vcf.pdf>;
- [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/vcf-components.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/vcf-components.html);
- [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/vcf-overview.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/vcf-overview.html);
- <https://www.juniper.net/us/en/local/pdf/implementation-guides/8010018-en.pdf>; and
- [https://www.juniper.net/documentation/en\\_US/junos/information-products/pathway-pages/ex-series/virtual-chassis-4200-4500-ex-series.pdf](https://www.juniper.net/documentation/en_US/junos/information-products/pathway-pages/ex-series/virtual-chassis-4200-4500-ex-series.pdf).

36. Juniper was and is aware that the normal and customary use by end users of the Accused Products infringes the '998 Patent. Juniper's inducement is ongoing.

37. Since at least the date of service of this Complaint, through its actions, Juniper has contributed to the infringement of the '998 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this Judicial District, with knowledge that the Accused Products infringe the '998 Patent. The Accused Products have special features that are especially made or adapted for infringing the '998 Patent and have no

substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least claim 17 of the '998 Patent.

38. The special features include interconnecting multiple switches as a Virtual Chassis operating as one logical device and managed as a single chassis in a manner that infringes the '998 Patent.

39. The special features constitute a material part of the invention of one or more claims of the '998 Patent and are not staple articles of commerce suitable for substantial non-infringing uses.

40. Brazos has suffered damages as a result of Juniper's direct and indirect infringement of the '998 Patent in an amount adequate to compensate for Juniper's infringement, but in no event less than a reasonable royalty for the use made of the invention by Juniper, together with interest and costs as fixed by the Court.

#### **JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

#### **PRAYER FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

- (a) enter judgment that Juniper infringes one or more claims of the '998 Patent literally and/or under the doctrine of equivalents;
- (b) enter judgment that Juniper has induced infringement and continues to induce infringement of one or more claims of the '998 Patent;
- (c) enter judgment that Juniper has contributed to and continues to contribute to the infringement of one or more claims of the '998 Patent;
- (d) award Brazos damages, to be paid by Juniper in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for

the infringement by Juniper of the '998 Patent through the date such judgment is entered in accordance with 35 U.S.C. § 284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. § 284;

(e) declare this case exceptional pursuant to 35 U.S.C. § 285; and

(f) award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Respectfully submitted,

Dated: September 4, 2020

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