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UNITED STATES DISTRICT COURT

FOR THE CENTRAL DISTRICT OF CALIFORNIA

LOS ANGELES

NETWORK-1 TECHNOLOGIES, INC., *Plaintiff,* vs. HIKVISION USA, INC., *Defendant.*	CASE NO. 2:22-cv-08050 **Amended Complaint for Patent Infringement (U.S. Patent Nos. 6,218,930).** **JURY TRIAL DEMANDED**

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Network-1 Technologies, Inc. ("Network-1") sues Hikvision USA Inc. ("Hikvision") and, on information and belief, alleges as follows:

INTRODUCTION

1. Plaintiff Network-1 owns the invention described and claimed in United States Patent No. 6,218,930 entitled "Apparatus and method for remotely powering access equipment over a 10/100 switched ethernet network" (the "'930 Patent").

2. Defendant, without Plaintiff's permission,

(a) used Plaintiff's patented technology in connection with products that it made, used, sold, and offered to sell which distributed or used power transferred through Ethernet cables ("Power over Ethernet" or "PoE"), including Power Sourcing Equipment ("PSEs") and Powered Devices ("PDs") that are compliant with the IEEE 802.3af and 802.3at standards, and

(b) contributed to or induced others, including Defendant's customers who purchase Power over Ethernet products from Defendant, to infringe the method claims of the '930 Patent.

Plaintiff Network-1 seeks damages for patent infringements of the method claims of the '930 Patent.

THE PARTIES

3. Plaintiff Network-1 Technologies, Inc. is a Delaware corporation, with its principal place of business in New Canaan, Connecticut.

4. Upon information and belief, Defendant Hikvision USA Inc. is a California corporation organized and existing with its principal place of business in City of Industry, California.

JURISDITION AND VENUE

5. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271 and 281, *et seq*.

6. The Court has original jurisdiction over this patent infringement action under 28 U.S.C. §§ 1331 and 1338(a).

7. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c), and 1400(b) because Defendant is incorporated under the laws of the State of California, Defendant does business in this District in California, Defendant is responsible for acts of infringement in this District in California, and Defendant delivered or caused to be delivered products that infringed in this District in California.

THE '930 PATENT

8. The United States Patent and Trademark Office issued the '930 Patent on April 17, 2001. A copy of the '930 Patent is attached as Exhibit 1.

9. Through assignment, Plaintiff Network-1 is the owner of all right, title, and interest in the '930 Patent, including all rights for damages for past infringements.

10. The validity of the '930 Patent has been confirmed in multiple proceedings in multiple forums.

11. Five parties accused of infringing the '930 Patent (all of them have since licensed the '930 Patent) filed five *Inter Partes* Reviews and one Covered Business Method Review challenging the validity of the '930 Patent. The Patent Trial and Appeal Board issued a final written decision, holding that none of the challenged claims of the '930 Patent were unpatentable. The Federal Circuit affirmed the PTAB's final written decision holding that none of the challenged claims of the '930 Patent were unpatentable. *Avaya Inc. v. Network-1 Techs., Inc.*, 612 F. App'x 613, 614 (Fed. Cir. 2015).

12. The '930 Patent was also reexamined twice before the Patent Office.

13. In the first reexamination, the Patent Office issued a reexamination certification confirming the patentability of all challenged claims and adding fourteen new claims. Exhibit 2.

14. In the second reexamination, the Patent Office issued a reexamination certificate confirming the patentability of all challenged claims. Exhibit 3.

15. The '930 Patent has been extensively licensed. Prior to the expiration of the '930 Patent, twenty-eight companies that made, used, and sold PoE products that comply with the IEEE 802.3af and 802.3at standards have licensed the '930 Patent. Licensees of the '930 Patent include Cisco Systems, Inc., Alcatel-Lucent

USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and other companies that made or sold PoE networking products. Network-1 licensed its '930 Patent both in the context of litigation and outside of litigation.

16. To date, licensees have paid Network-1 more than $187,000,000 to license the '930 Patent. [1]

17. Although not required under any RAND or FRAND obligation, Network-1 has been, and continues to be, willing to license its '930 Patent on reasonable and non-discriminatory terms.

18. The claims of the '930 Patent are directed to patent-eligible subject matter. Generally speaking, the '930 Patent claims an electronic detection circuit that (a) determines whether a remote access device connected to an Ethernet data cable (e.g., a VoIP telephone) is capable of accepting power over the Ethernet cable ("remote power"), and (b) delivers operating power to remote devices that can accept remote power.

19. The '930 Patent addresses the problem of detecting whether a device attached to an Ethernet data cable can accept remote power before delivering

[1] *See* https://ir.network-1.com/press-releases/detail/208/ ("Network-1's Remote Power Patent generated licensing revenue in excess of $187,000,000.")

remote power that might otherwise damage equipment that is not designed to receive remote power.

20. Determining whether a remote device in an Ethernet environment can accept remote power is a central aspect of the invention claimed in the '930 Patent because the devices that connect to Ethernet cables include both devices that can accept remote power (such as a VoIP phone) and devices that cannot (such as a computer).

21. As set forth in the claims of the '930 Patent, the claimed invention makes these determinations using a "low level current"—a current delivered from the "data node" (*e.g.*, an Ethernet switch or hub) to the access device (e.g., a VoIP phone) over the "data signaling pair" that is insufficient to operate the access device. The delivered "low level current" generates a voltage level on the return path that identifies the electronic characteristics of the attached remote access device. The resulting voltage level can be sensed by the internal circuitry of the data node. If the sensing based on the "low level current" reveals that the access device can accept remote power, then the detection circuit controls the power by providing remote operating power over the data signaling pairs (the Ethernet cable) to the access device (the VoIP phone).

22. The Federal Circuit described the '930 Patent as follows:

> The '930 patent is titled "Apparatus and Method for Remotely Powering Access Equipment over a 10/100 Switched Ethernet

> Network." It discloses an apparatus and methods for allowing electronic devices to automatically determine if remote equipment is capable of accepting remote power over Ethernet. *See* '930 patent col. 1 ll. 13-17. According to the patented method, a "low level current" is delivered over a data signaling pair to an access device (also called remote equipment or remote access equipment). *Id*. at col. 2 ll. 8-10. After the low level current is sent, a network switch senses the resulting "voltage level" on the data signaling pair. *Id*. at col. 1 l. 65-col. 2 l. 14. If the device can accept remote power, the sensed voltage level will match a "preselected condition" of the voltage, such as a particular "varying voltage" level. *Id*. at col. 2 ll. 10-14, col. 3 ll. 2-17. Upon detecting the preselected condition, the network switch will increase the current from the low level to a higher level sufficient to allow the "remote equipment [to] become[] active." *Id*. at col. 3 ll. 17-22. If the preselected condition of the voltage is not detected, the network switch will determine that the device cannot accept remote power and will not transmit a higher current. *Id*. at col. 3 ll. 3-11.

Network-1 Techs. v. Hewlett-Packard Co., 976 F.3d 1301, 1305 (Fed. Cir. 2020).

23. The claims of the '930 Patent fall into patent-eligible categories authorized by Section 101. Moreover, the claims of the '930 Patent are not directed to any patent-ineligible exception.

INDUSTRY KNOWLEDGE THAT THE '930 PATENT COVERS THE 802.3af AND 802.3at POWER OVER ETHERNET STANDARDS

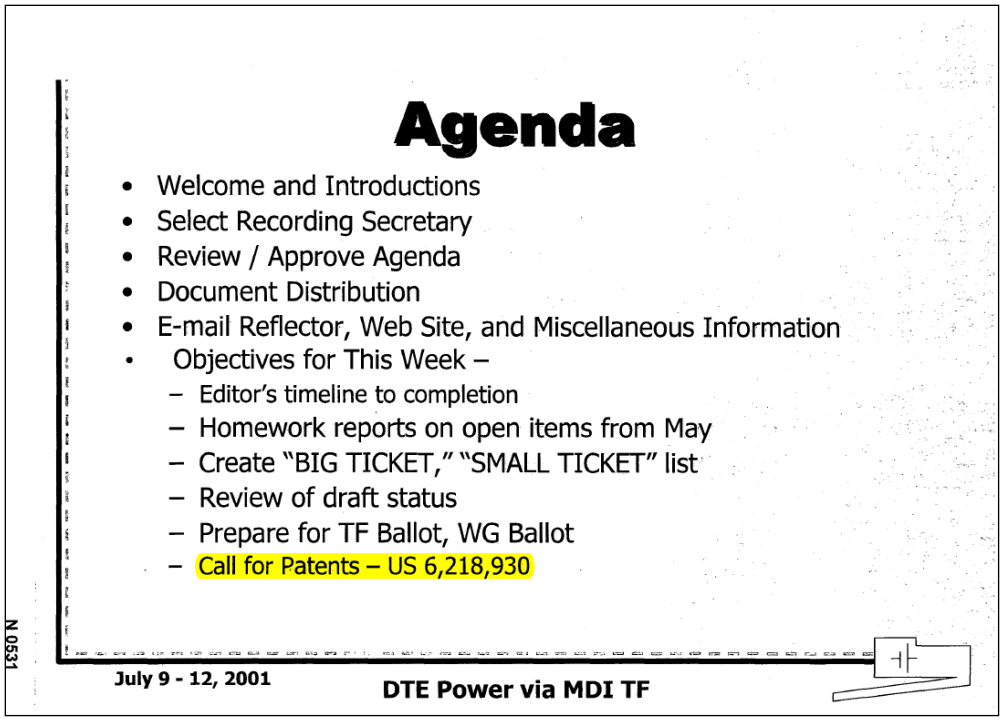
24. When the IEEE 803.af Power over Ethernet standard was developed, the '930 Patent was identified as a patent that covers the IEEE 802.3af standard.

25. The IEEE (Institute of Electrical and Electronics Engineers) is a standard-based organization comprising representatives of the major players in the

networking industry. The IEEE created an 802.3af task force committee to develop an industry standard for providing Power over Ethernet.

26. By the summer of 2001, the IEEE 802.3af task force had already selected a detection method for the new Power over Ethernet standard. That detection method is identical to the one found in the final 802.3af standard used in Defendant's Power over Ethernet products.

At that time, some members of the 802.3af task force became aware of the '930 Patent and realized that its claims covered the detection method that the 802.3af task force was adopting as part of the Power over Ethernet standard. As a result, the Chairman of the IEEE 802.3af task force committee placed the '930 Patent on the agenda for the July 2001 802.3af task force meeting of the committee in the form of a "Call for Patents":



Agenda, July 2001 Plenary Meeting of the 802.3af DTE Power via MDI Task Force.

27. As explained on the IEEE's website, a Chairman of an IEEE standard committee would include a "Call for Patents" on an agenda and call out a patent (e.g., the '930 Patent) because those involved in developing the standard believed that the patent was essential for practicing the proposed standard.

28. The '930 Patent was the only patent that was ever identified by the 802.3af task force in a "Call for Patents" and placed on an agenda for a task force meeting.

29. This Agenda identifying the '930 Patent as an essential patent for practicing the 802.3af standard was publicly available to any person or company

who was interested in or concerned about whether the 802.3af Power over Ethernet standard infringed any patent.

30. After the '930 Patent was called out, the members of the 802.3af committee took information about the '930 Patent back to their respective networking companies for further investigation. Over the following six weeks, key networking manufacturers expressed concerns that the '930 Patent "has become a major show stopper" to practicing the proposed 802.3af standard. The Chairman of the 802.3af committee wrote in an email that "key players" in the networking industry were "very worried about the Merlot [2] patent, specifically the detection scheme which is pretty much what we do in 802.3af."

31. The Chairman of the 802.3af committee emailed his supervisor at the IEEE and declared the '930 Patent a "Red Alert!!!" to the proposed 802.3af standard. As a result, the Chairman of the 802.3af committee and his supervisor attempted to get a letter of assurance from Merlot, the owner of the '930 Patent at the time. In a letter of assurance, Merlot would agree to license the '930 Patent on reasonable terms to networking companies that manufactured products that would comply with the proposed 802.3af standard. Representatives of networking companies on the 803.3af standard committee believed that "[i]f IEEE can get an

[2] At this time, the '930 Patent was owned by Merlot (before it was assigned to Network-1) and was referred to as the "Merlot patent."

assurance letter from Merlot, everybody is happy" because the owner of the '930 Patent would be willing to license the patent to the industry.

32. But Merlot did not initially provide a letter of assurance. As a result, the IEEE 802.3af task force was motivated to look for an acceptable alternative detection method that would not infringe the '930 Patent. But despite spending significant time and effort evaluating other options, the committee was not able to come up with an acceptable alternative that could be used for high data speed applications. As a result, although the IEEE 802.af task force had not yet obtained a letter of assurance, the IEEE voted on and formally adopted the 802.2af standard covered by the '930 Patent.

33. Although not required, after the 802.3af standard was formally adopted, Merlot did provide a Letter of Assurance to the IEEE. This Letter of Assurance identified the '930 Patent as essential for any networking company who wanted to manufacture an 802.3af standard product. Any person or company who was interested in or concerned about whether the 802.3af standard infringed any patent could find the '930 Patent Letter of Assurance using a simple Google search:

C. IEEE STANDARD or PROPOSED IEEE STANDARD:

Number: P802.3af

Title: AMENDMENT: DATA TERMINAL EQUIPMENT (DTE) POWER VIA MEDIA DEPENDENT INTERFACE (MDI).

D. PATENT HOLDER'S POSITION REGARDING LICENSING ESSENTIAL PATENT RIGHTS:

If the Patent Holder owns or controls granted patent(s) and/or pending applications that it believes may be infringed by compliance with the Proposed IEEE Standard, please specify the patent number, published application, and/or relevant claims. (A patent search is not required.)

Patent Number(s) (if known): US 6,218,930

34. The IEEE maintains a spreadsheet of patents that are essential for practicing any 802.3 standard (the Power over Ethernet 802.3af standard is one of these 802.3 standards). The spreadsheet identifies the '930 Patent as essential to practicing the 802.3af standard (one of only ten patents identified as essential to practicing the 802.3af standard) and includes a link to the Letter of Assurance for the '930 Patent:

Std No.	Patent Owner	Contact for License	Patent Serial No. (if indicated)	Letter Date	Licensing Assurance Received	Date record entered or revised (if known)
802.3af	**Merlot Communi-cations, Inc.** 4 Berkshire Blvd, Bethel CT 06801	Ronald M. Keenan, Chief Technology Officer, tel:+1 203-730-1791, fax: +1 203-730-1797, email: rkeenan@ merlotcom.com	6,218,930 US	2 Jul 2003	yes	2 Jul 2003

Any person or company who was interested in or concerned about whether the 802.3af Power over Ethernet standard infringed any patent could find the IEEE's spreadsheet using a simple Google search.

35. Since 2005, the '930 Patent (often referred to in the Power over Ethernet industry as the "Remote Power Patent"), has been widely known and recognized as a "hugely important" patent in the tight-knit standard-based Power over Ethernet industry. As described below in detail, the following was highly

publicized in press releases and business, technical, industry, and legal articles and publications:

(a) Network-1's '930 Patent licensing campaigns;

(b) Network-1's lawsuits asserting its '930 Patent against more than 25 major companies in the Power over Ethernet industry based on the Power over Ethernet standard;

(c) over 25 licenses for the '930 Patent generating over $180 million dollars in royalties covering products that comply with the Power over Ethernet standard; and

(d) two trials in which the '930 Patent was asserted against seven major Power over Ethernet manufacturers based on their standard-based products.

36. Because Network-1 is a public company, Network-1 has to satisfy its SEC disclosure obligations. Certain details regarding Network-1's '930 Patent licensing campaigns, its lawsuits asserting its '930 Patent, and the terms of its significant licenses for the '930 Patent, were required to be publicly disclosed through press releases and periodic SEC filings to satisfy Network-1's SEC disclosure obligations. As a result, detailed information about Network-1's '930 Patent, its '930 Patent licensing campaigns, its lawsuits involving the '930 Patent, and licenses for its '930 Patent were widely disseminated through press releases to

the public and in business, technical, industry, and legal articles and publications in the Power over Ethernet industry.

37. Public disclosure of details of significant patent licenses is rare. As a result, the publicly disclosed details about the '930 Patent licenses attracted significant attention. This was especially true because the publicly disclosed details of the '930 Patent licenses included the running royalty rates that were being paid by some major companies in the Power over Ethernet industry for sales of their Power over Ethernet standard-compliant products.

38. The '930 Patent was highlighted and emphasized in these press releases and publications because Network-1 asserted only a single patent (not a portfolio of patents) against the Power over Ethernet industry, and there have been few other patents asserted against the Power over Ethernet standard.

39. As a result, the existence of the '930 Patent and the fact that the '930 Patent reads on the 802.3af and 802.3at Power over Ethernet standards, was widely known by business executives and managers, engineers, marketing executives and managers, product managers and developers, and lawyers working at companies that manufactured Power over Ethernet products or considered introducing Power over Ethernet standard-compliant products into the market.

40. In 2005, Network-1 asserted its '930 Patent against D-Link because D-Link manufactured Power over Ethernet products that complied with the 802.3af

and 802.3at standards. In August 2007, Network-1 licensed its '930 Patent to D-Link Corporation. To comply with its disclosure obligations, Network-1 issued a press release regarding its license with D-Link. The release publicized that D-Link would be paying a running royalty for all of its Power over Ethernet products that comply with the IEEE standards (803.2af and 802.3at) and that the license to the '930 Patent covered the same categories of standard-compliant products subsequently made by Defendant, specifically Power over Ethernet switches, wireless access points, and cameras:

> "The license terms include the agreement by D-Link to license the Remote Power Patent … and the payment of monthly royalty payments … based upon a running royalty rate of 3.25% of the net sales of D-Link branded Power over Ethernet products, including those products which comply with the IEEE 802.3af and 802.3at Standards."
>
> "The Remote Power Patent relates to, among other things, the delivery of power over Ethernet cables in order to remotely power network connected devices including, among others, wireless switches, wireless access points, RFID card readers, VoIP telephones and network cameras. In June 2003, the Institute of Electrical and Electronic Engineers (IEEE) approved the 802.3af Power over Ethernet ('PoE') standard which has led to the rapid adoption of PoE."
>
> "The products covered by the settlement include D-Link Power over Ethernet enabled switches, wireless access points, and network security cameras, among others."

41. In 2008, Network-1, outside the context of litigation, licensed its '930 Patent to Microsemi Corp-Analog Mixed Signal Group Ltd. In addition to manufacturing its own Power over Ethernet products, Microsemi also manufactures and sells Power over Ethernet chips (i.e., integrated circuits) used by other manufacturers in their Power over Ethernet products to support Power over Ethernet functionality. This license with Microsemi, and Network-1's industry-wide licensing program for its '930 Patent that Network-1 initiated in connection with the Microsemi license, was highly publicized in a press release and industry publications. For example, an industry publication (EE Power) identified the '930 Patent, disclosed the license with Microsemi, and described Network-1's '930 Patent licensing program:

> "Network-1 will commence an industry-wide Special Licensing Program for U.S. Patent No. 6,218,930 (the 'Remote Power Patent') owned by Network-1 to vendors of PoE equipment. The Special Licensing Program … is being implemented on an industry-wide basis … for the '930 Patent to PoE vendors ... The new agreement enables Microsemi to assist in its customer's evaluation of the Remote Power Patent and the terms being made available to vendors of PoE."
>
> "Microsemi designs, develops and supplies … integrated circuits and modules that enable the implementation of power over Ethernet."
>
> "'As has always been our goal, we are committed to simplifying the licensing of this critical technology in order to further accelerate the growth of PoE,' said Corey Horowitz, Chairman and CEO of Network-1."

42. In 2008, Network-1 asserted its '930 Patent in a lawsuit against eight major companies in the Power over Ethernet industry based on their Power over Ethernet 802.3af and 802.3at standard-compliant products, the same types of standard-compliant products subsequently manufactured by Defendant. Network-1's lawsuit against major companies in the Power over Ethernet industry was highly publicized in a press release, technical and industry publications, and legal publications. For example, technical publications (such EE Power) reported:

> "On February 11, 2008, Network-1 announced it had initiated patent litigation against several major data networking equipment manufacturers …. for infringement of its Remote Power Patent. Named as defendants in the lawsuit were Cisco Systems, Inc., Cisco-Linksys, LLC, Enterasys Networks, Inc., 3Com Corporation, Inc., Extreme Networks, Inc., Foundry Networks, Inc., NETGEAR, Inc., and Adtran, Inc."

43. In 2009, Network-1 licensed its '930 Patent to NETGEAR, Inc. This license was highly publicized in a press release and in industry, technical, and legal publications. These releases and publications identified the '930 Patent, described NETGEAR's license of the '930 Patent and Network-1's '930 Patent licensing program, and described how the NETGEAR license covered the same categories of Power over Ethernet 802.3af and 802.3at standard-compliant products subsequently made by Defendant, including switches and wireless access points. For example, the following information was widely disseminated:

> "Under the terms of the license, NETGEAR will license the Remote Power Patent… and pay quarterly royalties … based on its sales of Power over Ethernet ('PoE') products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards."
>
> "Licensed products include NETGEAR's PoE enabled switches and wireless access points. The royalty rates included in the license are 1.7% of the sales price of Power Sourcing Equipment, which includes Ethernet switches, and 2% of the sales price of Powered Devices, which includes wireless access points."
>
> "'This outcome is consistent with Network-1's goal of making licenses available to the technologies covered by the Remote Power Patent to the Power over Ethernet industry in a manner that promotes the widespread adoption of this important industry standard.'"
>
> "the Texas litigation [is] still currently pending, against Cisco Systems, Inc., Cisco-Linksys, LLC, Enterasys Networks, Inc., 3Com Corporation, Inc., Extreme Networks, Inc., Foundry Networks, Inc. and Adtran, Inc. In addition to NETGEAR, other companies that signed licenses under the Special Licensing Program are Microsemi Corporation, Buffalo Technology, BRG Resources, and SEH Corporation."
>
> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless switches, wireless access points, RFID card readers, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard which led to the rapid adoption of PoE. The IEEE is currently working on the 802.3at Power over Ethernet Plus (PoE Plus) Standard which will increase the maximum power delivered to network devices."

44. In 2010, Network-1 went to trial against the six major companies in the Power over Ethernet industry remaining in the pending litigation. Defendant's law firm (Jones Day) represented Extreme at the trial. At trial, Network-1 asserted

its '930 Patent against products compliant with the Power over Ethernet 802.3af and 802.3at standards. Defendant's outside counsel represented one of the defendants at that trial. The trial in which the '930 Patent was asserted against the Power over Ethernet standard was highly publicized. As a result of the 2010 trial, before the jury returned a verdict, the remaining six major Power over Ethernet companies entered into licenses for the '930 Patent including what was (and still is) the largest known license covering the Power over Ethernet standard. Defendant's counsel represented Cisco in drafting the license. The six licenses were highly publicized in legal, industry, and technical publications. For example, one industry publication reported:


NETWORKWORLD UNITED STATES

Cisco to pay up to $112 million in Power-over-Ethernet patent case

Foundry, Extreme, Enterasys, 3Com also settle with patent acquirer in PoE case

> "The litigation was initiated in February 2008 by Network-1 against Cisco and its Linksys division, Foundry Networks (now Brocade), Extreme Networks, Enterasys, 3Com (now HP), Adtran and Netgear. At issue was alleged infringement of Network-1's Remote Power Patent, U.S. Patent No. 6,218,930."
>
> "The settlement calls for approximately $32 million up front with up to approximately $80 million in royalty payments from Cisco alone over the next nine years. Adtran, Enterasys, Extreme and Foundry

> have also agreed to enter into non-exclusive licenses for the Remote Power Patent."
>
> "Under the terms of the licenses, the companies agreed to pay to Network-1 an aggregate upfront payment of approximately $32 million and have also agreed to license the Remote Power Patent …"
>
> "Cisco agreed to pay royalties, beginning in 2011, based on its sales of PoE products up to maximum royalty payments per year of $8 million through 2015 and $9 million per year thereafter for the remaining term of the patent."

45. In 2011, Network-1 brought patent infringement lawsuits against 16 additional major companies in the Power over Ethernet industry, asserting that its '930 Patent read on the Power over Ethernet 802.3af and 802.3at standards. As disclosed in a press release:

> "Named as defendants in the lawsuit … are Alcatel-Lucent USA, Inc., Allied Telesis, Inc., Avaya Inc., AXIS Communications Inc., Dell, Inc., GarrettCom, Inc., Hewlett-Packard Company, Huawei Technologies USA, Juniper Networks, Inc., Motorola Solutions, Inc., NEC Corporation, Polycom, Inc., Samsung Electronics Co., Ltd, ShoreTel, Inc., Sony Electronics, Inc., and Transition Networks, Inc."

These lawsuits were highly publicized in business, industry, technical, and legal publications. For example, Bloomberg published:

> "Network-1 Files Patent Lawsuit Against Motorola, Sony, HP, Dell - Network-1 Security Solutions Inc., the New York-based company that received a patent settlement from Cisco Systems Inc. last year, sued 16 companies including Motorola Solutions Inc., Dell Inc., and Sony Corp. The lawsuit … claims infringement of patents for delivering power over Ethernet cables."

46. In 2015, the Cision PR Newswire headlined the fact that the United States Patent Office confirmed the validity of the '930 Patent, referencing the pending litigation and the major companies in the Power over Ethernet industry that licensed the '930 Patent or were in litigation involving the '930 Patent:

> "the United States Patent and Trademark Office ('USPTO') issued Notice of Intent to Issue Ex Parte Reexamination Certificate ('NIRC') rejecting another challenge to the patentability of Network-1's Remote Power Patent (U.S Patent No. 6,218,930). … The Remote Power Patent covers the remote delivery of power over Ethernet networks and has generated licensing revenue in excess of $78 million from May 2007 to date. Network-1 currently has nineteen license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Cisco Linksys, Inc., Extreme Networks, Inc., Netgear Inc., Motorola Solutions, Inc., Allied Telesis, Inc., NEC Corporation, Samsung Electronics, Shoretel, Inc. and several other data networking vendors. In September 2011, the Company initiated patent litigation against sixteen (16) data networking equipment manufacturers … for infringement of its Remote Power Patent. Network-1 has now reached settlement and license agreements with eight of the original defendants. The remaining eight defendants in the lawsuit are Alcatel-Lucent USA, Inc., Avaya Inc., AXIS Communications Inc., Dell, Inc., Hewlett-Packard Company, Juniper Networks, Inc., Polycom Inc., and Sony Electronics, Inc."

47. Network-1 eventually licensed its '930 Patent to each of the 16 manufacturers of Power over Ethernet equipment in the lawsuit that Network-1 filed in 2011. These licenses were extensively publicized. Here are some examples:

48. ShoreTel: In 2015, Network-1 licensed it '930 Patent to ShoreTel for ShoreTel's Power over Ethernet products. This '930 Patent license with ShoreTel was highly publicized. For example, as reported on the Bloomberg, Cision, and Telecomworldwire newswires:

> "Network-1 Technologies, Inc. (NYSE MKT: NTIP) announced today that it agreed to settle its patent litigation against Shoretel … for infringement of Network-1's Remote Power Patent (U.S. Patent No. 6,218,930). Shoretel was one of sixteen (16) original defendants named in the litigation. As part of the settlement, Shoretel entered into a settlement agreement and non-exclusive license agreement for the Remote Power Patent. Under the terms of the license, Shoretel will license the Remote Power Patent … and pay a license initiation fee and quarterly royalties based on its sales of Power over Ethernet ('PoE') products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards. The Remote Power Patent covers the remote delivery of power over Ethernet networks and has generated licensing revenue in excess of $76 million from May 2007 through March 31, 2015. Network-1 currently has nineteen (19) license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Extreme Networks, Inc., Netgear Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd. and several other data networking vendors."

49. Sony: In 2016, Network-1 licensed its '930 Patent to Sony Corporation for Sony's Power over Ethernet products. This '930 Patent license with Sony was highly publicized. For example, legal publications disclosed the '930 Patent, the '930 Patent license with Sony, and that the accused products were Power over Ethernet products, e.g.:

> "Sony Settles Network-1 Suit After Fed. Circ. Upholds Patent. … It alleges the companies were infringing its patent relating to the delivery of power over Ethernet cables to remotely run network-connected devices like wireless switches."

50. Alcatel: In 2016, Network-1 licensed its '930 Patent to Alcatel-Lucent USA Inc. for Alcatel's Power over Ethernet products. This '930 Patent license with Alcatel was highly publicized. For example, legal publications disclosed the '930 Patent, the '930 Patent license with Alcatel, and that the accused products were Power over Ethernet products, the same categories of products that were being manufactured by Defendant, e.g.:

> "As part of the settlements, Alcatel and ALE each entered into separate Settlement Agreements and non-exclusive License Agreements for the Remote Power Patent. Under the terms of the licenses, Alcatel and ALE will receive fully-paid licenses to the Remote Power Patent … which will apply to their sales of Power over Ethernet ('PoE') products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards. The aggregate consideration to be received by Network-1 for the fully-paid licenses is $4,300,000 …"

> "In September 2011, the Company initiated patent litigation against sixteen (16) data networking equipment manufacturers … for infringement of its Remote Power Patent. Network-1 previously reached settlement and license agreements with nine (9) of the original defendants. The remaining six (6) defendants in the lawsuit are Avaya Inc., AXIS Communications Inc., Dell, Inc., Hewlett-Packard Company, Juniper Networks, Inc., and Polycom Inc. Network-1 seeks monetary damages based upon reasonable royalties."

> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless switches, wireless access points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard, which led to the rapid adoption of PoE. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered."

51. Dell: In 2016, Network-1 licensed its '930 Patent to Dell Inc. for Dell's Power over Ethernet products. This '930 Patent license with Dell was publicized. For example, as released on the Cision Newswire and reported in legal newswires:

> "Dell Latest To Settle Ethernet Patent Suit With Network-1"
>
> "The patent describes a method for remotely powering access equipment in a data network."
>
> "Network-1 Technologies, Inc. (NYSE MKT: NTIP) announced today that it agreed to settle its patent litigation against Dell, Inc. ('Dell') … for infringement of Network-1's Remote Power Patent (U.S. Patent No. 6,218,930). Dell was one of sixteen original defendants named in the litigation."
>
> "Under the terms of the settlement, Dell will license the Remote Power Patent …. for past sales of its Power over Ethernet ('PoE') products and ongoing royalties based on its sales its PoE products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards."
>
> "In September 2011, the Company initiated patent litigation against sixteen data networking equipment manufacturers … for infringement of its Remote Power Patent. Network-1 previously reached settlement and license agreements with ten of the original defendants. The

> remaining five defendants in the lawsuit are Avaya Inc., AXIS Communications Inc., Hewlett-Packard Company, Juniper Networks, Inc., and Polycom Inc."
>
> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless access points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard, which led to the rapid adoption of PoE. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered to network devices."
>
> "Network-1 currently has twenty-four license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Extreme Networks, Inc., Netgear Inc., Alcatel-Lucent USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and several other data networking vendors."

52. Polycom: In 2016, Network-1 licensed its '930 Patent to Polycom, Inc. for Polycom's Power over Ethernet products. This '930 Patent license with Polycom was highly publicized. For example, as released on the Cision Newswire (and as referenced on Reuters, RPX Insight, IP Watchdog, and other sources):

> "Under the terms of the settlement, Polycom will license the Remote Power Patent for its full term which expires in March 2020, and pay a license initiation fee of $5,000,000 for past sales of its Power over Ethernet ('PoE') products. In addition, Polycom will pay ongoing royalties based on its sales its PoE products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards. $2,000,000 of the license initiation fee will be paid within 30 days and the balance will be paid in three annual installments of $1,000,000 beginning in October, 2017. …."

> "In September 2011, the Company initiated patent litigation against sixteen data networking equipment manufacturers in the United States District Court for the Eastern District of Texas, Tyler Division, for infringement of its Remote Power Patent. Network-1 previously reached settlement and license agreements with eleven of the original defendants. The remaining four defendants in the lawsuit are Avaya Inc., AXIS Communications Inc., Hewlett-Packard Company, and Juniper Networks, Inc."
>
> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless access points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered to network devices."
>
> "Network-1 currently has twenty-five license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Extreme Networks, Inc., Netgear Inc., Dell, Inc., Alcatel-Lucent USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and several other data networking vendors."

53. Axis: In 2017, Network-1 licensed its '930 Patent to Axis Communications for Axis's Power over Ethernet products. Axis has been specifically identified Defendant's direct competitor. This '930 Patent license with Axis was highly publicized. For example, as reported in a release, by Reuters, and by Bloomberg:

> "NEW YORK, NY -- (Marketwired) -- 08/16/17 -- Network-1 Technologies, Inc. (NYSE MKT: NTIP) (NYSE American: NTIP) announced today that it agreed to settle its patent litigation against Axis Communications, Inc. and affiliated entities ('Axis') … for

infringement of Network-1's Remote Power Patent (U.S. Patent No. 6,218,930). Axis was one of sixteen (16) original defendants (and affiliated entities) named in the litigation."

"As part of the settlement, Axis has entered into a Settlement Agreement and non-exclusive License Agreement for the Remote Power Patent. Under the terms of the license, AXIS will receive a fully-paid license to the Remote Power Patent … which will apply to its sales of Power over Ethernet ('PoE') products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards."

"In September 2011, Network-1 initiated patent litigation against sixteen (16) data networking equipment manufacturers (and affiliated entities) in the United States District Court for the Eastern District of Texas, Tyler Division, for infringement of its Remote Power Patent. Network-1 has now reached settlement and license agreements with thirteen (13) of the original defendants. The remaining three defendants in the lawsuit are Hewlett-Packard Company, Juniper Networks, Inc. and Avaya, Inc. … The first of the trials for the remaining defendants is scheduled to commence in November 2017."

"The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless switches, wireless access points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard, which led to the rapid adoption of PoE. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered to network devices."

"Network-1 currently has twenty-five (25) license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Netgear Inc., Alcatel-Lucent USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and several other data networking vendors."

54. Avaya: In 2017, Network-1 licensed its '930 Patent to Avaya, Inc. for Avaya's Power over Ethernet products. This '930 Patent license with Avaya was highly publicized. For example, as reported by Yahoo newswire:

> "Network-1… announced today that it agreed to settle its patent litigation against Avaya, Inc. ('Avaya') … for infringement of Network-1's Remote Power Patent (U.S. Patent No. 6,218,930). … Avaya was one of sixteen (16) original defendants (and affiliated entities) named in the litigation."
>
> "As part of the settlement, Avaya has entered into a Settlement Agreement and non-exclusive License Agreement for the full term of the Remote Power Patent …. Under the terms of the license, Avaya will pay a lump sum amount for sales of certain designated Power over Ethernet ('PoE') products, and a running royalty for other designated PoE products. The products covered by the licenses include those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards."
>
> "…. As part of the settlement, Avaya agreed that Network-1 shall have an allowed general unsecured claim ('Allowed Claim') in the amount of $40,000,000 …."
>
> "In September 2011, Network-1 initiated patent litigation against sixteen (16) data networking equipment manufacturers (and affiliated entities) in the United States District Court for the Eastern District of Texas, Tyler Division, for infringement of its Remote Power Patent. Network-1 has now reached settlement and license agreements with fourteen (14) of the original defendants. The remaining two defendants in the lawsuit are Hewlett-Packard Company and Juniper Networks, Inc. … The first of the trials for the remaining defendants is scheduled to commence in November 2017."
>
> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless switches, wireless access

> points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard, which led to the rapid adoption of PoE. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered to network devices."
>
> "Network-1 currently has twenty-six (26) license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Netgear Inc., Alcatel-Lucent USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and several other data networking vendors."
>
> "… Network-1's Remote Power Patent has generated licensing revenue in excess of $116,000,000 from May 2007 through June 30, 2017."

55. Juniper: In 2018, Network-1 licensed its '930 Patent to Juniper Networks for Juniper's Power over Ethernet products. This '930 Patent license with Juniper was highly publicized. For example, as reported on Yahoo Finance, Stockwinners, Insider, and other sources:

> "Network-1 … announced today that it agreed to settle its patent litigation against Juniper Networks, Inc. ('Juniper') … for infringement of Network-1's Remote Power Patent (U.S. Patent No. 6,218,930). Juniper was one of sixteen (16) original defendants (and affiliated entities) named in the litigation."
>
> "Under the terms of the settlement, Juniper will pay $13,250,000 and receive a fully-paid license to the Remote Power Patent for its full term which expires in March 2020, which will apply to its sales of Power over Ethernet ('PoE') products, including those PoE products which comply with the Institute of Electrical and Electronic Engineers ('IEEE') 802.3af and 802.3at Standards."

> "In September 2011, Network-1 initiated patent litigation against sixteen (16) data networking equipment manufacturers (and affiliated entities) in the United States District Court for the Eastern District of Texas, Tyler Division, for infringement of its Remote Power Patent. Network-1 has now reached settlement and license agreements with fifteen (15) of the sixteen (16) original defendants. The sole remaining defendant in the lawsuit is Hewlett-Packard Company. … The trial against Hewlett-Packard is scheduled to commence on November 6, 2017."
>
> "The Remote Power Patent relates to, among other things, delivering power over Ethernet cables to remotely power network connected devices including, among others, wireless switches, wireless access points, VoIP telephones and network cameras. In June 2003, the IEEE approved the 802.3af PoE Standard, which led to the rapid adoption of PoE. The IEEE also approved the 802.3at Power over Ethernet Plus (PoE Plus) Standard, which increased the maximum power delivered to network devices."
>
> "Network-1 currently has twenty-seven (27) license agreements with respect to its Remote Power Patent, which include, among others, license agreements with Cisco Systems, Inc., Netgear Inc., Alcatel-Lucent USA, Sony Corporation, Shoretel Inc., Microsemi Corporation, Motorola Solutions, Inc., NEC Corporation, Samsung Electronics Co., Ltd., and several other data networking vendors."

56. Major companies in the Power over Ethernet industry, including Defendant's competitors, would not have paid over $180 million in royalties to license the '930 Patent unless their business, legal, and engineering employees subjectively and objectively believed, as did the engineers who developed the Power over Ethernet standard, that standard-compliant Power over Ethernet products infringed the '930 Patent.

57. Even without being triggered by a specific event (such as a filing, trial, or significant license), technical, legal, and industry publications such as the Insider, reported on the '930 Patent, for example:

> "What makes this patent so unique is that the methods and technologies described within the Remote Power Patent are incorporated into the IEEE 802.3af PoE Standard itself. The patent was even referenced by IEEE in connection to the standard. Thus, 802.3af compliant products must utilize the detection methods covered by this patent."

> "The Remote Power Patent is solid and is clearly utilized in all products adhering to the IEEE standard. The patent has been through intense scrutiny from numerous technology companies, judges, and a jury, and has been confirmed valid and enforceable every time."

58. Because of (a) the importance of the '930 Patent, (b) the extensive litigation involving the '930 Patent, and (c) the significant licenses involving the '930 Patent, the existence of the '930 Patent, and Network-1's assertion of the '930 Patent against the Power over Ethernet standard, were described in the SEC filings of manufacturers of Power over Ethernet products. These SEC filings referenced the '930 Patent and Network-1's claim that the '930 Patent read on the Power over Ethernet standard. For example:

> "On February 7, 2008, Network-1 Security Solutions, Inc. ('Network-1') filed a lawsuit against the Company (and Cisco Systems, Inc., Cisco-Linksys, LLC, Adtran, Inc., Enterasys Networks, Inc., Extreme Networks, Inc., Netgear, Inc, and 3Com Corporation) … alleging that certain of Foundry's products infringe Network-1's U.S. Patent No 6,218,930."

Foundry Annual Report (2007 10K).

> "Network-1 Security Solutions, Inc. v. NETGEAR In February 2008, a lawsuit was filed against the Company by Network-1 Security Solutions, Inc. ('Network-1') … Network-1 alleges that the Company infringes U.S. Patent No. 6,218,930. Network-1 has accused the Company's power over Ethernet products of infringement. Network-1 has also sued six other companies alleging similar claims of patent infringement."

NETGEAR Annual Report (2008 10K).

> "During the year ended December 31, 2009, we recorded net litigation reserves expense of $2.1 million. This expense was primarily comprised of $2.6 million in estimated costs related to the settlement of various lawsuits against us, which includes … a onetime settlement payment made to Network-1 Security Solutions, Inc. ('Network-1'')."
>
> "In February 2008, a lawsuit was filed against the Company by Network-1 Security Solutions, Inc. ('Network-1') …. Network-1 alleged that the Company's power over Ethernet ('PoE') products infringed its U.S. Patent No. 6,218,930. Network-1 also sued six other companies alleging similar claims of patent infringement. … In May 2009, … the Company agreed to make a one-time lump sum payment of $350,000 … Under the license, the Company will pay future running royalties on certain of its PoE products which will be recognized as a component of cost of revenue as the related products are sold."

NETGEAR Annual Report (2009 10K).

> "We and other defendants were subject to patent claims asserted by Network-1 Security Solutions, Inc. on February 7, 2008 … Network-1 alleged that various of our products implement a method for remotely powering equipment that infringes United States Patent No. 6,218,930. … The trial on these claims began on July 12, 2010."

Cisco Annual Report (2010 10-K).

> "On February 7, 2008, Network-1 Security Solutions, Inc. sued us along with Cisco, Cisco-Linksys, Inc., Adtran, Inc., Enterasys Networks, Inc., Netgear, Inc. and 3Com Corporation … On July 16, 2010, we entered into a Memorandum of Understanding with Nework-1 setting forth the terms for settlement of the lawsuit and license agreement, in which Extreme was granted licenses to certain patents in exchange for a payment of $2.4 million."

Extreme Annual Report (2010 10K).

> "In September 2011, Network-1 Security Solutions, Inc. ('Network-1') filed a complaint for patent infringement against the Company and other corporations … alleging infringement of its patent with respect to power over Ethernet technology…"

Avaya Annual Report (2018 10K).

59. As a result of the all of the press, publicity, lawsuits, and licenses regarding the '930 Patent, business executives and managers, engineers, marketing executives and managers, product developers ad managers, and lawyers working at companies that manufactured Power over Ethernet products or planned to introduce Power over Ethernet Products to the market, knew of (a) the existence of the '930 Patent, (b) its read on the Power over Ethernet standard, and (c) Network-1's assertion of its '930 Patent against Defendant's competitors in the tight-knit Power over Ethernet industry for infringing the Power over Ethernet 802.3af and 802.3at standards resulting in millions of dollars in licensing royalties.

60. Power over Ethernet is implemented using Power over Ethernet chips (also known as integrated circuits) which are incorporated into Power over Ethernet products such as switches, cameras, and wireless access points. There are

a limited number of companies who manufacture these Power over Ethernet chips, including Texas Instruments, Microsemi (PowerDsine), and Broadcom, Linear. These companies who manufacture the Power over Ethernet chips used in Power over Ethernet products, including chips used in Defendant's Power over Ethernet products, were aware of the '930 Patent and the '930 Patent's read on the Power over Ethernet Standard.

61. The Power over Ethernet chip manufacturers were involved in developing the IEEE 802.3af Power over Ethernet standard. At that time when the standard was being adopted, the chip manufacturers were concerned about the '930 Patent's read on the Power over Ethernet standard and wanted a Letter of Assurance for the '930 Patent. One chip manufacturer (Microsemi—PowerDsine) licensed the '930 Patent for its own Power over Ethernet products and encouraged manufacturers of Power over Ethernet products, including those that incorporated its Power over Ethernet chips, to license the '930 Patent. The Power over Ethernet chip manufacturers, including the chip manufacturer that provides Power over Ethernet chips to Defendant, were involved in the extensive litigations in which Network-1 asserted its '930 Patent against the Power over Ethernet standard. The Power over Ethernet chip manufacturers participated in discovery involving the '930 Patent, had their depositions taken, and were trial witnesses at the trials involving the '930 Patent.

DEFENDANT'S KNOWLEDGE THAT THE '930 PATENT COVERS THE 802.3af AND 802.3at POWER OVER ETHERNET STANDARDS

62. Defendant knew of, or was willfully blind to, the existence of the '930 Patent, the claims of the '930 Patent, and the infringements alleged in this Complaint.

63. As a result of the wide-spread knowledge of the '930 Patent set forth above and the litigations and trials against Defendant's Power over Ethernet competitors, on information and belief, Defendant's legal, business, marketing, and engineering employees learned of the existence of the '930 Patent and that the '930 Patent read on the Power over Ethernet standard. Employees who had particular access to this information include: engineer, Darin Drossel, a sales and solution engineer, who previously worked for Network-1's licensee, D-Link, regarding D-Link's Power over Ethernet switching products; product manager, Damon Chou, who also previously worked for Network-1's licensee, D-Link; and Jun Liu, who worked as a legal counsel for Defendant.

64. Upon information and belief, Defendant learned of the '930 Patent and that it read on the Power over Ethernet standard when Defendant made the calculated decision to enter the standardized Power over Ethernet market and introduce and sell new standard-compliant products into the market.

65. When a company intends to introduce a new product-line into a market or sell such a product that copies a specific standard, the company's legal,

business, marketing, and engineering employees will perform due diligence before committing the significant investment necessary to introduce the standard-based product into the market. The company will research the standard. The company will research the company's competitors and the competitors' standardized products in that industry for technical and compatibility issues. The company will evaluate business issues, such as anticipated revenues, costs, profits in the competitive environment, and will research the standard-based market in evaluating these issues. The company will consider and evaluate whether there are business or legal impediments or issues associated with introducing the standardized product into the market.

66. Because the company will make or sell products that copy the standardized technology, the business and legal employees will want to know whether there are any legal issues associated with copying the standard. The company will perform at least a cursory review, if not a deep dive, to see whether there are any patents essential to practicing the standard and whether its competitors and other manufacturers of the standardized technology have been sued for manufacturing the standardized technology, including any claims that a patent reads on the standard that they intend to incorporate into their products that they intend to sell. And the company would want to know if its competitors and other manufacturers are paying significant amounts to license the standardized

technology. This is especially true when the standardized products that the company will be making will need to be interoperable with, and connected to, the standardized products manufactured by its competitors and other manufacturers in the industry.

67. Around 2011, Defendant introduced new product lines of Power over Ethernet products that comply with the 802.af and 802.3at standards. Defendant's new product lines were introduced specifically to provide Power over Ethernet compliant with the 802.3af and 802.3at standards. When Defendant entered the standardized Power over Ethernet industry and introduced new products into this market to sell, Defendant understood that Defendant's standard-compliant Power over Ethernet products needed to be interoperable with the Power over Ethernet products of other manufacturers and would be connected to products of others in the Power over Ethernet industry to perform standard-compliant Power over Ethernet. Standard-compliant Power over Ethernet delivers both data and power from a switch to a remote device, such as a phone, camera, or wireless access device, over Ethernet cables. Components of the switch detect whether a remote device connected to the Ethernet cable can or cannot accept remote power and then delivers power only to devices that can accept remote power. Switches from one manufacturer that provide the data and Power over Ethernet cables compliant with

the Power over Ethernet Standard can be connected to remote devices made by another manufacturer.

68. Before investing in introducing new standard-based Power over Ethernet products into the market to sell, Defendant's business, legal, marketing, and technical employees performed due diligence regarding standardized Power over Ethernet industry and investigated all aspects of the investment. As part of their diligence, before introducing their standard-compliant products into the market, Defendant analyzed:

- technical issues associated with introducing new standard-compliant Power over Ethernet products into the market;
- the standardized Power over Ethernet products of others, including Axis, who is specifically identified as Defendant's competitor;
- the business landscape of the standard-compliant Power over Ethernet market, such as the revenues, sales, pricing, and profitability of its competitors' Power over Ethernet standard-compliant products; and
- the legal landscape of the standard-compliant Power over Ethernet market, such as lawsuits asserted against its competitors based on their standard-compliant Power over Ethernet products.

69. At that time when Defendant was introducing new standard-compliant Power over Ethernet products into the United States market, even the most cursory

diligence or investigation would have revealed the existence of the '930 Patent and its read on the Power over Ethernet Standard as disclosed, for example, in press releases, publications and articles, the IEEE essential patent list, the Letter of Assurance, and the SEC filings of other Power over Ethernet manufacturers, including Defendant's competitors. A simple Google search would demonstrate that the '930 Patent is the most important patent covering products that comply with the 802.3af and 802.3at standards. For many years, extensive publicly available information has demonstrated that the '930 Patent is a "hugely important" PoE patent in this standardized field. For example, a Google search using the words "patent PoE 802.3af" returned the following three articles among the first seven search results:

- "Network-1's '930 patent (6,218,930) teaches an essential component of industry standard Power over Ethernet, or PoE. As described in the IEEE 802.3af and 802.3at standards, PoE enables delivery of power over existing local area network (LAN) cabling, eliminating the need for running separate and expensive power cables." https://www.network-1.com/portfolios/power-over-ethernet
- "Network-1, The Little-Known Company With A Hugely Important Power-Over-Ethernet Patent." https://www.businessinsider.com/network-1-the-

little-known-company-with-a-hugely-important-power-over-ethernet-patent-2011-1

- "Transition has agreed to license Network-1's Remote Power Patent for Power over Ethernet products through 2020, and to pay quarterly royalties." https://www.cablinginstall.com/connectivity/rj45-utp-shielded/article/16478698/transition-networks-agrees-to-licensing-royalty-payments-in-poe-patent-suit-settlement

70. Any person or company who was interested in or concerned about whether the 802.3af and 802.3at standards infringed any patent would have come across these and similar articles identifying the '930 Patent using a simple Google search.

71. Upon information and belief, Defendant would have known that Cisco went to trial for infringing the '930 Patent based on its standardized Power over Ethernet products and licensed the '930 Patent for up to $112 million to cover the same standard-based products that Defendant intended to incorporate into its product. This information was widely known in the Power over Ethernet industry based on press releases and write-ups in industry, technical, legal publications, and SEC disclosures, which disclosed the following information:

- "In July 2010, Network-1 settled a case over the Remote Power Patent with several companies, including Cisco Systems, Extreme Networks, and

3Com. The case resulted in an aggregate of $32 million in upfront payments to Network-1. Cisco alone shelled out $26 million and agreed to pay royalties up to $8 million a year through 2015 and $9 million a year through 2020. This will likely translate into $80 million in total royalties from that company alone."

- "Cisco pays Network-1 $26 million within fifteen (15) days."
- "Network-1, Cisco Strike $32M Deal Over Ethernet IP"
- "Cisco signed the licensing deal along with Adtran Inc., Enterasys Networks Inc., Extreme Networks Inc. and Foundry Networks Inc., while fellow defendant 3Com Corp. Inc. reached a separate dismissal without prejudice."
- "Cisco also agreed to pay as much as $8 million per year in royalties starting in 2011 based on sales of Power Over Ethernet products, and as much as $9 million a year for such sales beginning in 2015."
- "The patent-in-suit, issued in 2001, relates to the delivery of power over Ethernet cables to remotely power network-connected devices like wireless switches, wireless access points, radio frequency identification card readers, Voice Over Internet Protocol phones and network cameras."
- "Network-1 filed the suit in February 2008, accusing the defendants of selling infringing products designed to remotely power access equipment over a 10/100 switched Ethernet network."

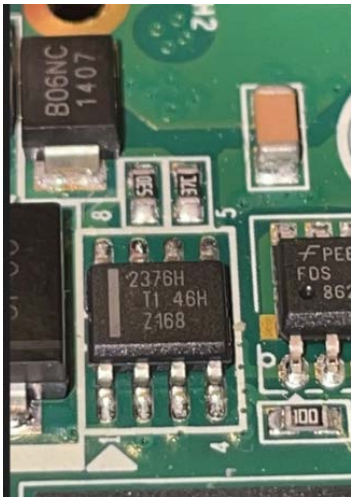
- "'We've been working for many years for the industry to recognize our intellectual property and hope that the rest of the industry will follow [the defendants'] lead to take a license to this important technology,' Horowitz said."
- "Network-1 believes that all 802.3af compliant products utilize the technology claimed by this patent. In fact, in July 2010, Cisco Systems (CSCO) settled litigation and took a license for the Remote Power Patent covering all 802.3af compliant products sold by the company. Cisco agreed to pay Network-1 up to a total amount of $112 million, under certain conditions. $32 million was paid upfront in 2010. In addition, Cisco is required to fork out future royalty payments up to $8 million a year through 2015 and up to $9 million thereafter until the end of the life of the patent in 2020."

Upon information and belief, a legal or business employee of Defendant learned that Cisco paid up to $112 million in royalties to license a standard-based patent for the same standard-based products that Defendant intended to introduce into the United States market to sell.

72. Based on a combination of the allegations set forth above, upon information and belief, at least one of Defendant's business, legal, or marketing, or engineering employees learned of the '930 Patent and that the '930 Patent read on

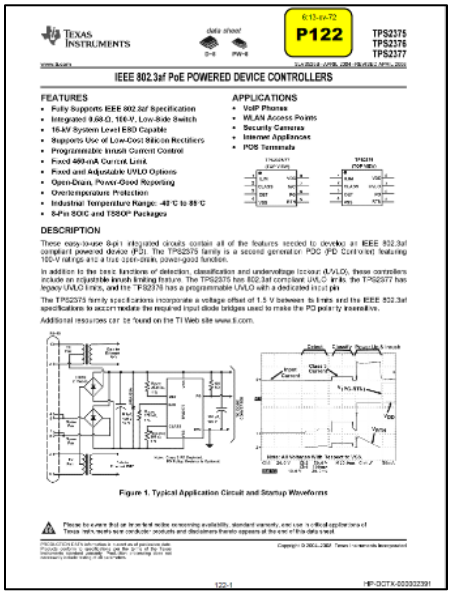
standard-compliant Power over Ethernet products as Defendant introduced standard-compliant Power over Ethernet products into the United States market to sell.

73. Defendant also learned of the existence of the '930 Patent, and that the '930 Patent read on the Power over Ethernet Standard, from at least one Power over Ethernet chip manufacturer that provided Defendant with Power over Ethernet chips incorporated into Defendant's Power over Ethernet products. Defendant's Power over Ethernet standard-based products incorporate Power over Ethernet chips. The manufacturer or manufacturers of the Power over Ethernet chips that provided chips to Defendant were aware of the existence of the '930 Patent and its read on the Power over Ethernet standard. The chip manufacturers provided the same Power over Ethernet chips to Defendant that they provided to Network-1's licensees who litigated the '930 Patent for years and paid over $100 million in royalties to license the '930 Patent. For example, some of Defendant's



PoE products use Texas Instruments TPS chips to help execute the Power over Ethernet functionally in Defendant's products. In this picture of a circuit board from Defendant's PoE Camera, the Texas Instruction TP2376 Power over Ethernet chip is depicted in the center:

Texas Instruments TPS chips are also incorporated into the products that Network-1 accused of infringing its '930 Patent and that were licensed. Texas Instruments



witnesses were involved in the Network-1 litigation asserting its '930 Patent. The data sheet and product materials for the TP2376 Power over Ethernet chip Power over Ethernet chip (used in Defendant's products) was a trial exhibit (P122) in the most recent trial during which the '930 Patent was asserted against the Power over Ethernet standard.

74. Upon information and belief, suppliers of Power over Ethernet chips who were involved and witnesses in the lawsuits involving the '930 Patent discussed the '930 Patent and the lawsuits that Network-1 brought against the Power over Ethernet standard with the Defendant who purchased the same Power over Ethernet chips for its own Power over Ethernet products.

75. Defendants researched, invested in, and sold a line of products that copied an important and fundamental product technology (the IEEE 802.3af and 802.3at Power over Ethernet Standard), in an industry where companies diligently patent the technology that they invent. By selling products that copy the IEEE 802.3af and 802.3at standard-based technology, Defendant subjectively believed that there was a high probability that one or more patents covered these standards and that its standard-compliant products would infringe one or more patents.

76. Defendant either knew that the standard-compliant products that they sold infringed the '930 Patent or took deliberate actions, steps, and active efforts to avoid learning this fact. Based on a combination of the facts alleged above, Defendant had knowledge of the '930 Patent and believed that the '930 Patent read on the Power over Ethernet standard prior to March 2020 unless Defendant instructed its employees to take deliberate actions, steps, and active efforts to avoid learning these facts, for example, by instructing its employees:

- not to read any industry, technical, or legal publications discussing patents;

- not to look at its competitors' SEC filings; and
- not to analyze the '930 Patent and whether the '930 Patent reads on the Power over Ethernet Standard and Defendant's standard complaint products.

Either Defendant knew that practicing the Power over Ethernet Standard would infringe the '930 Patent or took deliberate actions and active efforts to avoid learning these facts and the infringing nature of its activities.

COUNT I – INFRINGMENT OF THE '930 PATENT

77. Plaintiff incorporates by reference each of the allegations in paragraphs 1 - 77 above.

78. On or about April 17, 2001, the '930 Patent, disclosing and claiming an "Apparatus and method for remotely powering access equipment over A 10/100 switched ethernet network," was duly and legally issued by the United States Patent and Trademark Office.

79. Plaintiff Network-1 is the owner of the '930 Patent with full rights to pursue recovery of royalties or damages for infringement of such patent, including full rights to recover past damages.

80. A reexamination certificate confirming all challenged claims of the '930 Patent and adding fourteen new claims was issued on October 14, 2014. A

second reexamination certificate confirming the patentability of all challenged claims of the '930 Patent was issued on November 9, 2015.

81. The '930 Patent is valid.

82. Defendant infringed, contributed to the infringement, and induced others to infringe the '930 Patent by manufacturing, using, selling, offering for sale, or by using methods claimed in the '930 Patent or by contributing to or inducing others to make, use, sell, or offer to sell, the claimed invention or use the claimed methods without a license or permission from Plaintiff. Defendant made, used, sold, or offered to sell Power over Ethernet products, including certain products that comply with the IEEE 802.3af and 802.3at standards. These products were used to infringe the method claims of the '930 Patent.

83. An exemplary claim chart with respect to Claim 6 of the '930 Patent is attached as Exhibit 4. The chart applies the constructions of the '930 Patent claims approved by the Federal Circuit. *Network-1 Techs. v. Hewlett-Packard Co.*, 976 F.3d 1301, 1304 (Fed. Cir. 2020).

84. Defendant knew of, or was willfully blind to, the existence of the '930 Patent, the claims of the '930 Patent, and the infringements alleged in this Complaint.

85. Defendant directly infringed the '930 Patent by using the claimed methods without a license or permission from Plaintiff. Defendant used Power

over Ethernet products, including certain products that comply with the IEEE 802.3af and 802.3at standards. These products were used to infringe the method claims of the '930 Patent.

86. Defendant knew that a third party's acts—performing standard-compliant Power over Ethernet—constituted infringement of the '930 Patent, or was willfully blind to this fact. Defendant knowingly induced others, including its customers who purchased Defendant's Power over Ethernet products, to practice the methods claimed in the '930 Patent and possessed a specific intent to induce and encourage infringement of the '930 Patent.

87. Defendant's Power over Ethernet products, when connected and operated as intended and instructed and suggested by Defendant's associated manuals, literature, advertising, or other placards and data, infringe the '930 Patent. Defendant directs, promotes, encourages, and causes its customers to use its products in a manner that Defendant knows infringes the '930 Patent or was willfully blind to that fact. In so doing, Defendant provides detailed instructions to its customers through training videos, demonstrations, brochures, and installation and user guides explaining how to use its standard-compliant Power over Ethernet products, and touts and advertises features of its Power over Ethernet products to its customers. Defendant intended to induce its customers to use its standard-compliant Power over Ethernet products to practice the patented method.

Defendant knowingly induced the infringing acts that constitute patent infringement, and possessed a specific intent to encourage its customers to infringe the '930 Patent.

88. Based on the combination of allegations set forth above, Defendant had knowledge that the induced acts of its customers—i.e., performing Power over Ethernet compliant with the 802.3af and 802.3at Standard—constituted infringement of the '930 Patent, or was willfully blind to such infringement.

89. Defendant knew, or was willfully blind to knowing, that Defendant's Power over Ethernet products used to infringe the '930 Patent (a) constituted material parts or components of the inventions claimed in the '930 Patent, (b) were especially made or adapted for use in a manner that infringes the '930 Patent, and (c) did not have a substantial use that did not infringe the '930 Patent. As alleged above, Defendant knew about the '930 Patent and that practicing the Power over Ethernet Standard constituted infringement of the '930 Patent, or was willfully blind to these facts. Defendant sold a component of a patented combination constituting a material part of the '930 Patent invention, knowing the same to be especially made or especially adapted for use in an infringement of the '930 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use. Defendant knew that its components cause infringement of the '930 Patent, or was willfully blind to that fact.

90. Plaintiff has been damaged by Defendant's infringement of the '930 Patent. The marking requirement of 35 U.S.C. § 287(a) does not apply because Plaintiff is only asserting method claims. Neither Network-1 nor any of its licensees sell a "patented article" claimed in the method claims of the '930 Patent. The method claimed in the '930 Patent is practiced when multiple components, generally sold by different companies and located in different remote locations, are configured to practice the claimed invention. Because the components used to practice the claimed method are in different locations and not in full view of the public, marking one component of the several components used to perform the claimed method would confuse the public rather than provide notice of the patented method claimed by the '930 Patent.

WILLFULNESS ALLEGATIONS

91. Upon information and belief, Defendant's acts of infringement have been willful, intentional, and knowing. As alleged above, upon information and belief, Defendant had a specific intent to infringe the '930 Patent prior to March 2020. Defendant's acts of infringement were committed with knowledge of Plaintiff's rights in the '930 Patent, and in willful and wanton disregard of Plaintiff's rights, or were committed with willful blindness to Plaintiff's rights, rendering this an exceptional case under 35 U.S.C. § 285. Despite this knowledge or willful blindness and despite an objective likelihood that its actions constituted

infringement of the '930 Patent, Defendant infringed the '930 Patent. This objectively-defined risk was known or was so obvious that it should have been known to Defendant. Defendant disregarded this objectively high likelihood that its actions constituted infringement of the '930 Patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Network-1 prays for judgment as follows:

A. Compensatory damages awarding Plaintiff damages caused by Defendant's infringement of the '930 Patent;

B. Enhancement of Plaintiff's damages against Defendant by reason of the nature of Defendant's infringement pursuant to 35 U.S.C. § 284;

C. For costs of suit and attorney's fees;

D. For pre and post-judgment interest; and

E. For such other relief as justice requires.

JURY DEMAND

Plaintiff Network-1 demands trial by jury of all issues.

Date: April 20, 2023

Respectfully submitted,

By: */s/ Gregory Dovel*

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Exhibits

Exhibit 1: ‘930 Patent

Exhibit 2: Reexamination Certificate 1 (2014)

Exhibit 3: Reexamination Certificate 2 (2015)

Exhibit 4: Exemplary claim chart