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18 **UNITED STATES DISTRICT COURT**
19 **NORTHERN DISTRICT OF CALIFORNIA**

20 CISCO SYSTEMS, INC.,)
21)
Plaintiff,)
22)
v.)
23)
ARISTA NETWORKS, INC.,)
24)
Defendant.)
25)
26)

CASE NO. 5:14-cv-5344-BLF
**SECOND AMENDED COMPLAINT
FOR COPYRIGHT AND PATENT
INFRINGEMENT**
DEMAND FOR JURY TRIAL

SECOND AMENDED COMPLAINT FOR COPYRIGHT AND PATENT INFRINGEMENT

Plaintiff Cisco Systems, Inc. (“Cisco”), for its complaint against Defendant Arista Networks, Inc. (“Arista”), hereby demands a jury trial and alleges as follows:

INTRODUCTION

1. Cisco is an information technology (IT) company that was founded in 1984. Cisco is the worldwide leader in developing and implementing the networking technologies that enable global interconnectivity and the Internet of Everything. Cisco employs thousands of networking engineers at its headquarters in San Jose, California, and elsewhere, and invests billions of dollars annually in research and development focused on creating the future of networking technologies.

2. Decades after Cisco’s founding, Arista was founded by former Cisco employees, many of whom are named inventors on Cisco’s networking patents. Among others, Arista’s: 1) founders, 2) President and CEO, 3) Chief Development Officer, 4) Chief Technology Officer, 5) Senior Vice President for Customer Engineering, 6) Vice President of Business Alliances, 7) former Vice President for Global Operations and Marketing, 8) Vice President of Systems Engineering and Technology Marketing, 9) Vice President of Hardware Engineering, 10) Vice President of Software Engineering, and 11) Vice President of Manufacturing and Platform Engineering all were employed by Cisco prior to joining Arista. Moreover, four out of the seven members of Arista’s Board of Directors were previously employed by Cisco.

3. Arista’s goal is to sell networking products. Rather than building its products and services based on new technologies developed by Arista, however, and providing legitimate competition to Cisco, Arista took a shortcut by blatantly and extensively copying the innovative networking technologies designed and developed by Cisco.

4. Arista has acknowledged the substantial investment in time and employment that would have been required to legitimately compete with Cisco. Arista’s President and Chief Executive Officer, former Cisco employee Jayshree Ullal, has stated:

“Since I helped build the enterprise [at Cisco], I would never compete with Cisco directly in the enterprise in a conventional way. *It would take me 15 years*

1 **and 15,000 engineers**, and that’s not a recipe for success.” (Emphasis added.)

2 5. In fact, by simply copying numerous networking technologies developed by Cisco, Arista
3 avoided hiring the thousands of engineers and making the substantial investments that would otherwise
4 have been needed to legitimately develop its own technologies. Indeed, Cisco is not the only party to
5 find itself aggrieved by Arista’s alleged misappropriation of intellectual property. Arista Co-Founder
6 David Cheriton has himself alleged that Arista misappropriated his own intellectual property in a
7 complaint that his company Optumsoft has filed against Arista.

8 6. Arista’s use and copying of Cisco’s technologies and copyrighted materials is widespread
9 and flagrant. Arista copied Cisco’s operating system software (including its Internetwork Operating
10 System (“IOS”¹, “IOS XR”, and “IOS XE”) and its Nexus Operating System (“NX-OS”) (collectively,
11 “Cisco IOS”), which was developed by Cisco for its products. Arista also flagrantly copied Cisco’s
12 operating system documentation into Arista’s documentation. Of particular importance, Arista’s
13 verbatim copying of the Cisco IOS software allowed it to replicate Cisco’s widely acclaimed command-
14 line interface (“CLI”). A CLI is the set of commands employed by a user in operating technology
15 products. Cisco’s CLI is used by Cisco’s customers to communicate with its products, as well as to
16 configure and manage them. Arista also incorporated numerous patented Cisco technologies into
17 Arista’s products covering a variety of critical features on Arista’s products.

18 7. Arista deliberately and repeatedly engaged in extensive copying in order to compete
19 unfairly with Cisco. Arista publicly touts that its copying of Cisco’s CLI makes it easier for Cisco’s
20 customers to switch rapidly from Cisco’s products to competing products sold by Arista. Arista even
21 has publicly congratulated itself for avoiding the time and investment needed to create the CLI that
22 Cisco created. For example, Ms. Ullal has stated:

23 “[A] Cisco CCIE expert would be able to use Arista right away, because we have a
24 similar command-line interface and operational look and feel. **Where we don’t have to**
25 **invent, we don’t.**” (Emphasis added.)

26 Ullal’s statement is noteworthy for its understatement, however. While it has long been understood that
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28 ¹ Cisco also owns the IOS name and has licensed it to Apple for use in Apple’s mobile devices.

1 simple single-word commands in a CLI may not be protectable under copyright (“Copy,” “Paste,” and
2 “Delete,” for example), in Arista’s case the expression and organization of over 500 of the multi-word
3 commands in Cisco’s CLI are copied verbatim. This contrasts with far less overlap in the case of other
4 Cisco competitors. Moreover, as described below, the CLI copying is just the tip of the iceberg.
5 Arista’s slavish copying of Cisco materials goes far beyond the CLI, including extensive copying of not
6 only Cisco’s software, but also Cisco’s documentation.

7
8 8. Arista’s co-founder and current Chief Technology Officer, Kenneth Duda, has likewise
9 touted Arista’s copying of Cisco’s CLI. Mr. Duda, in fact, explained that Arista decided to “[p]rovide
10 familiar interfaces to ease adoption,” including a “*standard* CLI that ... retains familiar management
11 commands” (emphasis added), so much so that “80% [of Arista customers] tell us they appreciate the
12 way they can leverage their deep [Cisco] IOS experience, as they can easily upgrade an aging [Cisco]
13 Catalyst infrastructure to Arista.” Mr. Duda also stated:

14 “Familiar management interfaces, standard CLI ... It’s been very helpful for our
15 customers to be able to rapidly adopt our products and integrate them into their
16 environments ... [and] that our switches provide a familiar management interface so their
17 existing tools and processes, screen scraping, automation, continue to work just as they
18 did before.”

19 9. As demonstrated by networking products from other vendors, Arista did not need to
20 extensively copy Cisco’s creative expression in order to sell a functioning product. By its own
21 admission, Arista copied Cisco in order to take a shortcut to compete with Cisco using Cisco’s own
22 technologies, while avoiding the investments in employees, money, and time that would have been
23 needed to develop products based on new technologies. In particular, Arista copied Cisco’s software,
24 including the detailed expression, hierarchy, and organization of at least five hundred unique multi-word
25 commands from Cisco’s CLI, examples of which are included in attached Exhibit 1. Arista also copied
26 extensively from Cisco IOS documentation, in many cases copying portions of text verbatim from Cisco
27 IOS documentation such as user guides and manuals, including down to typos. For example:
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Cisco IOS Command

service sequence-numbers

To enable visible sequence numbering of system logging messages, use the `service sequence-numbers` command in global configuration mode. To disable visible sequence numbering of logging messages, use the `no service sequence-numbers` command.

```

service sequence-numbers
no service sequence-numbers

```

Syntax Description This command has no arguments or keywords.

Defaults Disabled.

Command Modes Global configuration

Release	Modification
12.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines Each system status message logged in the system logging process has a sequence reference number applied. This command makes that number visible by displaying it with the message. The sequence number is displayed as the first part of the system status message. See the description of the logging commands for information on displaying logging messages.

Cisco IOS Configuration Fundamentals Command Reference (April 2010), at CF-522

Arista EOS Command

service sequence-numbers

The `service sequence-numbers` command enables visible sequence numbering of system logging messages. Each system status message logged in the system logging process has a sequence reference number applied. This command makes that number visible by displaying it with the message.

The `no service sequence-numbers` and `default service sequence-numbers` commands disable visible sequence numbering of system logging messages by removing the `service sequence-numbers` command from `running-config`.

Platform all
Command Mode Global Configuration

Command Syntax

```

service sequence-numbers
no service sequence-numbers
default service sequence-numbers

```

Examples

- This command enables visible sequence numbering.

```

switch(config)#service sequence-numbers
switch(config)#

```

Arista 4.13.6F Manual, p. 380

“Each system status messages logged in the system logging process have a sequence reference number applied. This command makes that number visible by displaying it with the message.”

15 Additional examples of Arista’s copying of Cisco’s IOS documentation are included in attached Exhibit 2.

17 10. Arista has caused significant and irreparable harm to Cisco by incorporating Cisco’s technologies into Arista’s products and by telling customers that a primary benefit of using those products is that they are just like Cisco’s.

19 11. Arista’s actions also significantly harm innovation. If Arista’s copying allows it to avoid what is needed to develop new technologies, other companies will be encouraged to simply copy others’ proprietary technologies rather than to hire engineers, invest in innovation, and develop new technologies. That result would significantly threaten the American economy and global innovation.

23 12. Cisco welcomes legitimate competition in the marketplace. Its executives have written and spoken in support of employee mobility, and Cisco believes strongly and has stated that allowing people to move freely between companies fosters innovation.² But Arista has unlawfully and

28 ² Cisco, Cisco Blog - The Platform, “Employee Mobility,” available at <http://blogs.cisco.com/tag/employee-mobility/>.

1 intentionally copied technologies developed by thousands of Cisco engineers in order to take shortcuts,
2 rather than to innovate. Such unlawful behavior stifles innovation and cannot be condoned.

3
4 **NATURE OF THE ACTION**

5 13. This is a civil action for copyright infringement under the Copyright Laws of the United
6 States, 17 U.S.C. §§ 101 *et seq.*, for patent infringement under the Patent Laws of the United States, 35
7 U.S.C. §§ 1 *et seq.*, and for such other relief as the Court deems just and proper.

8 **THE PARTIES**

9 14. Plaintiff Cisco Systems, Inc., is a company duly organized and existing under the laws of
10 California, having its principal place of business at 170 West Tasman Drive, San Jose, California 95134.

11 15. Defendant Arista is a corporation duly organized and existing under the laws of
12 Delaware, having its principal place of business at 5453 Great America Parkway, Santa Clara, California
13 95054.

14 **JURISDICTION**

15 16. This civil action asserts claims arising under the Copyright Laws of the United States, 17
16 U.S.C. §§ 101 *et seq.*, and the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.* This Court has
17 subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

18 17. This Court has personal jurisdiction over Arista. Arista has maintained its principal place
19 of business in the Northern District of California since 2004. Arista also has engaged in substantial and
20 not isolated business activities in the Northern District of California. Specifically, Arista, directly and/or
21 through third parties, has made, used, sold, and/or offered for sale within the Northern District of
22 California and/or imported into the Northern District of California infringing networking products and
23 other works.

24 **VENUE**

25 18. Venue properly lies in this District under 28 U.S.C. §§ 1391 and 1400(b) because
26 Arista's principal place of business is in this District, acts of copyright and patent infringement have
27 been committed in this District, and Arista is subject to personal jurisdiction in this District. In addition,
28 venue is proper because Cisco has suffered harm in this District.

1 **INTRADISTRICT ASSIGNMENT**

2 19. This Complaint includes an Intellectual Property Action, which is an excepted category
3 under Civil Local Rule 3-2(c). Consequently, this action is assigned on a District-wide basis.

4 **GENERAL ALLEGATIONS**

5 **CISCO IS THE WORLDWIDE LEADER IN NETWORKING INNOVATIONS**

6 20. Founded in 1984, Cisco is the worldwide leader in developing, implementing, and
7 providing the technologies behind networking products and services. Cisco develops and provides a
8 broad range of networking products and services that enable seamless communication among
9 individuals, businesses, public institutions, government agencies, and service providers. Specifically,
10 the thousands of engineers who work at Cisco develop and provide networking hardware, software, and
11 services that utilize cutting-edge technologies to transport data, voice, and video within buildings, across
12 cities and campuses, and around the world.

13 21. Since its founding, Cisco has pioneered many of the important technologies that created
14 and enabled global interconnectivity. During the past three decades, Cisco has invested billions of
15 dollars, and the time and dedication of thousands of its engineers, in the research and development of
16 networking products and services, culminating in the development of a highly-successful interface and
17 related technologies that have driven the proliferation of Cisco's computer networking technologies and
18 the Internet.

19 22. Included in Cisco's products is a highly innovative original operating system CLI that is
20 familiar to users of Cisco's products as well as additional features that are important to the successful
21 deployment of large and small networks based on the demands of today's networking environments.
22 Cisco remains at the forefront of developing cutting-edge networking technologies: in the last fiscal year
23 alone, Cisco invested more than \$5 billion in ongoing research and development and employed more
24 than ten thousand engineers in California and elsewhere.

25 23. Cisco's intellectual property rights, including its copyright and patent rights, protect its
26 valuable operating system, including the interface and other technologies developed by Cisco that are
27 incorporated therein. As a result of its innovations, Cisco has developed a portfolio of hundreds of
28 registered U.S. copyrights, including the copyrights asserted in this action, as well as a substantial patent

1 portfolio including the two patents asserted in this action.

2 **CISCO'S COPYRIGHTED OPERATING SYSTEM**

3 24. Cisco IOS includes many of Cisco's core technologies, encompassing both patented
4 technologies and also creative expression, including, among other things, proprietary source code,
5 command expressions, organization and command hierarchies, Cisco's CLI, and corresponding screen
6 displays. Cisco IOS, and specifically Cisco's CLI, is recognized by customers and the industry
7 generally as a very important, unique aspect of Cisco's products that contributes tremendously to the
8 success and widespread acceptance of Cisco's products.

9 25. Cisco owns copyrights in Cisco's IOS and related documentation, many of which are
10 duly recorded and registered with the United States Copyright Office, as reflected by the following
11 registrations and applications: Cisco IOS 11.0 (Reg. No. TXu-1-036-057); Cisco IOS 11.1 (Reg. No.
12 TXu-1-048-569) (supplementing TX-5-531-435); Cisco IOS 11.2 (Reg. No. TXu-1-036-063); Cisco IOS
13 11.3 (Reg. No. TXu-1-057-804) (supplementing TXu-1-036-062); Cisco IOS 12.0 (Reg. No. TXu-1-
14 057-805) (supplementing TXu-1-036-064); Cisco IOS 12.1 (Reg. No. TXu-1-057-807) (supplementing
15 TXu-1-036-066); Cisco IOS 12.2 (Reg. No. TXu-1-057-806) (supplementing TXu-1-036-065); Cisco
16 IOS 12.3 (Reg. No. TXu-1-188-975); Cisco IOS 12.4 (Reg. No. TXu-1-259-162); Cisco IOS 15.0 (Reg.
17 No. TX 7-938-524); Cisco IOS 15.1 (Reg. No. TX 7-938-525); Cisco IOS 15.2 (Reg. No. TX 7-937-
18 159); Cisco IOS 15.4 (Reg. No. TX 7-938-341); Cisco IOS XR version 3.0 (Reg. No. TXu-1-237-896);
19 Cisco IOS XR version 3.2 (Reg. No. TXu-1-270-592); Cisco IOS XR version 3.3 (Reg. No. TXu-1-336-
20 997); Cisco IOS XR version 3.4 (Reg. No. TXu-1-344-750); Cisco IOS XR version 3.5 (Reg. No. TXu-
21 1-592-305); Cisco IOS XR version 4.3 (Reg. No. TX 7-933-364); Cisco IOS XR version 5.2 (Reg. No.
22 TX 7-933-353); Cisco IOS XE version 2.1 (Reg. No. TX 7-937-240); Cisco IOS XE version 3.5 (Reg.
23 No. TX 7-937-234); Cisco NX-OS Release 4.0 (Reg. No. TX 7-940-713); Cisco NX-OS Release 5.0
24 (Reg. No. TX 7-940-718); Cisco NX-OS Release 5.2 (Reg. No. TX 7-940-727); and Cisco NX-OS
25 Release 6.2 (Reg. No. TX 7-940-722) (collectively, the "Cisco IOS Copyrighted Works").

26 26. The Cisco IOS Copyrighted Works are original, creative works and copyrightable subject
27 matter under the laws of the United States. Cisco has complied in all respects with the Copyright Laws
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1 of the United States, and the Register of Copyrights has issued Certificates of Registration for each of
2 the Cisco IOS Copyrighted Works. Attached hereto as Exhibits 3-28, and incorporated herein by
3 reference, are true and correct copies of the Certificates of Registration issued by the Copyright Office
4 for the Cisco IOS Copyrighted Works. The issued certificates that are attached reflect the date upon
5 which Cisco applied for a Certificate of Registration, the date on which the certificate was issued, and
6 the registration number assigned.

7 27. As described generally above, a key component of Cisco IOS is the “Command-Line
8 Interface” or CLI. The CLI is the user interface by which users of Cisco products communicate with the
9 product in order to configure and manage the product. Cisco’s CLI includes an elaborate taxonomy of
10 unique textual command expressions, authored by Cisco’s employees, which a user learns in order to
11 “talk” to the product. When a command is entered by a human operator or computer script, Cisco’s CLI
12 interprets the command and performs a particular operation associated with that command. Cisco’s CLI
13 also includes an original structure and hierarchy (and naming convention) of command modes and
14 associated prompts, which support various, defined sets of the command expressions.

15 28. The Cisco IOS Copyrighted Works (including their unique command expressions, and
16 unique command mode structure, prompts, and hierarchies) are original, expressive works that have
17 been developed over many years of creative endeavor by Cisco. Other competing developers of
18 networking products have created their own operating systems that differ from Cisco’s—including
19 different command expressions, different hierarchies, and different organizations of those commands—
20 which evidences the many creative choices available to a creator of such works. Indeed, when
21 developing an operating system that includes a command-line interface, the software developer has a
22 range of options in deciding on the structure, sequence, and organization of the interface, including what
23 particular textual command expressions (or names) to compose, the purposes assigned to the commands,
24 and the hierarchy, structure, and naming conventions of the command modes and prompts. The Cisco
25 IOS Copyrighted Works represent numerous creative choices made by Cisco and Cisco’s original
26 expression of one particular way to create such an operating system. Cisco has invested tens of
27 thousands of employee-hours in developing its unique operating system, which is protected from
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1 unlawful copying under the Copyright Laws of the United States.

2 29. Cisco also produces creative and expressive documentation, such as user manuals and
3 guides, to its customers to assist them with the use of Cisco IOS. These manuals and guides describe the
4 details of Cisco IOS, the CLI, and how to configure Cisco's products for use in network operation.
5 Cisco has invested thousands of employee-hours in the preparation of the manuals and guides, each of
6 which is protected from unlawful copying under the Copyright Laws of the United States.

7 30. Cisco IOS, including Cisco's CLI, has been continuously updated and improved by Cisco
8 over many years to incorporate additional creative expression developed by Cisco, including numerous
9 versions that were uniquely created for different settings and particular Cisco products. Thus, each of
10 the Cisco IOS Copyrighted Works is the product of thousands of hours of Cisco employees' time, and is
11 protected from unlawful copying under the Copyright Laws of the United States.

12 **CISCO'S PATENTED TECHNOLOGIES THAT ARE BASED IN CLI**

13 31. In addition to Cisco's copyrighted works, Cisco also developed and owns a number of
14 patented technologies implemented with Cisco's CLI. Two examples of Cisco's patented technologies
15 that are implemented with Cisco's CLI are described below.

16 **U.S. Patent No. 7,047,526**

17 32. U.S. Patent No. 7,047,526 ("the '526 patent") entitled "Generic Command Interface for
18 Multiple Executable Routines" issued on May 16, 2006, to Jeffrey Wheeler and Paul Mustoe. A true
19 and correct copy of the '526 patent is attached hereto as Exhibit 29.

20 33. Cisco Systems, Inc., is the owner by assignment of the '526 patent and has the full right
21 to enforce and/or license the '526 patent.

22 34. The '526 patent is valid and enforceable.

23 35. The technologies claimed in the '526 patent are implemented with Cisco's CLI and are
24 key features that contribute to the success of Cisco's CLI.

25 **U.S. Patent No. 7,953,886**

26 36. U.S. Patent No. 7,953,886 ("the '886 patent") entitled "Method and System of Receiving
27 and Translating CLI Command Data Within a Routing System" issued on May 31, 2011, to Anil Bansal,
28

1 Jung Tjong, Prakash Bettadapur, and Sastry Varanasi. A true and correct copy of the '886 patent is
2 attached hereto as Exhibit 30.

3 37. Cisco Systems, Inc., is the owner by assignment of the '886 patent and has the full right
4 to enforce and/or license the '886 patent.

5 38. The '886 patent is valid and enforceable.

6 39. The technologies claimed in the '886 patent are implemented with Cisco's CLI and are
7 key features that contribute to the success of Cisco's CLI.

8 **ARISTA BLATANTLY AND EXTENSIVELY COPIED CISCO'S CLI**

9 40. Decades after Cisco's founding, former Cisco employees who were intimately and
10 directly familiar with Cisco's unique operating system, CLI, and other pioneering networking
11 technologies, including those protected by the copyrights and patents asserted in this action, started
12 Arista. Since that time, numerous additional Cisco employees who are also intimately familiar with
13 Cisco IOS and other pioneering technologies have taken that knowledge with them to Arista. For
14 example, Arista founder and Chief Development Officer Andreas Bechtolsheim served as Vice
15 President and General Manager of Cisco's Gigabit Systems Business Unit; Arista founder, Chief
16 Technology Officer, and Senior Vice President Kenneth Duda worked at Cisco for several years as a
17 software engineer in Cisco's Gigabit Systems Business Unit; Arista's current President and Chief
18 Executive Officer, Jayshree Ullal, worked at Cisco for more than a decade, including as Senior Vice
19 President of Cisco's Data Center, Switching, and Services Group (which is responsible for some of
20 Cisco's flagship networking product lines); and Arista's former Vice President of Systems Engineering
21 and Technology Marketing, Doug Gourlay, was previously Vice President of Cisco's Marketing Group.
22 Cisco strongly believes, and has repeatedly stated, that mobility of employees between companies
23 fosters innovation.³ Unlawful copying like that engaged in by Arista stifles innovation, however, and
24 cannot be condoned.

25 41. Arista personnel, including Bechtolsheim, Ullal, and others, knew that Cisco's
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28 ³ Cisco, Cisco Blog - The Platform, "Employee Mobility," *available at*
<http://blogs.cisco.com/tag/employee-mobility/>.

1 proprietary IOS and pioneering networking technologies—including the proprietary expression and
2 technologies covered by the Cisco IOS Copyrighted Works, and by the ‘526 patent and the ‘886 patent
3 (collectively, the “Patents-in-Suit”)—drive customer demand for Cisco’s products. Rather than invest in
4 the expensive and time-consuming effort that would have been necessary to develop its own features for
5 Arista’s products, and specifically instead of investing the time and expense of developing its own CLI,
6 Arista decided to simply copy Cisco’s unique approach and pioneering proprietary technologies, and
7 even to explicitly tout its copying to the market in attempts to sell Arista products that compete directly
8 with Cisco products.

9 42. Arista’s voluminous, unauthorized, and illegal misappropriation of Cisco technology has
10 been crucial to Arista’s attempts to compete with Cisco. By extensively copying Cisco’s copyrighted
11 operating system and its patented CLI technologies, Arista took an unlawful shortcut, thereby avoiding
12 the need to make investments that would have been necessary had Arista not copied Cisco’s technology.
13 By doing so, Arista has been able to offer a directly competitive product to Cisco IOS, which Arista tells
14 customers substitutes for Cisco’s offering in the same product market.

15 43. Arista personnel—many of whom worked at Cisco at or after the time the technologies
16 were developed by Cisco—were well aware that the unique Cisco CLI that Arista appropriated is
17 protected by U.S. copyrights. By this action, Cisco seeks to stop Arista’s willful, unauthorized, and
18 improper use of Cisco’s copyrighted works, and to obtain damages for the significant harm caused to
19 Cisco by Arista’s copying.

20 44. Arista has blatantly copied and misappropriated numerous original and distinctive
21 elements of the Cisco IOS in order to compete with Cisco and create Arista’s products and related
22 materials, including Arista’s Extensible Operating System (“EOS”).

23 45. Arista’s President and Chief Executive Officer Jayshree Ullal has stated: “Since I helped
24 build the enterprise, I would never compete with Cisco directly in the enterprise in a conventional way.
25 It makes no sense. *It would take me 15 years and 15,000 engineers*, and that’s not a recipe for
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1 success.”⁴ In order to avoid the many years and engineers whom Ms. Ullal conceded it would have
 2 taken for Arista to compete lawfully with Cisco, Arista decided instead to simply copy significant
 3 portions of Cisco’s copyrighted operating system, including the expression, organization, and hierarchy
 4 of at least several hundred of Cisco’s multi-word commands.

5 46. Ms. Ullal has specifically and publicly acknowledged, and even touted as a selling point
 6 of Arista products, that Arista copied Cisco’s CLI. For example, Ms. Ullal stated that: “[A] Cisco CCIE
 7 expert would be able to use Arista right away, because we have a *similar command-line interface and*
 8 *operational look and feel*. Where *we don’t have to invent*, we don’t.”⁵

9 47. Arista’s co-founder and current Chief Technology Officer Kenneth Duda likewise stated
 10 that Arista has learned to “[p]rovide *familiar interfaces to ease adoption*” including a “standard *CLI*
 11 *that ... retains familiar management commands*” so much so that “80% [of Arista customers] tell us
 12 they appreciate the way they can *leverage their deep [Cisco] IOS experience*, as they can *easily*
 13 *upgrade* an aging [Cisco] Catalyst infrastructure to Arista.”⁶

14 48. Mr. Duda has further stated: “Familiar management interfaces, standard CLI ... It’s been
 15 very *helpful for our customers to be able to rapidly adopt our products* and integrate them into their
 16 environments ... that our *switches provide a familiar management interface* so their existing tools and
 17 processes, screen scraping, automation, *continue to work just as they did before*.”⁷ In fact, when asked
 18 “[i]f [customers] just want to take the [Arista] switch, just as they’re used to, take it out of the box, plug
 19

21
 22 ⁴ See, e.g., Adam Lashinsky, “An Ex-Cisco Exec Reflects,” Fortune (Mar. 20, 2014) (emphasis
 added), available at <http://fortune.com/2014/03/20/an-ex-cisco-exec-reflects/>.

23 ⁵ See, e.g., John Gallant, “How Arista Networks Got Out In Front of the SDN Craze,” Network World
 24 (Feb. 22, 2013) (emphasis added).

25 ⁶ See, e.g., Posting of Kenneth Duda to Arista EOS Central, “Linux as a Switch Operating System:
 26 Five Lessons Learned” (Nov. 5, 2013), available at <https://eos.arista.com/linux-as-a-switch-operating-system-five-lessons-learned/> (emphasis added).

27 ⁷ See, e.g., Arista, *EOS Bites & Bytes - Episode 1 - Lessons Learned While Building a Network OS on*
 28 *Top of Linux*, Arista EOS Central - Video Library (Jan. 30, 2014), at 6:55–7:56, available at
<http://eos.arista.com/wp-content/themes/aristaeos/video-lightbox.php?vid=ttp6lavHKGo> (emphasis
 added).

1 in your console, whatever, SSH in, it's no different," Mr. Duda answered in the affirmative ("Yeah").⁸

2 49. Arista has made similar statements in its product documentation for EOS. For example, a
3 white paper released by Arista stated "[t]he *familiar* EOS command-line interface (CLI) *avoids*
4 *retraining costs*."⁹

5 50. Consistent with its statements to the market, in order to create a directly competing
6 operating system and to make Arista's products more attractive to existing users of Cisco products,
7 Arista has substantially copied Cisco's CLI and infringed Cisco's copyrights in Cisco IOS (including the
8 CLI), including by copying at least several hundred of Cisco's multi-word command expressions,
9 Cisco's command mode structures and prompts, Cisco's command responses, and associated Cisco
10 documentation. The Cisco command expressions, command modes structures and prompts, command
11 responses, and associated user guide documentation copied by Arista were well known to Arista
12 personnel due to their past experiences as Cisco employees, and are accessible through Cisco's website
13 and online documentation, as well as through use of Cisco's products.

14 51. As described above, Arista EOS copied the expressions, organization, and hierarchies of
15 hundreds of multi-word command expressions from Cisco IOS. Arista copied at least 500 multi-word
16 commands—including the expression, organization, and hierarchies of those commands—from Cisco's
17 CLI, encompassing more than 40% of Arista's multi-word commands. The following chart includes a
18 few representative examples of the multi-word commands copied by Arista:

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26 ⁸ See, e.g., Arista, *EOS Bites & Bytes - Episode 1 - Lessons Learned While Building a Network OS on*
27 *Top of Linux*, Arista EOS Central - Video Library (Jan. 30, 2014), at 8:12–22, available at
<http://eos.arista.com/wp-content/themes/aristaeos/video-lightbox.php?vid=ttp6lavHKGo>.

28 ⁹ See, e.g., Arista, *EOS: An Extensible Operating System* (emphasis added).

Arista Copied At Least 500 Cisco Multi-Word Commands

aaa authentication login	ip igmp version	ip pim rp-address	show ip igmp interface	show ntp associations
aaa authorization config-commands	ip msdp cache-sa-state	ip pim rp-candidate	show ip igmp snooping	show ntp status
aaa authorization console	ip msdp default-peer	ip radius source-interface	show ip igmp snooping mrouter	show policy-map control-plane
aaa group server radius	ip msdp description	ip rip v2-broadcast	show ip interface	show snmp chassis
aaa group server tacacs+	ip msdp keepalive	ip tacacs source-interface	show ip interface brief	show snmp community
bgp client-to-client reflection	ip msdp mesh-group	link state group	show ip mfib	show snmp contact
bgp confederation peers	ip msdp originator-id	link state track	show ip mroute	show snmp group
clear ip bgp	ip msdp peer	show aaa method-lists	show ip msdp peer	show snmp host
clear ip igmp group	ip msdp sa-filter in	show environment cooling	show ip msdp rpf-peer	show snmp location
clear ip mroute	ip msdp sa-filter out	show environment temperature	show ip msdp sa-cache	show snmp mib
clear ip msdp sa-cache	ip msdp sa-limit	show interfaces capabilities	show ip msdp summary	show snmp user
clear ip nat translation	ip msdp shutdown	show interfaces description	show ip nat translations	show snmp view
ip as-path access-list	ip msdp timer	show interfaces private-vlan mapping	show ip ospf	show spanning-tree mst
ip dhcp smart-relay	ip multicast boundary	show interfaces status	show ip ospf border-routers	show vlan internal usage
ip dhcp snooping	ip nat pool	show interfaces switchport	show ip ospf interface	show vlan private-vlan
ip dhcp snooping information option	ip ospf authentication	show interfaces switchport backup	show ip ospf neighbor	snmp-server enable traps
ip dhcp snooping vlan	ip ospf authentication-key	show interfaces transceiver	show ip ospf request-list	spanning-tree bridge assurance
ip domain lookup	ip ospf bfd	show interfaces trunk	show ip ospf retransmission-list	spanning-tree loopguard default
ip http client source-interface	ip ospf cost	show ip access-lists	show ip pim interface	spanning-tree mst configuration
ip icmp redirect	ip ospf dead-interval	show ip arp	show ip pim neighbor	spanning-tree portfast bpduguard
ip igmp last-member-query-count	ip ospf hello-interval	show ip bgp	show ip pim rp	spanning-tree portfast
ip igmp last-member-query-interval	ip ospf name-lookup	show ip bgp community	show ip pim rp-hash	spanning-tree portfast
ip igmp query-interval	ip ospf network	show ip bgp neighbors	show ip prefix-list	spanning-tree portfast
ip igmp query-max-response-time	ip ospf priority	show ip bgp paths	show ip rip database	spanning-tree transmit hold-count
ip igmp snooping	ip ospf retransmit-interval	show ip bgp peer-group	show ip rip neighbors	switchport port-security
ip igmp snooping querier	ip ospf shutdown	show ip bgp regexp	show ip route	switchport port-security
ip igmp snooping robustness-variable	ip ospf transmit-delay	show ip bgp summary	show ip route summary	switchport port-security
ip igmp snooping vlan	ip pim bsr-border	show ip community-list	show ip route tag	switchport private-vlan mapping
ip igmp snooping vlan immediate-leave	ip pim bsr-candidate	show ip dhcp snooping	show ipv6 ospf	switchport vlan mapping
ip igmp snooping vlan mrouter	ip pim dr-priority	show ip extcommunity-list	show ipv6 ospf interface	vlan internal allocation policy
ip igmp snooping vlan static	ip pim log-neighbor-changes	show ip helper-address	show ipv6 route tag	vrrptimers advertise
ip igmp static-group	ip pim neighbor-filter	show ip igmp groups	show link state group	...
	ip pim query-interval		show monitor session	
	ip pim register-source			

52. The following list shows examples of Arista's infringement of Cisco's detailed multi-word command expressions and command hierarchies:

- "aaa" command hierarchy (at least 7 matches), including the following exemplary multi-word command(s):
 - "aaa group server radius"
 - "aaa group server tacacs+"
- "bgp" command hierarchy (at least 7 matches), including the following exemplary multi-word command(s):
 - "bgp client-to-client reflection"
- "clear" command hierarchy (at least 16 matches), including the following exemplary multi-word command(s):
 - "clear ip igmp group"
 - "clear ip nat translation"
- "dot1x" command hierarchy (at least 8 matches), including the following exemplary multi-word command(s):

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- “dot1x max-reauth-req”
 - “ip” command hierarchy (at least 94 matches), including the following exemplary multi-word command(s):
 - “ip as-path access-list”
 - “ip dhcp” sub-hierarchy (at least 5 matches), including the following exemplary multi-word command(s):
 - “ip dhcp snooping”
 - “ip igmp” sub-hierarchy (at least 15 matches), including the following exemplary multi-word command(s):
 - “ip igmp last-member-query-count”
 - “ip igmp static-group”
 - “ip msdp” sub-hierarchy (at least 13 matches), including the following exemplary multi-word command(s):
 - “ip msdp sa-filter in”
 - “ip ospf” sub-hierarchy (at least 13 matches), including the following exemplary multi-word command(s):
 - “ip ospf shutdown”
 - “ip ospf transmit-delay”
 - “ip pim” sub-hierarchy (at least 16 matches), including the following exemplary multi-word command(s):
 - “ip pim dr-priority”
 - “ip pim query-interval”
 - “ipv6” command hierarchy (at least 28 matches), including:
 - “ipv6 nd” sub-hierarchy (at least 9 matches), including the following exemplary multi-word command(s):
 - “ipv6 nd managed-config-flag”
 - “ipv6 nd ns-interval”

- 1 ○ “ipv6 ospf” sub-hierarchy (at least 8 matches), including the following exemplary
2 multi-word command(s):
3 ▪ “ipv6 ospf cost”
4
- 5 • “neighbor” command hierarchy (at least 22 matches), including the following exemplary
6 multi-word command(s):
7 ○ “neighbor ebgp-multihop”
8 ○ “neighbor route-reflector-client”
9
- 10 • “show” command hierarchy (at least 162 matches), including the following exemplary multi-
11 word command(s):
12 ○ “show aaa method-lists”
13 ○ “show interfaces” sub-hierarchy (at least 9 matches), including the following
14 exemplary multi-word command(s):
15 ▪ “show interfaces private-vlan mapping”
16 ○ “show ip” sub-hierarchy (at least 50 matches), including:
17 ▪ “show ip bgp” sub-hierarchy (at least 8 matches), including the following
18 exemplary multi-word command(s):
19 • “show ip bgp regexp”
20 ▪ “show ip mroute”
21 ○ “show ipv6” sub-hierarchy (at least 16 matches), including:
22 ▪ “show ipv6 ospf” sub-hierarchy (at least 4 matches), including the following
23 exemplary multi-word command(s):
24 • “show ipv6 ospf border-routers”
25 ▪ “show ipv6 route” sub-hierarchy (at least 3 matches)
26
- 27 • “snmp-server” command hierarchy (at least 12 matches), including the following exemplary
28 multi-word command(s):
 ○ “snmp-server location”
- “spanning-tree” command hierarchy (at least 14 matches), including the following exemplary

1 multi-word command(s):

2 ○ “spanning-tree bpduguard”

- 3 • “vrrp” command hierarchy (at least 10 matches), including the following exemplary multi-
4 word command(s):

5 ○ “vrrp timers advertise”

- 6 • Other command expressions and hierarchies, including, for example the following exemplary
7 multi-word command(s):

8 ○ “banner login”

9 ○ “bfd all-interfaces”

10 ○ “default-information originate (OSPFv3)”

11 ○ “errdisable detect cause link-flap”

12 ○ “interface vlan”

13 ○ “isis priority”

14 ○ “log-adjacency-changes (OSPFv3)”

15 ○ “mac access-group”

16 ○ “redundancy force-switchover”

17 ○ “snmp trap link-status”

18 ○ “spf-interval”

19 ○ “vlan internal allocation policy”

20 53. A more comprehensive list of Arista’s copying of Cisco IOS command expressions is
21 provided in Exhibit 1 to this Complaint.

22 54. Arista EOS also copied Cisco IOS’s command modes and prompts. The following
23 comparison shows examples of Arista’s infringement of Cisco’s command modes and prompts:
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Cisco IOS Command Modes ¹⁰			Arista EOS Command Modes ¹¹
Command Mode	Access Method	Prompt	
User EXEC	Log in.	Router>	<p>The switch includes these command modes:</p> <ul style="list-style-type: none"> EXEC: EXEC mode commands display system information, perform basic tests, connect to remote devices, and change terminal settings. When logging into EOS, you enter EXEC mode. EXEC mode prompt: <code>switch></code> Privileged EXEC: Privileged EXEC mode commands configure operating and global parameters. The list of Privileged EXEC commands is a superset of the EXEC command set. You can configure EOS to require password access to enter Privileged EXEC from EXEC mode. Privileged EXEC mode prompt: <code>switch#</code> Global Configuration: Global Configuration mode commands configure features that affect the entire system, such as system time or the switch name. Global Configuration mode prompt: <code>switch(config)#</code> Interface Configuration: Interface configuration mode commands configure or enable Ethernet, VLAN, and Port-Channel interface features. Interface Configuration mode prompt: <code>switch(config-if-Et24)#</code>
Privileged EXEC	From user EXEC mode, issue the enable command.	Router#	
Global configuration	From privileged EXEC mode, issue the configure terminal command.	Router(config)#	
Interface configuration	From global configuration mode, issue the interface command.	Router(config-if)#	

55. Arista also makes available to customers and prospective customers documentation such as user manuals and guides that explain the function of its networking products that use EOS. In creating Arista's documentation, Arista has copied extensively from Cisco IOS documentation. In many cases, Arista has copied portions of text verbatim from Cisco IOS documentation, even in some instances including grammatical errors, which is direct evidence of Arista's blatant and extensive copying of Cisco's copyrighted works. As a result, and consistent with Arista's copying of Cisco's CLI, significant portions of Arista's documentation are substantially similar to and in many instances precisely the same as Cisco IOS documentation. The following comparison shows an example of Arista's documentation that copies Cisco IOS documentation:

¹⁰ See, e.g., Cisco, Using the Command-Line Interface in Cisco IOS Software, at iii (contained in, e.g., Cisco IOS Interface and Hardware Component Command Reference (Oct. 2009)).

¹¹ See, e.g., Arista, Arista User Manual (EOS version 4.13.6F, 14 April 2014), at 113 § 3.4.1.

Cisco IOS Command	Arista EOS Command						
<p>service sequence-numbers</p> <p>To enable visible sequence numbering of system logging messages, use the <code>service sequence-numbers</code> command in global configuration mode. To disable visible sequence numbering of logging messages, use the <code>no</code> form of this command.</p> <pre> service sequence-numbers no service sequence-numbers </pre> <p>Syntax Description This command has no arguments or keywords.</p> <p>Defaults Disabled.</p> <p>Command Modes Global configuration</p> <p>Command History</p> <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>12.0</td> <td>This command was introduced.</td> </tr> <tr> <td>12.2(33)SRA</td> <td>This command was integrated into Cisco IOS Release 12.2(33)SRA.</td> </tr> </tbody> </table> <p>Usage Guidelines Each system status messages logged in the system logging process have a sequence reference number applied. This command makes that number visible by displaying it with the message. The sequence number is displayed as the first part of the system status message. See the description of the logging commands for information on displaying logging messages.</p>	Release	Modification	12.0	This command was introduced.	12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.	<p>service sequence-numbers</p> <p>The <code>service sequence-numbers</code> command enables visible sequence numbering of system logging messages. Each system status messages logged in the system logging process have a sequence reference number applied. This command makes that number visible by displaying it with the message.</p> <p>The <code>no service sequence-numbers</code> and default <code>service sequence-numbers</code> commands disable visible sequence numbering of system logging messages by removing the <code>service sequence-numbers</code> command from <code>running-config</code>.</p> <p>Platform all Command Mode Global Configuration</p> <p>Command Syntax</p> <pre> service sequence-numbers no service sequence-numbers default service sequence-numbers </pre> <p>Examples</p> <ul style="list-style-type: none"> This command enables visible sequence numbering. <pre> switch(config)#service sequence-numbers switch(config)# </pre>
Release	Modification						
12.0	This command was introduced.						
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.						
<p><i>Cisco IOS Configuration Fundamentals Command Reference (April 2010), at CF-522</i></p>	<p><i>Arista 4.13.6F Manual, p. 380</i></p>						
<p>“Each system status messages logged in the system logging process have a sequence reference number applied. This command makes that number visible by displaying it with the message.”</p>							

56. The following comparison shows examples of Arista’s copying of Cisco IOS documentation such as user manuals and guides:

Cisco IOS Guides	Arista EOS Guide
<p>ip nat source</p> <p>...</p> <p>pool name Name of the pool from which global IP addresses are allocated dynamically.</p> <p>overload (Optional) Enables the router to use one global address for many local addresses. When overloading is configured, the TCP or User Datagram Protocol (UDP) port number of each inside host distinguishes between the multiple conversations using the same local IP address.</p> <p><i>Cisco IOS IP Addressing Services Command Reference, Release 12.4 (2005), at IAD-156</i></p>	<p>ip nat source dynamic</p> <p>...</p> <p>Parameters</p> <ul style="list-style-type: none"> <code>acl_name</code> Access control list that controls the internal network addresses eligible for NAT. POOL_TYPE Options include: <ul style="list-style-type: none"> overload Enables the switch to use one global address for many local addresses. When overloading is configured, the TCP or User Datagram Protocol (UDP) port number of each inside host distinguishes between the multiple conversations using the same local IP address. pool pool_name The name of the pool from which global IP addresses are allocated dynamically. <p>The pool option is required even if the pool has just one address. NAT uses that one address of all of the translations.</p> <p><i>Arista User Manual (EOS Version 4.13.6F), at 1234</i></p>
<p>security passwords min-length</p> <p>...</p> <p>Usage Guidelines The <code>security passwords min-length</code> command provides enhanced security access to the router by allowing you to specify a minimum password length, eliminating common passwords that are prevalent on most networks, such as “lab” and “cisco.” This command affects user passwords, enable passwords and secrets, and line passwords. After this command is enabled, any password that is less than the specified length will fail.</p> <p><i>Cisco IOS Security Command Reference, Release 12.4 (2005), at SEC-943</i></p>	<p>password minimum length (Security Management)</p> <p>The <code>password minimum length</code> command provides enhanced security access to the switch by allowing you to specify a minimum password length, eliminating common passwords that are prevalent on most networks. This command affects user passwords, enable passwords and secrets, and line passwords. After this command is enabled, any password that is less than the specified length will fail.</p> <p>Applicable CC Requirements: The switch settings for secure passwords can be found under secure preparation. The password minimum length should be 15 characters and SHA-512 should be used as the hashing mechanism for all locally stored passwords.</p> <p><i>Arista User Manual (EOS Version 4.13.6F), at 152</i></p>

Cisco IOS Guides	Arista EOS Guide
<p>show ip igmp snooping mrouter</p> <p>To display information on dynamically learned and manually configured multicast router ports, use the show ip igmp snooping mrouter command in privileged EXEC mode.</p> <pre>show ip igmp snooping mrouter [vlan vlan-id]</pre> <p>Syntax Description <u>vlan vlan-id</u> (Optional) Specifies a VLAN. Valid values are 1 to 1001.</p> <p>Command Modes Privileged EXEC</p> <p><i>Cisco IOS IP Multicast Command Reference, Release 12.4 (2005), at IMC-242</i></p>	<p>show ip igmp snooping mrouter</p> <p>The show ip igmp snooping mrouter command displays information on dynamically learned and manually configured multicast router ports. Command provides options to include only specific VLANs.</p> <p>Platform all Command Mode EXEC</p> <p>Command Syntax <code>show ip igmp snooping mrouter [VLAN_ID] [DATA]</code></p> <p>Parameters</p> <ul style="list-style-type: none"> VLAN_ID specifies VLAN for which command displays information. Options include: <ul style="list-style-type: none"> <no parameter> all VLANs. vlan v_num specified VLAN. DATA specifies the type of information displayed. Options include: <ul style="list-style-type: none"> <no parameter> displays VLAN number and port-list for each group. detail displays port-specific data for each group; includes transmission times and expiration. <p><i>Arista User Manual (EOS Version 4.13.6F), at 1789</i></p>
<p>show ip ospf database</p> <p>...</p> <p><u>link-state-id</u> (Optional) Portion of the Internet environment that is being described by the advertisement. The value entered depends on the advertisement's LS type. It must be entered in the form of an IP address.</p> <p>When the link state advertisement is describing a network, the <i>link-state-id</i> can take one of two forms:</p> <p>The network's IP address (as in type 3 summary link advertisements and in autonomous system external link advertisements). A derived address obtained from the link state ID. (Note that masking a network links advertisement's link state ID with the network's subnet mask yields the network's IP address.) When the link state advertisement is describing a router, the link state ID is always the described router's OSPF router ID. When an autonomous system external advertisement (LS Type = 5) is describing a default route, its link state ID is set to Default Destination (0.0.0.0).</p> <p><i>Cisco IOS IP Routing Protocols: Command Reference, Release 12.4 (2005), at IP2R-612-13</i></p>	<p>show ip ospf database <link-state details></p> <p>...</p> <ul style="list-style-type: none"> <u>linkstate id</u> Network segment described by the LSA (dotted decimal notation). Value depends on the LSA type. <ul style="list-style-type: none"> When the LSA describes a network, the <i>linkstate-id</i> argument is one of the following: <ul style="list-style-type: none"> The network IP address, as in Type 3 summary link advertisements and in autonomous system external link advertisements. A derived address obtained from the link state ID. Masking a network links the advertisement link state ID with the network subnet mask yielding the network IP address. When the LSA describes a router, the link state ID is the OSPFv2 router ID of the router. When an autonomous system external advertisement (Type 5) describes a default route, its link state ID is set to the default destination (0.0.0.0). <p><i>Arista User Manual (EOS Version 4.13.6F), at 1404</i></p>

57. Additional examples of Arista’s copying of Cisco documentation are provided in Exhibit

2.

ARISTA WILLFULLY INFRINGED CISCO’S PATENTS BY RELEASING A NEW PRODUCT WITH NEW INFRINGING FUNCTIONALITY

58. On December 9, 2014—four days after Cisco filed its original complaint in this action, Arista engaged in new conduct demonstrating its willful disregard for Cisco’s intellectual property. Despite the notice of the Patents-in-Suit that it had received from Cisco’s original complaint, Arista and its executives decided to release, market and widely publicize a new infringing product incorporating new infringing elements, rather than taking corrective action to avoid infringement of Cisco’s intellectual property. In a press release entitled “Arista Introduces EOS+,” Arista announced “the addition” of a new product labeled “*The EOS+ Platform,*” which Arista described as “a software

1 platform for network programmability and automation.” See <http://www.arista.com/en/company/news/press-release/1031-pr-20141210> (emphasis added). As alleged herein, the EOS+ Platform is a new
 2
 3 product that expands the infringement beyond the infringing functionality also contained in preexisting
 4 EOS-based products, rendering Arista’s post-filing infringement of the ’526 patent and the ’886 patent
 5 deliberate and willful.¹² In particular, EOS+ provides a platform for Arista’s customers and technology
 6 partners to build and customize their own software applications for Arista’s operating system and
 7 networking equipment. This functionality is not present in the earlier EOS products, yet infringes the
 8 Patents-in-Suit in a new way by permitting use of the infringing technology in a manner that was not
 9 performed in the earlier products.

10 59. The EOS+ Platform is not merely a bug-fix, update or revision of the existing set of
 11 infringing products identified in the original complaint, but is a new product directed at new customers.
 12 According to Arista, EOS+ introduced new categories of functionality (*e.g.*, EOS SDK, EOS
 13 Applications described *infra*), which are identified in the following passage from Arista’s December 10,
 14 2014 press release.

15 **The EOS+ Platform**

- 16 • EOS SDK – a development framework that allows native access to all levels
 17 of EOS for custom development and integration with forwarding and routing
 18 stacks that leverage advanced features such as MPLS.
- 19 • vEOS - a virtual machine instance of EOS that includes the same control
 20 plane and management plane as the physical switches.
- 21 • [EOS Applications \(/en/products/eos/eos-applications\)](#) – Pre-built integration
 22 with technology partners and DevOps systems such as Puppet and Splunk
 23 for provisioning and monitoring.
- 24 • [EOS Consulting Services \(/en/products/eos/eos-consulting-services\)](#) –
 25 Professional services for development of customized solutions for network
 26 automation.

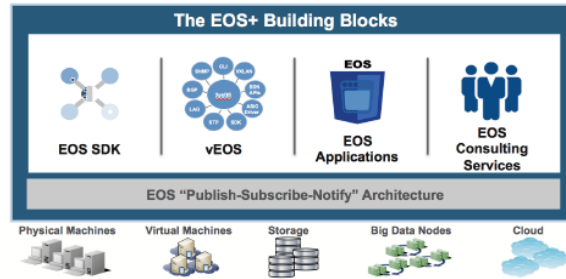
27 60. These newly added functions are the “building blocks of EOS+” that provide a separate

28 ¹² Cisco could have brought a separate patent infringement suit against the newly released EOS+ product alleging willful infringement based on Arista’s release of EOS+ after receiving notice of the Patents-in-Suit from the original complaint, but chose to include its willfulness allegations in this second amended complaint in order to promote judicial economy and to avoid unnecessary duplication of litigation proceedings.

1 and materially different basis for infringement of the Patents-in-Suit than infringement that originated in
 2 EOS. See Arista Solution Brief, EOS+ Solution Overview ([http://www.arista.com/assets/data/pdf/
 3 EOS+SolutionOverview-Brief.pdf](http://www.arista.com/assets/data/pdf/EOS+SolutionOverview-Brief.pdf)).

4 WHAT IS EOS+?

5 EOS+ is the platform for integration with the EOS software stack. There are four building blocks in the EOS+ suite,
 6 shown in the diagram below:



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Figure 1: The building blocks of EOS+

61. The launch of the EOS+ Platform was announced by Arista's Chief Technology Officer, Kenneth Duda, who had worked for Cisco prior to co-founding Arista. On information and belief, Mr. Duda and/or other Arista engineers who had worked previously for Cisco were exposed to highly confidential source code and product implementation details for a wide variety of Cisco's proprietary products and technologies, *e.g.*, Cisco's CLI parser, centralized database system ("sysDB"), management applications, and software development tools and interfaces. In his December 9, 2014 video announcement, despite having received notice of the Patents-in-Suit and Cisco's infringement allegations four days earlier, Mr. Duda publicly touted the infringing aspects of the new EOS+ Platform and its alleged benefits, including the "programmability" of various management applications in order to ensure that they are "customized to the customer's environment"—features that were not included in the earlier EOS products. See http://youtu.be/h_Bw_RslptY. The intentional disregard for Cisco's intellectual property demonstrated by Mr. Duda and other executives at Arista provide further evidence of Arista's willful conduct in infringing the Patents-in-Suit through the release of the EOS+ Platform after the original complaint was filed.

62. An example—but only one example—of the new infringing functionality in the EOS+ Platform is the *EOS SDK* ("Software Development Kit"). On December 9, 2014, Arista—through a

1 public web site posting by one of its software engineers, Ryan Madsen—published Version 1.5.0 of the
2 EOS SDK feature for the EOS+ product, which he described as the “*first public release of SDK.*” See
3 <https://github.com/aristanetworks/EosSdk/releases> (emphasis added); see also
4 <https://github.com/aristanetworks/EosSdk> and <https://github.com/aristanetworks/EosSdk/wiki>.
5 Generally speaking, an SDK is a set of tools and/or interfaces to help software developers build custom
6 applications that integrate with the underlying platform or operating system. SDKs have been
7 commonly utilized by Cisco and other technology companies, and Cisco is not claiming patent
8 protection on SDKs generally. Rather, the specific SDK employed by Arista in combination with other
9 components of the EOS+ Platform results in infringement of the Patents-in-Suit, which cover specific
10 systems and methods for enabling generic CLI commands for managing various management programs
11 for the operation of networking equipment and for transmitting and parsing CLI commands in an XML-
12 based format using CLI syntax.

13 63. With the release of the EOS+ Platform, Arista and its customers and technology partners
14 use the newly added SDK to create new custom management programs (“agents”) for the infringing
15 EOS+-based products, which utilize new infringing CLI commands and translators. Previously,
16 customers and technology partners of Arista were not able to access and use private application
17 programming interfaces, programming tools, documentation and source code from Arista in developing
18 and customizing their own applications for the Arista platform and operating system. In particular,
19 Arista’s SDK enables these agents to access Arista’s native programming interfaces and its sysDB
20 database in order to translate program-specific commands to generic commands in an infringing
21 manner. Additionally, the CLI commands for these agents can be transmitted across network
22 connections using the infringing Extensible Messaging and Presence Protocol (“XMPP”) and/or EOS
23 Command API (“eAPI”) interfaces that are integrated into EOS+. See Arista Solution Brief, EOS+
24 Solution Overview (<http://www.arista.com/assets/data/pdf/EOS+SolutionOverview-Brief.pdf>). Thus,
25 the newly added EOS SDK functionality in the EOS+ Platform provides a separate and new basis for
26 infringement of the Patents-in-Suit, compared to the infringement caused by the previous EOS-based
27 products, including the development of new infringing applications, the addition of new infringing CLI
28

1 commands, plug-ins and translators, and separate integration with an infringing CLI parser and
2 infringing XMPP and/or eAPI functionality.

3 64. Arista relies on the EOS+ Platform and its new infringing functionality in marketing and
4 selling to customers who had not previously purchased an earlier EOS product. According to Arista
5 itself and third-party industry publications, the EOS+ Platform enables Arista to offer new value
6 propositions (*e.g.*, “benefits of cloud scale to mainstream enterprises” through “network automation and
7 management that are customizable”), and to reach new market segments (*e.g.*, “opens the door for the
8 company to sell into the DevOps groups as well as NetOps”¹³), compared to its prior EOS products.
9 *See, e.g.*, http://youtu.be/h_Bw_RslptY; [http://www.networkworld.com/article/2859820/cisco-](http://www.networkworld.com/article/2859820/cisco-subnet/arista-makes-a-platform-play-with-eos.html)
10 [subnet/arista-makes-a-platform-play-with-eos.html](http://www.networkworld.com/article/2859820/cisco-subnet/arista-makes-a-platform-play-with-eos.html).

11 65. Another new, infringing functionality in the EOS+ Platform is the set of new *EOS*
12 *Applications* previously not integrated into prior EOS products. *See*
13 [http://www.arista.com/assets/data/pdf/ EOS+SolutionOverview-Brief.pdf](http://www.arista.com/assets/data/pdf/EOS+SolutionOverview-Brief.pdf);
14 <http://www.arista.com/en/solutions/eos-platform>. The EOS Applications are “pre-built” management
15 applications that allow Arista’s customers to interact with Arista’s networking equipment and related
16 software components in new and different ways, compared to their interaction with prior EOS-based
17 products. These integrated applications are described by Arista as “turnkey software solutions that
18 extend the baseline EOS feature set” and “offer integration with technology partners and DevOps tools,
19 addressing a wide range of operational needs such as provisioning and monitoring.” *See*
20 [http://www.arista.com/assets/data/pdf/ EOS+SolutionOverview-Brief.pdf](http://www.arista.com/assets/data/pdf/EOS+SolutionOverview-Brief.pdf). These integrated EOS
21 Applications result in a separate and new basis of infringement for the Patents-in-Suit, including new
22 infringing CLI commands, plug-ins and translators. On information and belief, these new EOS
23 Applications additionally support receiving CLI commands via the infringing XMPP and/or eAPI
24 functionality.
25

26 ¹³ “DevOps” stands for Development Operations, and “NetOps” stands for Network Operations. Typically, NetOps-
27 oriented companies rely on specialized networking hardware with dedicated software, while DevOps-oriented companies rely
28 on standard networking hardware combined with “cloud-based” software that can be stored in remote servers and deployed
over the Internet as needed. *See, e.g.*, [http://inform.tmforum.org/strategic-programs-2/agile-business-it/2014/10/netops-](http://inform.tmforum.org/strategic-programs-2/agile-business-it/2014/10/netops-devops-making-switch/)
[devops-making-switch/](http://inform.tmforum.org/strategic-programs-2/agile-business-it/2014/10/netops-devops-making-switch/).

COUNT I - COPYRIGHT INFRINGEMENT

1
2
3 66. Cisco incorporates and realleges Paragraphs 1 through 73 of this Complaint as if fully set
4 forth herein.

5 67. By Arista's actions alleged above, Arista has infringed and will continue to infringe the
6 Cisco IOS Copyrighted Works by, *inter alia*, reproducing, distributing, publicly performing, and/or
7 publicly displaying its products (including Arista EOS/EOS+) and associated documentation, which are
8 substantially similar to and derived from Cisco IOS Copyrighted Works, in violation of Cisco's
9 exclusive rights at least under 17 U.S.C. § 101 *et seq.* without any authorization or other permission
10 from Cisco.

11 68. Upon information and belief, Arista's infringement of Cisco's copyrights has been
12 deliberate, willful, and in utter disregard of Cisco's rights.

13 69. Arista has realized unjust profits, gains, and advantages as a proximate result of its
14 infringement.

15 70. Arista will continue to realize unjust profits, gains, and advantages as a proximate result
16 of its infringement as long as such infringement is permitted to continue.

17 71. As a direct and proximate result of Arista's willful copyright infringement, Cisco has
18 suffered, and will continue to suffer, monetary loss to its business, reputation, and goodwill. Cisco is
19 entitled to recover from Arista, in amounts to be determined at trial, the damages it has sustained and
20 will sustain, and any gains, profits, and advantages obtained by Arista as a result of Arista's acts of
21 infringement and use and publication of the copied materials.

22 72. Cisco is entitled to an injunction restraining Arista from engaging in any further such acts
23 in violation of the Copyright Laws of the United States. Unless Arista is enjoined and prohibited from
24 infringing Cisco's copyrights through its infringing products and documentation, Arista will continue to
25 intentionally infringe Cisco's registered copyrights.

26 73. Cisco is further entitled to recover from Arista damages, including attorneys' fees and
27 costs, it has sustained and will sustain, and any gains, profits, and advantages obtained by Arista as a
28 result of its acts of infringement as alleged above. At present, the amount of such damages, gains,

1 profits, and advantages cannot be fully ascertained by Cisco, but will be established according to proof
2 at trial. Cisco is also entitled to recover statutory damages for Arista's willful infringement of its
3 copyrights.

4 **COUNT II - INFRINGEMENT OF THE '526 PATENT**

5 74. Cisco incorporates and realleges Paragraphs 1 through 81 of this Complaint as if fully set
6 forth herein.

7 75. The USPTO duly and legally issued the '526 patent on May 16, 2006.

8 76. Arista has infringed, and continues to infringe, has contributed to and continues to
9 contribute to acts of infringement, and/or has actively and knowingly induced and continues to actively
10 and knowingly induce the infringement of one or more claims of the '526 patent, including at least claim
11 14, either literally or under the doctrine of equivalents, by making, using, selling, and/or offering for sale
12 within the United States and/or importing into the United States networking products, including but not
13 limited to the Arista 7010, 7048, 7050, 7050X, 7100, 7150, 7200, 7250X, 7280E, 7300, 7300X, 7500,
14 and 7500E series of switches, including, without limitation, those devices' implementations of
15 functionality underlying Arista's command-line interface.

16 77. Arista has actual knowledge of the '526 patent at least as of December 5, 2014, when
17 Cisco filed its original complaint in this matter. Since that time, Arista actively has been inducing and
18 contributing to the infringement of others, including purchasers who deploy the accused products in
19 their networks, to directly infringe at least claim 14 of the '526 patent. Specifically, since at least
20 December 5, 2014, Arista knowingly has induced infringement of the '526 patent with specific intent to
21 do so including by providing at least manuals, white papers, training, and/or other support to purchasers
22 to perform acts intended by Arista to cause direct infringement of at least claim 14 of the '526 patent.
23 Additionally, the accused products were especially designed, made, and/or adapted for use in an
24 infringing manner. The accused products, including without limitation Arista's command line interface
25 functionality, embody either the claimed inventions on their own or are material, non-staple components
26 of end-use products that embody the claimed inventions, which components have no substantial non-
27 infringing uses.

1 78. Arista's infringement has caused, and is continuing to cause, damage and irreparable
2 injury to Cisco, and Cisco will continue to suffer damage and irreparable injury unless and until that
3 infringement is enjoined by this Court.

4 79. Cisco is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271,
5 281, 283, and 284.

6 80. Since December 5, 2014, Arista has infringed the '526 patent as alleged above with
7 willful, intentional, and conscious disregard of the objectively high likelihood that its acts constitute
8 infringement of the '526 patent despite having prior knowledge of the patent based on notice from
9 Cisco's original complaint. Because Arista's infringement of the '526 patent since December 5, 2014 is
10 willful, Cisco is entitled to enhanced damages for that time period under 35 U.S.C. § 284.

11 **COUNT III - INFRINGEMENT OF THE '886 PATENT**

12 81. Cisco incorporates and realleges Paragraphs 1 through 88 of this Complaint as if fully set
13 forth herein.

14 82. The USPTO duly and legally issued the '886 patent on May 31, 2011.

15 83. Arista has infringed, and continues to infringe, has contributed to and continues to
16 contribute to acts of infringement, and/or has actively and knowingly induced and continues to actively
17 and knowingly induce the infringement of one or more claims of the '886 patent, including at least claim
18 6, either literally or under the doctrine of equivalents, by making, using, selling, and/or offering for sale
19 within the United States and/or importing into the United States networking products, including but not
20 limited to the Arista 7010, 7048, 7050, 7050X, 7100, 7150, 7200, 7250X, 7280E, 7300, 7300X, 7500,
21 and 7500E series of switches and/or CloudVision, including, without limitation, Arista's devices'
22 implementations of Arista's CloudVision and/or eAPI functionality.

23 84. Arista has actual knowledge of the '886 patent at least as of December 5, 2014, when
24 Cisco filed its original complaint in this matter. Since that time, Arista actively has been inducing and
25 contributing to the infringement of others, including purchasers who deploy the accused products in
26 their networks, to directly infringe at least claim 6 of the '886 patent. Specifically, in light of the above,
27 since at least December 5, 2014, Arista knowingly has induced infringement of the '886 patent with
28

1 specific intent to do so including by providing at least manuals, white papers, training, and/or other
2 support to purchasers to perform acts intended by Arista to cause direct infringement of at least claim 6
3 of the '886 patent. Additionally, the accused products were especially designed, made, and/or adapted
4 for use in an infringing manner. The accused products, including without limitation Arista's
5 CloudVision and/or eAPI functionality, embody either the claimed inventions on their own or are
6 material, non-staple components of end-use products that embody the claimed inventions, which
7 components have no substantial non-infringing uses.

8 85. Arista's infringement has caused, and is continuing to cause, damage and irreparable
9 injury to Cisco, and Cisco will continue to suffer damage and irreparable injury unless and until that
10 infringement is enjoined by this Court.

11 86. Cisco is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271,
12 281, 283, and 284.

13 87. Since December 5, 2014, Arista has infringed the '886 patent as alleged above with
14 willful, intentional, and conscious disregard of the objectively high likelihood that its acts constitute
15 infringement of the '886 patent, despite having prior knowledge of the patent based on notice from
16 Cisco's original complaint. Because Arista's infringement of the '886 patent since December 5, 2014 is
17 willful, Cisco is entitled to enhanced damages for that time period under 35 U.S.C. § 284.

18 **PRAYER FOR RELIEF**

19 WHEREFORE, Cisco prays for relief as follows:

- 20 1. For a declaration that Arista has infringed Cisco's copyrights in Cisco IOS
21 Copyrighted Works;
- 22 2. For a declaration that Arista has infringed the '526 and '886 patents (collectively,
23 "the Patents-in-Suit");
- 24 3. For a declaration of a substantial likelihood that Arista will continue to infringe
25 Cisco's intellectual property unless enjoined from doing so;
- 26 4. That, in accordance with 17 U.S.C. § 502, Arista and all affiliates, employees,
27 agents, officers, directors, attorneys, successors, and assigns, and all those acting on
28

1 behalf of or in active concert or participation with any of them, be preliminarily and
2 permanently enjoined from infringing Cisco's copyrights in Cisco IOS, including in
3 the Cisco IOS Copyrighted Works, including, but not limited to, continuing to
4 publicly display, sell, distribute, offer, market, advertise, promote, or accept
5 customers for Arista's networking products (including Arista EOS/EOS+) and
6 documentation (or any other product or work that is substantially similar to Cisco
7 IOS), and from participating or assisting in any such activity;

- 8 5. That, in accordance with 35 U.S.C. § 283, Arista, and all affiliates, employees,
9 agents, officers, directors, attorneys, successors, and assigns, and all those acting on
10 behalf of or in active concert or participation with any of them, be preliminarily and
11 permanently enjoined from infringing the Patents-in-Suit;
- 12 6. For a declaration that Arista must render a full and complete accounting to Cisco for
13 Arista's profits, gains, advantages, or the value of business opportunities received
14 from the foregoing acts of infringement;
- 15 7. For an award of damages for all damages suffered by Cisco and for any profits or
16 gain by Arista attributable to infringement of Cisco's copyrights in amounts to be
17 determined at trial;
- 18 8. For an award of statutory damages to Cisco based upon Arista's willful acts of
19 infringement pursuant to the Copyright Laws, 17 U.S.C. § 101 *et seq.*;
- 20 9. For an award of damages sufficient to compensate Cisco for Arista's direct
21 infringement of the Patents-in-Suit, including lost profits suffered by Cisco as a
22 result of Arista's infringement and in an amount not less than a reasonable royalty;
- 23 10. For an award of damages sufficient to compensate Cisco for Arista's indirect
24 infringement of the Patents-in-Suit, including lost profits suffered by Cisco as a
25 result of Arista's infringement and in an amount not less than a reasonable royalty,
26 in the time period after December 5, 2014 when Cisco filed its original complaint in
27 this case;
- 28

- 1 11. For an award of damages, including trebling of all damages, sufficient to remedy
- 2 Arista's willful infringement of the Patents-in-Suit in the time period after December
- 3 5, 2014, when Cisco filed its original complaint in this case, including lost profits
- 4 suffered by Cisco as a result of Arista's infringement and in an amount not less than
- 5 a reasonable royalty;
- 6 12. For an award to Cisco of its reasonable attorneys' fees, expenses, and costs incurred
- 7 in this action under 17 U.S.C. § 505;
- 8 13. For a declaration that this case is "exceptional" under 35 U.S.C. § 285, and an award
- 9 to Cisco of its reasonable attorneys' fees, expenses, and costs incurred in this action;
- 10 14. For an award of prejudgment and post-judgment interest; and
- 11 15. For such other and further relief as this Court shall deem appropriate.
- 12

13 **DEMAND FOR JURY TRIAL**

14 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Cisco demands a trial by jury on
15 all issues raised by the Complaint.

16
17 DATED: July 23, 2015

18 Respectfully submitted,

19 /s/ Sean S. Pak

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Appendix of Exhibits

NO.	DESCRIPTION
1	Examples of Copied Cisco Commands
2	Examples of Copied Cisco Documentation
3	U.S. Copyright Registration for Cisco IOS 11.0 (Reg. No. TXu 1-036-057)
4A	U.S. Copyright Registration for Cisco IOS 11.1 (Reg. No. TX 5-531-435)
4B	Supplemental U.S. Copyright Registration for Cisco IOS 11.1 (Reg. No. TXu 1-048-569)
5	U.S. Copyright Registration for Cisco IOS 11.2 (Reg. No. TXu 1-036-063)
6A	U.S. Copyright Registration for Cisco IOS 11.3 (Reg. No. TXu 1-036-062)
6B	Supplemental U.S. Copyright Registration for Cisco IOS 11.3 (Reg. No. TXu 1-057-804)
7A	U.S. Copyright Registration for Cisco IOS 12.0 (Reg. No. TXu 1-036-064)
7B	Supplemental U.S. Copyright Registration for Cisco IOS 12.0 (Reg. No. TXu 1-057-805)
8A	U.S. Copyright Registration for Cisco IOS 12.1 (Reg. No. TXu 1-036-066)
8B	Supplemental U.S. Copyright Registration for Cisco IOS 12.1 (Reg. No. TXu 1-057-807)
9A	U.S. Copyright Registration for Cisco IOS 12.2 (Reg. No. TXu 1-036-065)
9B	Supplemental U.S. Copyright Registration for Cisco IOS 12.2 (Reg. No. TXu 1-057-806)
10	U.S. Copyright Registration for Cisco IOS 12.3 (Reg. No. TXu 1-188-975)
11	U.S. Copyright Registration for Cisco IOS 12.4 (Reg. No. TXu 1-259-162)
12	U.S. Copyright Registration for Cisco IOS 15.0 (Reg. No. TX 7-938-524)
13	U.S. Copyright Registration for Cisco IOS 15.1 (Reg. No. TX 7-938-525)
14	U.S. Copyright Registration for Cisco IOS 15.2 (Reg. No. TX 7-937-159)
15	U.S. Copyright Registration for Cisco IOS 15.4 (Reg. No. TX 7-938-341)
16	U.S. Copyright Registration for Cisco IOS XR version 3.0 (Reg. No. TXu 1-237-896)
17	U.S. Copyright Registration for Cisco IOS XR version 3.2 (Reg. No. TXu 1-270-592)
18	U.S. Copyright Registration for Cisco IOS XR version 3.3 (Reg. No. TXu 1-336-997)
19	U.S. Copyright Registration for Cisco IOS XR version 3.4 (Reg. No. TXu 1-344-750)
20	U.S. Copyright Registration for Cisco IOS XR version 3.5 (Reg. No. TXu 1-592-305)

NO.	DESCRIPTION
21	U.S. Copyright Registration for Cisco IOS XR version 4.3 (Reg. No. TX 7-933-364)
22	U.S. Copyright Registration for Cisco IOS XR version 5.2 (Reg. No. TX 7-933-353)
23	U.S. Copyright Registration for Cisco IOS XE 2.1 (Reg. No. TX 7-937-240)
24	U.S. Copyright Registration for Cisco IOS XE 3.5 (Reg. No. TX 7-937-234)
25	U.S. Copyright Registration for Cisco NX-OS 4.0 (Reg. No. TX 7-940-713)
26	U.S. Copyright Registration for Cisco NX-OS 5.0 (Reg. No. TX 7-940-718)
27	U.S. Copyright Registration for Cisco NX-OS 5.2 (Reg. No. TX 7-940-727)
28	U.S. Copyright Registration for Cisco NX-OS 6.2 (Reg. No. TX 7-940-722)
29	U.S. Patent No. 7,047,526
30	U.S. Patent No. 7,953,886