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* *Pro Hac Vice application to be filed*

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

SOUTHERN DIVISION

PARITY NETWORKS, LLC, Plaintiff, v. ZYXEL COMMUNICATIONS, INC., Defendant.	Case No. 8:20-cv-00697 **ORIGINAL COMPLAINT OF PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

Civil Action No.   -1-   ORIGINAL COMPLAINT OF PATENT INFRINGEMENT

1   Plaintiff Parity Networks LLC ("Plaintiff" or "Parity Networks"), by and

2   through its attorneys, file its Original Complaint against Zyxel Communications,

3   Inc. ("Defendant" or "Zyxel"), and demanding trial by jury, hereby alleges as

4   follows:

I. NATURE OF THE ACTION

6   1.   This is an action for patent infringement arising under the patent laws

7   of the United States, 35 U.S.C. §§ 271, *et seq.*, to enjoin and obtain damages

8   resulting from Defendant's unauthorized use, sale, and offer to sell in the United

9   States of products, methods, processes, services and/or systems that infringe

10   Parity Networks' United States patents, as described herein.

11   2.   Zyxel manufactures, provides, uses, sells, offers for sale, imports,

12   and/or distributes infringing products and services; and encourages others to use

13   its products and services in an infringing manner, including their customers, as set

14   forth herein.

15   3.   Parity Networks seeks past and future damages and prejudgment and

16   post-judgment interest for Zyxel's past infringement of the Patents-in-Suit, as

17   defined below.

II. PARTIES

19   4.   Plaintiff Parity Networks is a limited liability company organized

20   and existing under the laws of the State of Texas.

21   5.   On information and belief, Defendant Zyxel is a corporation

22   organized under the laws of California, with an established place of business in

23   this District at 1130 North Miller Street, Anaheim, CA 92806-2001. Zyxel's

24   registered agent for service of process in California is Lorelie Paunan Esber, 1130

25   N. Miller Street, Anaheim, CA 92806-2001.

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III. JURISDICTION AND VENUE

6.   This is an action for patent infringement which arises under the Patent Laws of the United States, namely, 35 U.S.C. §§ 271, 281, 283, 284 and 285.

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

8.   On information and belief, venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b) because Zyxel has a regular and established place of business in this District, transacted business in this District, and has committed and/or induced acts of patent infringement in this district.

9.   On information and belief, Defendant Zyxel is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the California Long Arm Statute, due at least to its substantial business in this forum, 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 California and in this Judicial District.

IV. FACTUAL ALLEGATIONS

PATENTS-IN-SUIT

10.   Parity Networks is the owner of all right, title and interest in and to U.S. Patent No. 6,252,848 (the "'848 Patent"), entitled "System Performance in a Data Network Though Queue Management Based on Ingress Rate Monitoring," issued on June 26, 2001.

11.   Parity Networks is the owner of all right, title and interest in and to U.S. Patent No. 6,553,005 (the "'005 Patent"), entitled "Method and Apparatus for Load Apportionment Among Physical Interfaces in Data Routers," issued on April 22, 2003.

1   12.   Parity Networks is the owner of all right, title and interest in and to

2   U.S. Patent No. 6,763,394 (the "'394 Patent"), entitled "Virtual Egress Packet

3   Classification at Ingress," issued on July 13, 2004.

4   13.   Parity Networks is the owner of all right, title and interest in and to

5   U.S. Patent No. 7,107,352 (the "'352 Patent"), entitled "Virtual Egress Packet

6   Classification at Ingress," issued on September 12, 2006.

7   14.   Parity Networks is the owner of all right, title and interest in and to

8   U.S. Patent No. 7,719,963 (the "'963 Patent"), entitled "System for Fabric Patent

9   Control," issued on May 18, 2010.

10   15.   Parity Networks is the owner of all right, title and interest in and to

11   U.S. Patent No. 7,103,046 (the "'046 Patent"), entitled "Method and Apparatus

12   for Intelligent Sorting and Process Determination of Data Packets Destined to a

13   Central Processing Unit of a Router or Server on a Data Packet Network," issued

14   on September 5, 2006.

15   16.   Together, the foregoing patents are referred to herein as the "Patents-

16   in-Suit." Parity Networks is the assignee of the Patents-in-Suit and has all rights

17   to sue for infringement and collect past and future damages for the infringement

18   thereof.

19   DEFENDANT'S ACTS

20   17.   Zyxel is a provider of data networking products and solutions and

21   provides hardware and software directed to switching and routing network data to

22   its customers in the United States, including in this District.

23   18.   The Zyxel XGS3600/MGS3600 series of switches ("Exemplary

24   Infringing Product") comprise manages packet routing and data traffic in a fabric

25   network.

26   19.   Zyxel instructs users of the Exemplary Infringing Product to "[u]se

27   the Port scheduler and Port Shaping sub-menus to configure QoS egress port

28   schedulers and shapers for all switch ports." Zyxel further instructs users on how

1   to "configure QoS port scheduling and shaping."

7.14.4 Port Scheduler and Port Shaping

Use the **Port Scheduler** and **Port Shaping** sub-menus to configure QoS egress port schedulers and shapers for all switch ports.
To configure QoS port scheduling and shaping:
1. Click **Configuration** > **QoS** > **Port Scheduler** or **Port Shaping**.
2. Click the port number to configure the schedulers. The **QoS Egress Port Schedulers and Shapers** page appears.
3. Configure the parameters.
4. Click **Save**.

[…]

Queue Shaper
- **Enable:**
  Check these check boxes to enable queue shapers on this port.
- **Rate** and **Unit:**
  Use these fields and drop-down boxes to limit the data rate (default is 500) for this queue. This value is restricted to 100 to 1000000 kbps or 1 to 13200 Mbps.
- **Excess:**
  Check this check box to allow the queue to use excess bandwidth.

Queue Scheduler
These parameters appear when **Scheduler Mode** is **Weighted**.
- **Weight:**
  Use this field to configure the weight (default is 17) for this queue. This value is restricted to 1 to 100.

MGS3600-24F/XGS3600-26F/XGS3600-28F, User Manual, page 235, https://data2.manualslib.com/pdf3/62/6154/615380-zyxel_communications/mgs360024f.pdf?f7e90934269111479c39b139f166d589

20.   The Exemplary Infringing Product provides priority queues per port for different types of data traffic. Zyxel instructs users to set policy-based rate limitations that take advantage of constrained network resources and guarantee the best performance.

QoS for significant services

Consistent service quality and reliable connecting ability in a converged network is the key to connect and satisfy customers; therefore the ability to control traffic flow and set traffic policy becomes more critical than ever. The ZyXEL XGS3600/MGS3600 Series L2 GbE Switches offer wire-speed flow control that classifies and prioritizes the incoming packets according to the predefine QoS policies that meet requirements of service providers.

In terms of classification, the Differentiated Services Code Point (DSCP) field and the 802.1p Class of Service (CoS) field are identified to assess the priority of incoming packets. Classification and reclassification can be based on criteria as specific as rules based on IP, MAC addresses, VLAN ID or TCP/UDP port number. For bandwidth management, the XGS3600/MGS3600 Series provide 8 priority queues per port for different types of traffics, allowing service providers to set policy-based rate limitations that take full advantage of constrained network resources and guarantee the best performance.

1   High Performance Layer 2 Switch for Commercial and Verticals Datasheet,

2   Page 1, https://www.zyxelguard.com/datasheets/Switches/DS_XGS3600-

3   28F_3.pdf

4   21.   The Exemplary Infringing Product supports the use of a weighted

5   random early detection ("WRED") algorithm on packet queues to manage

6   network congestion. The WRED mechanism is configurable to drop packets as a

7   function of queue (or buffer) size. Zyxel instructs users to configure WRED in an

8   infringing manner:

3-14.14 WRED

This page allows you to configure the Random Early Detection (RED) settings for queue 0 to 5. RED cannot be applied to queue 6 and 7.

Through different RED configuration for the queues (QoS classes) it is possible to obtain Weighted Random Early Detection (WRED) operation between queues.

The settings are global for all ports in the switch.

[…]

Web Interface
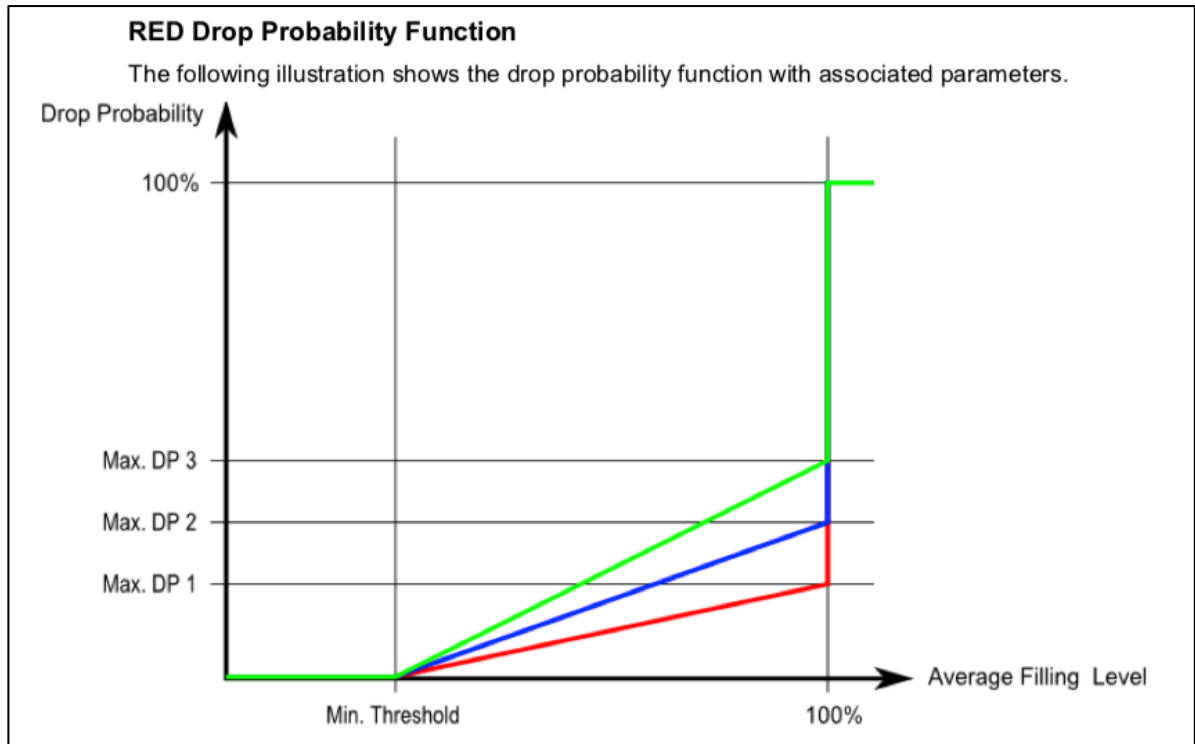
To configure the Weighted Random Early Detection Configuration parameters in the web interface:

1. Click Configuration, QoS, WRED Configuration
2. Evoke to enable WRED
3. Specify Min. Threshold, Max. DP 1, Max. DP 2, Max. DP 3
4. Click the Apply to save the setting
5. If you want to cancel the setting then you need to click the Reset button.
   It will revert to previously saved values

XGS 3600 Series User's Guide, Page 212, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved= 2ahUKEwiss_v84LPoAhUJlKwKHZjuCvQQFjAAegQIAxAB&url=https%3A %2F%2Fwww.zyxel.ch%2Fsupport%2Fdownload%2F201008_1&usg=AOvVa w20PKXL-I5Ke5uiuZvth681.

    22.   The Exemplary Infringing Product's WRED algorithm increases the

rate of dropping packets as average queue size increases above the minimum

threshold. All data traffic is dropped when the average queue size is at 100% (i.e. maximum threshold).

RED Drop Probability Function

The following illustration shows the drop probability function with associated parameters.

Drop Probability

100%

Max. DP 3

Max. DP 2

Max. DP 1

Min. Threshold

100%

Average Filling Level

Max. DP 1-3 is the drop probability when the average queue filling level is 100%. Frames marked with Drop Precedence Level 0 are never dropped. Min. Threshold is the average queue filling level where the queues randomly start dropping frames. The drop probability for frames marked with Drop Precedence Level n increases linearly from zero (at Min. Threshold average queue filling level) to Max. DP n (at 100% average queue filling level).

Id. at 219.

23.   On information of belief, Defendant Zyxel also implements contractual protections in the form of license and use restrictions with its customers to preclude the unauthorized reproduction, distribution and modification of its software.

24.   Moreover, on information and belief, Defendant Zyxel implements technical precautions to attempt to thwart customers who would circumvent the intended operation of Zyxel's products.

1   25.   By letters dated October 5, 2016 and November 28, 2016, Zyxel was

2   provided and actually received notice of the Patents-in-Suit, and consequently has

3   actual and/or constructive knowledge of each of them. True and correct copies of

4   these letters are attached as **Exhibit 1** and **Exhibit 2** (the "Notice Letters").

5   26.   Additionally, Defendant Zyxel had knowledge of the Patents-in-Suit

6   and the infringing as early as the date when Parity Networks effected service of

7   the Complaint.

8   ### V.   COUNTS OF PATENT INFRINGEMENT

9   COUNT ONE

10   INFRINGEMENT OF U.S. PATENT NO. 6,252,848

11   27.   Parity Networks incorporates by reference its allegations in the

12   preceding paragraphs as if fully restated in this paragraph.

13   28.   Parity Networks is the assignee and owner of all right, title and

14   interest to the '848 Patent. Parity Networks has the legal right to enforce the

15   patent, sue for infringement, and seek equitable relief and damages.

16   29.   On information and belief, Defendant Zyxel, without authorization

17   or license from Parity Networks, has been and is presently directly infringing at

18   least claim 1 of the '848 Patent, as infringement is defined by 35 U.S.C. § 271(a),

19   including through making, using (including for testing purposes), selling and

20   offering for sale methods and articles infringing one or more claims of the '848

21   Patent. Defendant Zyxel is thus liable for direct infringement of the '848 Patent

22   pursuant to 35 U.S.C. § 271(a).

23   30.   Exemplary infringing products include Zyxel's OLT2406 series of

24   switches which include multiple ingress ports with output queues and wherein the

25   ingress ports are configured to receive packets from multiple ingress flows and

26   monitor their characteristics. Each packet is marked with a marking based on

27   criteria including the ingress flow rate and the flow profile.

28

31.   On information and belief, at least since the filing of the Original Complaint, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '848 Patent, including actively inducing infringement of the '848 Patent under 35 U.S.C. § 271(b).   Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Zyxel knows or should know infringe one or more claims of the '848 Patent. Zyxel instructs its customers to make and use the patented inventions of the '848 Patent by operating Zyxel's products in accordance with Zyxel's specifications. Zyxel specifically intends its customers to infringe by, among others, implementing software on its switches and routers to configure class-of-service (CoS) and QoS components to classify, police, shape, and mark traffic in an infringing manner.

32.   On information and belief, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '848 Patent, including contributory infringement of the '848 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the infringing products. Zyxel knows that the infringing products (i) constitute a material part of the inventions claimed in the '848 Patent; (ii) are especially made or adapted to infringe the '848 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in switches and routers to implement class-of-service (CoS) and QoS components to classify, police, shape, and mark traffic in an infringing manner.

33.   As a result of Zyxel's infringement of the '848 Patent, Parity Networks has suffered monetary damages, and is entitled to an award of damages

1 adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no

2 event, less than a reasonable royalty.

3 COUNT TWO

4 INFRINGEMENT OF U.S. PATENT NO. 6,553,005

5 34. Parity Networks incorporates by reference its allegations in the

6 preceding paragraphs as if fully restated in this paragraph.

7 35. Parity Networks is the assignee and owner of all right, title and

8 interest to the '005 Patent. Parity Networks has the legal right to enforce the

9 patent, sue for infringement, and seek equitable relief and damages.

10 36. On information and belief, Defendant Zyxel, without authorization

11 or license from Parity Networks, has been and is presently directly infringing at

12 least claim 1 of the '005 Patent, as infringement is defined by 35 U.S.C. § 271(a),

13 including through making, using (including for testing purposes), selling and

14 offering for sale methods and articles infringing one or more claims of the '005

15 Patent. Defendant Zyxel is thus liable for direct infringement of the '005 Patent

16 pursuant to 35 U.S.C. § 271(a).

17 37. Exemplary infringing products include certain Zyxel switches,

18 including its XGS4600 series, XS380 series, XGS3700 series, XGS2210/GS2210

19 series, XGS4700 series, MES3500 series, and XGS-4526/4528F/4728F switches

20 which use link aggregation, equal-cost multi-path routing, and hashing functions

21 to determine the route and egress port used by particular packets such that packets

22 with common source/destination address pairs use a common egress port.

23 38. On information and belief, at least since the filing of the Original

24 Complaint, Defendant Zyxel, without authorization or license from Parity

25 Networks, has been and is presently indirectly infringing at least claim 1 of the

26 '005 Patent, including actively inducing infringement of the '005 Patent under 35

27 U.S.C. § 271(b). Such inducements include without limitation, with specific

28 intent to encourage the infringement, knowingly inducing consumers to use

infringing articles and methods that Zyxel knows or should know infringe one or more claims of the '005 Patent. Zyxel instructs its customers to make and use the patented inventions of the '005 Patent by operating Zyxel's products in accordance with Zyxel's specifications. Zyxel specifically intends its customers to infringe by implementing, among others, link aggregation, equal-cost multi-path routing, and hashing functions to determine the route and egress port used by particular packets such that packets with common source/destination address pairs use a common egress port.

39. On information and belief, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '005 Patent, including contributory infringement of the '005 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the infringing products. Zyxel knows that the infringing products (i) constitute a material part of the inventions claimed in the '005 Patent; (ii) are especially made or adapted to infringe the '005 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in switches and routers to implement, among others, link aggregation, equal-cost multi-path routing, and hashing functions to determine the route and egress port used by particular packets such that packets with common source/destination address pairs use a common egress port.

40. As a result of Zyxel's infringement of the '005 Patent, Parity Networks has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT THREE

INFRINGEMENT OF U.S. PATENT NO. 6,763,394

41.   Parity Networks incorporates by reference its allegations in the preceding paragraphs as if fully restated in this paragraph.

42.   Parity Networks is the assignee and owner of all right, title and interest to the '394 Patent. Parity Networks has the legal right to enforce the patent, sue for infringement, and seek equitable relief and damages.

43.   On information and belief, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently directly infringing at least claim 1 of the '394 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through making, using (including for testing purposes), selling and offering for sale methods and articles infringing one or more claims of the '394 Patent. Defendant Zyxel is thus liable for direct infringement of the '394 Patent pursuant to 35 U.S.C. § 271(a).

44.   Exemplary infringing products include Zyxel's MGS3750-28F switch and XGS3600 series of switches wherein egress determinations are performed at ingress using multiple LUTs.

45.   On information and belief, at least since the filing of the Original Complaint, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '394 Patent, including actively inducing infringement of the '394 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Zyxel knows or should know infringe one or more claims of the '394 Patent. Zyxel instructs its customers to make and use the patented inventions of the '394 Patent by operating Zyxel's products in accordance with Zyxel's specifications. Zyxel specifically intends its customers to infringe by, among others, by implementing its switches and routers to perform

1   egress determinations at ingress through multiple ACLs, including extended
2   ACLs.

3   46.   On information and belief, Defendant Zyxel, without authorization
4   or license from Parity Networks, has been and is presently indirectly infringing at
5   least claim 1 of the '394 Patent, including contributory infringement of the '394
6   Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the
7   doctrine of equivalents, by selling, offering for sale, and/or importing into the
8   United States, the infringing products. Zyxel knows that the infringing products
9   (i) constitute a material part of the inventions claimed in the '394 Patent; (ii) are
10   especially made or adapted to infringe the '394 Patent; (iii) are not staple articles
11   or commodities of commerce suitable for non-infringing use; and (iv) are
12   components used to perform egress determinations at ingress through multiple
13   ACLs, including extended ACLs.

14   47.   As a result of Zyxel's infringement of the '394 Patent, Parity
15   Networks has suffered monetary damages, and is entitled to an award of damages
16   adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no
17   event, less than a reasonable royalty.

18   <div align="center">COUNT FOUR</div>

19   <div align="center">INFRINGEMENT OF U.S. PATENT NO. 7,107,352</div>

20   48.   Parity Networks incorporates by reference its allegations in the
21   preceding paragraphs as if fully restated in this paragraph.

22   49.   Parity Networks is the assignee and owner of all right, title and
23   interest to the '352 Patent. Parity Networks has the legal right to enforce the
24   patent, sue for infringement, and seek equitable relief and damages.

25   50.   On information and belief, Defendant Zyxel, without authorization
26   or license from Parity Networks, has been and is presently directly infringing at
27   least claim 1 of the '352 Patent, as infringement is defined by 35 U.S.C. § 271(a),
28   including through making, using (including for testing purposes), selling and

1   offering for sale methods and articles infringing one or more claims of the '352

2   Patent. Defendant Zyxel is thus liable for direct infringement of the '352 Patent

3   pursuant to 35 U.S.C. § 271(a).

4   51.   Exemplary infringing products include Zyxel's XGS3600 series of

5   switches and MGS3750-28F switch, which include ACLs for filtering and

6   dropping of packets implemented at the ingress port for egress pass/drop

7   determination.

8   52.   On information and belief, at least since the filing of the Original

9   Complaint, Defendant Zyxel, without authorization or license from Parity

10   Networks, has been and is presently indirectly infringing at least claim 1 of the

11   '352 Patent, including actively inducing infringement of the '352 Patent under 35

12   U.S.C. § 271(b). Such inducements include without limitation, with specific

13   intent to encourage the infringement, knowingly inducing consumers to use

14   infringing articles and methods that Zyxel knows or should know infringe one or

15   more claims of the '352 Patent. Zyxel instructs its customers to make and use the

16   patented inventions of the '352 Patent by operating Zyxel's products in

17   accordance with Zyxel's specifications. Zyxel specifically intends its customers

18   to infringe by, among others, implementing its switches and routers to perform

19   egress determinations at ingress through multiple ACLs, including extended

20   ACLs as set forth above.

21   53.   On information and belief, Defendant Zyxel, without authorization

22   or license from Parity Networks, has been and is presently indirectly infringing at

23   least claim 1 of the '352 Patent, including contributory infringement of the '352

24   Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the

25   doctrine of equivalents, by selling, offering for sale, and/or importing into the

26   United States, the infringing products. Zyxel knows that the infringing products

27   (i) constitute a material part of the inventions claimed in the '352 Patent; (ii) are

28   especially made or adapted to infringe the '352 Patent; (iii) are not staple articles

1 or commodities of commerce suitable for non-infringing use; and (iv) are

2 components used to perform egress determinations at ingress through multiple

3 ACLs, including extended ACLs as set forth above.

4   54.   As a result of Zyxel's infringement of the '352 Patent, Parity

5 Networks has suffered monetary damages, and is entitled to an award of damages

6 adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no

7 event, less than a reasonable royalty.

8 <div align="center">COUNT FIVE</div>

9 <div align="center">INFRINGEMENT OF U.S. PATENT NO. 7,719,963</div>

10   55.   Parity Networks incorporates by reference its allegations in the

11 preceding paragraphs as if fully restated in this paragraph.

12   56.   Parity Networks is the assignee and owner of all right, title and

13 interest to the '963 Patent. Parity Networks has the legal right to enforce the

14 patent, sue for infringement, and seek equitable relief and damages.

15   57.   On information and belief, Defendant Zyxel, without authorization

16 or license from Parity Networks, has been and is presently directly infringing at

17 least claim 1 of the '963 Patent, as infringement is defined by 35 U.S.C. § 271(a),

18 including through making, using (including for testing purposes), selling and

19 offering for sale methods and articles infringing one or more claims of the '963

20 Patent. Defendant Zyxel is thus liable for direct infringement of the '963 Patent

21 pursuant to 35 U.S.C. § 271(a).

22   58.   Exemplary infringing products include Zyxel's XGS3600/MGS3600

23 series of switches which support using a WRED algorithm on packet queues to

24 drop packets as a function of queue size (or buffer) in order to manage congestion

25 in the switch.

26   59.   On information and belief, at least since the filing of the Original

27 Complaint, Defendant Zyxel, without authorization or license from Parity

28 Networks, has been and is presently indirectly infringing at least claim 1 of the

'963 Patent, including actively inducing infringement of the '963 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Zyxel knows or should know infringe one or more claims of the '963 Patent. Zyxel instructs its customers to make and use the patented inventions of the '963 Patent by operating Zyxel's products in accordance with Zyxel's specifications. Zyxel specifically intends its customers to infringe by, among others, designing and fabricating its switches and routers to use a WRED algorithm on packet queues to drop packets as a function of queue size (or buffer) in order to manage congestion in the switch.

60.   On information and belief, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '963 Patent, including contributory infringement of the '963 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the infringing products. Zyxel knows that the infringing products (i) constitute a material part of the inventions claimed in the '963 Patent; (ii) are especially made or adapted to infringe the '963 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in switches and routers to implement a WRED algorithm on packet queues to drop packets as a function of queue size (or buffer) in order to manage congestion in the switch.

61.   As a result of Zyxel's infringement of the '963 Patent, Parity Networks has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT SIX

INFRINGEMENT OF U.S. PATENT NO. 7,103,046

62. Parity Networks incorporates by reference its allegations in the preceding paragraphs as if fully restated in this paragraph.

63. Parity Networks is the assignee and owner of all right, title and interest to the '046 Patent. Parity Networks has the legal right to enforce the patent, sue for infringement, and seek equitable relief and damages.

64. On information and belief, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently directly infringing at least claim 1 of the '046 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through making, using (including for testing purposes), selling and offering for sale methods and articles infringing one or more claims of the '046 Patent. Defendant Zyxel is thus liable for direct infringement of the '046 Patent pursuant to 35 U.S.C. § 271(a).

65. Exemplary infringing products include certain Zyxel switches, including its GS1900 series, GS2210 series, ES-2024 series, and MES3500 series of switches. These switches include one or more packet processors that categorize packets into categories based on the source of the packet and the packets are placed in a queue and processed by a CPU based on a priority of those categories.

66. On information and belief, at least since the filing of the Original Complaint, Defendant Zyxel, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '046 Patent, including actively inducing infringement of the '046 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Zyxel knows or should know infringe one or more claims of the '046 Patent. Zyxel instructs its customers to make and use the patented inventions of the '046 Patent by operating Zyxel's products in

1   accordance with Zyxel's specifications. Zyxel specifically intends its customers

2   to infringe by, among others, designing and fabricating its switches and routers to

3   utilize one or more packet processors that categorize packets into categories based

4   on the source of the packet, place the packets into queues, and process the packets

5   via a CPU based on a priority of those categories.

6   67.   On information and belief, Defendant Zyxel, without authorization

7   or license from Parity Networks, has been and is presently indirectly infringing at

8   least claim 1 of the '046 Patent, including contributory infringement of the '046

9   Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the

10   doctrine of equivalents, by selling, offering for sale, and/or importing into the

11   United States, the infringing products. Zyxel knows that the infringing products

12   (i) constitute a material part of the inventions claimed in the '046 Patent; (ii) are

13   especially made or adapted to infringe the '046 Patent; (iii) are not staple articles

14   or commodities of commerce suitable for non-infringing use; and (iv) are

15   components used for or in its switches and routers to utilize one or more packet

16   processors that categorize packets into categories based on the source of the

17   packet, place the packets into queues, and process the packets via a CPU based on

18   a priority of those categories.

19   68.   As a result of Zyxel's infringement of the '046 Patent, Parity

20   Networks has suffered monetary damages, and is entitled to an award of damages

21   adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no

22   event, less than a reasonable royalty.

23   **VI.   WILLFUL INFRINGEMENT**

24   69.   By letters dated October 5, 2016 and November 28, 2016, Zyxel was

25   provided and actually received notice of the Patents-in-Suit, and consequently has

26   actual and/or constructive knowledge of each of them.

27   70.   Notwithstanding this knowledge, Defendant has knowingly or with

28   reckless disregard willfully infringed one or more of the foregoing Patents-in-Suit.

1   Defendant has thus had actual notice of infringement of one or more of the

2   Patents-in-Suit, has continued to infringe and engaged in egregious conduct,

3   including through failing to substantively respond to Plaintiff's repeated efforts to

4   discuss a license outside the context of litigation. Zyxel has taken the foregoing

5   actions despite an objectively high likelihood that its actions constituted

6   infringement of Plaintiff's valid patent rights.

7   71.   This objective risk was either known or so obvious that it should have

8   been known to Defendant. Accordingly, Plaintiff seeks enhanced damages

9   pursuant to 35 U.S.C. § 284.

10   **VII. PRAYER FOR RELIEF**

11   WHEREFORE, Parity Networks prays for judgment and seeks relief

12 against Defendant as follows:

13   A.   That the Court determine that one or more claims of the Patents-in-

14   Suit is infringed by Defendant Zyxel, either literally or under the

15   doctrine of equivalents;

16   B.   That the Court award damages adequate to compensate Parity

17   Networks for the patent infringement that has occurred, together with

18   prejudgment and post-judgment interest and costs, and an ongoing

19   royalty for continued infringement;

20   C.   That the Court award enhanced damages pursuant to 35 U.S.C. §284;

21   and

22   D.   That the Court award such other relief to Parity Networks as the

23   Court deems just and proper.

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Civil Action No.   -19-   ORIGINAL COMPLAINT OF PATENT
                                            INFRINGEMENT

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DATED: April 9, 2020   SML AVVOCATI P.C.

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    (*pro hac vice application to be filed*)

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Civil Action No.   -20-   ORIGINAL COMPLAINT OF PATENT
                                                                INFRINGEMENT

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DEMAND FOR JURY TRIAL

2   Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure and Local

3   Rule 38-1, Plaintiff Parity Networks, LLC hereby demands a trial by jury on all

4   issues raised by the Complaint.

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Dated: April 9, 2020   SML AVVOCATI P.C.

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