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-00816

JURY TRIAL DEMANDED

BRAZOS'S COMPLAINT AGAINST JUNIPER FOR
INFRINGEMENT OF U.S. PATENT NO. 8,953,499

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.

<div align="center">**JURISDICTION AND VENUE**</div>

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

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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.[1]

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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[1] *See* 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 or buy directly from Juniper by requesting a direct call or email from a Juniper representative.[2]

COUNT I
Infringement of U.S. Patent No. 8,953,499

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

14.   On February 10, 2015, the U.S. Patent & Trademark Office duly and legally issued U.S. Patent No. 8,953,499 (the "'499 Patent"), entitled "Method and Apparatus for Establishing Spanning Trees." A true and correct copy of the '499 Patent is attached as Exhibit A to this Complaint.

15.   Brazos is the owner of all rights, title, and interest in and to the '499 Patent, including the right to assert all causes of action arising under the '499 Patent and the right to any remedies for the infringement of the '499 Patent.

16.   Juniper makes, uses, sells, offers for sale, imports, and/or distributes in the United States, including within this Judicial District, products running the Junos OS operating system that support spanning-tree protocols,[3] including, but not limited to, QFX Series Switches;[4] EX Series Switches;[5] SRX300, SRX320, SRX340, SRX345, SRX550M, and SRX1500 Service

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[2] *See* https://www.juniper.net/us/en/how-to-buy/.

[3] *See* https://www.juniper.net/us/en/products-services/nos/junos/.

[4] *See* https://www.juniper.net/us/en/products-services/switching/qfx-series/;
https://www.juniper.net/documentation/en_US/junos/topics/concept/stp-qfx-series-understanding.html.

[5] *See* https://www.juniper.net/us/en/products-services/switching/ex-series/;
https://www.juniper.net/documentation/en_US/junos/topics/task/configuration/spanning-trees-stp-ex-series-j-web.html.

Gateways;[6] MX Series 5G Universal Routing Platform;[7] and NFX Series Network Services

Platform[8] (collectively, the "Accused Products").

17.   The Accused Products comprise an apparatus for establishing a spanning tree in a

network comprising a plurality of bridges and a plurality of links.

18.   The Accused Products "provide Layer 2 loop prevention through Spanning Tree

Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol

(MSTP), and VLAN Spanning Tree Protocol (VSTP)."[9]

19.   The Accused Products comprise a processor and a memory communicatively

connected to the processor.

20.   The Accused Products include a processor and a memory to perform various

functions such as configuring spanning tree protocols and processing communication

information:[10]

QFX5100 Highlights

. . .

1.5 GHz dual-core Intel CPU with 8 GB memory and 32 GB SSD storage

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[6] *See* https://www.juniper.net/us/en/products-services/security/srx-series/;
https://www.juniper.net/documentation/en_US/junos/topics/topic-map/spanning-tree-
configuring-stp.html.

[7] *See* https://www.juniper.net/us/en/products-services/routing/mx-series/;
https://www.juniper.net/documentation/en_US/junos/topics/topic-map/spanning-tree-
configuring-stp.html.

[8] *See* https://www.juniper.net/us/en/products-services/sdn/nfx-series/; https://www.juniper.net/
assets/us/en/local/pdf/datasheets/1000563-en.pdf.

[9] *See* https://www.juniper.net/documentation/en_US/junos/information-products/pathway-
pages/layer-2/layer-2-spanning-tree-protocols.pdf at 21.

[10] *See, e.g.*, https://www.juniper.net/us/en/products-services/switching/qfx-series/datasheets/
1000480.page.

21.   The processor of the Accused Products is configured to obtain information comprising at least one of network topology information for at least a portion of the network or network information for at least a portion of the network.

22.   The Accused Products are configured to obtain network information for a spanning tree from a bridge protocol data unit (BPDU) frame. The BPDU frame messages are exchanged between the devices. The Accused Products use the BPDUs to create (*i.e.*, establish) and maintain a spanning tree:[11]

BPDUs Maintain the Spanning-Tree

Spanning-tree protocols use frames called bridge protocol data units (BPDUs) to create and maintain the spanning tree. A BPDU frame is a message sent from one switch to another to communicate information about itself, such as its bridge ID, root path costs, and port MAC addresses. The initial exchange of BPDUs between switches determines the root bridge. Simultaneously, BPDUs are used to communicate the cost of each link between branch devices, which is used upon port speed or user configuration. RSTP uses this path cost to determine the ideal route for data frames to travel from one leaf to another leaf and then blocks all other routes. If an edge port receives a BPDU, it automatically transitions to a regular RSTP port.

23.   The BPDU frame messages include network information such as bridge ID, root path costs, and port MAC addresses:[12]

BPDUs are frames that consist of bridge ID, the bridge port where it originates, the priority of the bridge port, cost of the path and so on. . . .

24.   The root path cost is communicated to the bridges for the spanning tree via BPDUs and is determined by computing the total cost of each link, which includes adding costs such as link costs and interface costs:[13]

What is Spanning-Tree Instance Interface Cost?

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[11] *See supra* note 9 at 21.

[12] *See supra* note 9 at 224.

[13] *See supra* note 9 at 36.

The path cost used to calculate the root path cost from any given LAN segment is determined by the total cost of each link in the path. By default, the link cost is determined by the speed of the link. The interface cost can be configured to override the default cost and control which bridge is the designated bridge and which port is the designated port. In MSTP the CIST external path cost is determined by the link speed and the number of hops.

25.   The processor of the Accused Products is configured to compute the spanning tree based on at least a portion of the obtained information, wherein the computed spanning tree comprises a plurality of spanning tree segments, wherein each of the spanning tree segments comprises a respective communication path between a respective pair of the bridges of the network.

26.   Based on the initial exchange of BPDUs, which comprise network information and parameters, between the switches, the Accused Products determine a root bridge for the spanning tree. The Rapid Spanning Tree Protocol (RSTP) uses the BPDUs to compute ideal routes to transfer data frames (*i.e.*, via a communication path) between one leaf to another leaf (*i.e.*, pair of the bridges of the network).[14]

27.   Once the root bridge is determined for the spanning tree, a plurality of branches is determined that connects the root bridge to the other switches:[15]

Understanding System Identifiers for Bridges in STP or RSTP Instances

Spanning tree protocols work by creating bridges. A root bridge (switch) is a bridge at the top of a Spanning Tree. Ethernet connections branch out from the root switch, connecting to other switches in the Local Area Network (LAN). An extended system identifier is assigned to bridges in STP or RSTP routing instances—see extended-system-id.

When you configure STP or RSTP, you specify the extended system identifier.

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[14] *See supra* ¶ 22

[15] *See supra* note 9 at 41–42.

28.   The processor of the Accused Products is configured to set spanning tree parameters for the computed spanning tree, wherein the spanning tree parameters are adapted for establishing the computed spanning tree within the network.

29.   The Accused Products allow configuration of a plurality of parameters such as link cost and bridge priority (*i.e.*, the spanning tree parameters) for the spanning tree. The link cost (*i.e.*, the spanning tree parameter) is configured to control which bridge in the network would be the designated bridge of the spanning tree:[16]

> Configures the bridge priority, which determines which bridge is elected as the root bridge. If two bridges have the same path cost to the root bridge, the bridge priority determines which bridge becomes the designated bridge for a LAN segment.
>
> . . .
>
> For Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), VLAN Spanning Tree Protocol (VSTP), or Multiple Spanning Tree Protocol (MSTP), configure the link cost to control which bridge is the designated bridge, and which interface is the designated interface.

30.   The processor of the Accused Products is configured to establish the computed spanning tree within the network by transmitting the spanning tree parameters toward the bridges associated with the spanning tree segments of the computed spanning tree.

31.   BPDUs are exchanged between a plurality of switches while creating the spanning tree:[17]

> When the network is in a steady state, the spanning tree converges when the spanning-tree algorithm (STA) identifies both the root and designated bridges and all ports are in either a forwarding or blocking state. To maintain the tree, the root bridge continues to send BPDUs at a *hello time* interval (default 2 seconds). These BPDUs continue to communicate the current tree topology. When a port receives a hello BPDU, it compares the information to that already stored for the receiving port. One of three actions takes place when a switch receives a BPDU:

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[16] *See supra* note 9 at 289, 293.

[17] *See supra* note 9 at 21–22.

- If the BPDU data matches the existing entry in the MAC address table, the port resets a timer called *max age* to zero and then forwards a new BPDU with the current active topology information to the next port in the spanning tree.

- If the topology in the BPDU has been changed, the information is updated in the MAC address table, *max age* is again set to zero, and a new BPDU is forwarded to with the current active topology information to the next port in the spanning tree.

- When a port does not receive a BPDU for three hello times, it reacts one of two ways. If the port is the root port, a complete rework of the spanning tree occurs—see When an RSTP Root Bridge Fails. If the bridge is any non-root bridge, RSTP detects that the connected device cannot send BPDUs and converts that port to an edge port.

32.   "BPDUs can be of three types: configuration BPDUs, topology change notification (TCN) BPDUs, and topology change acknowledgment (TCA) BPDUs."[18] The configuration BPDUs including the spanning tree parameters are transmitted to the other bridges in the network for the establishment of the spanning tree.

33.   In view of the preceding paragraphs 17–32, each and every element of at least claim 19 of the '499 Patent is found in the Accused Products.

34.   Juniper continues to directly infringe at least one claim of the '499 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.

35.   Juniper has received notice and actual or constructive knowledge of the '499 Patent since at least the date of service of this Complaint.

36.   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

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[18] *See supra* note 9 at 224.

to infringe the '499 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/documentation/en_US/junos/information-products/pathway-pages/layer-2/layer-2-spanning-tree-protocols.pdf.

37.   Juniper was and is aware that the normal and customary use by end users of the Accused Products infringes the '499 Patent. Juniper's inducement is ongoing.

38.   Since at least the date of service of this Complaint, through its actions, Juniper has contributed to the infringement of the '499 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 '499 Patent. The Accused Products have special features that are especially made or adapted for infringing the '499 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 19 of the '499 Patent.

39.   The special features include using spanning tree protocols to prevent loops on Ethernet networks in a manner that infringes the '499 Patent.

40.   The special features constitute a material part of the invention of one or more claims of the '499 Patent and are not staple articles of commerce suitable for substantial non-infringing uses.

41.   Brazos has suffered damages as a result of Juniper's direct and indirect infringement of the '499 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 '499 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 '499 Patent;

(c)   enter judgment that Juniper has contributed to and continues to contribute to the

infringement of one or more claims of the '499 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 '499 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.

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Respectfully submitted,

Dated: September 4, 2020

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