# IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

SOVERAIN IP, LLC,

Plaintiff,

v.

VERIZON COMMUNICATIONS INC., VERIZON SERVICES CORP., AND VERIZON ONLINE LLC Civil Action No.\_\_\_\_\_

JURY TRIAL DEMANDED

Defendants.

# **COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Soverain IP, LLC ("Soverain" or "Plaintiff"), by and through its attorneys, brings this action and makes the following allegations of patent infringement relating to U.S. Patent Nos.: 7,191,447 ("the '447 patent"); 8,935,706 ("the '706 patent"); and 6,212,634 ("the '634 patent") (collectively, the "patents-in-suit" or the "Soverain Patents"). Defendants Verizon Communications Inc., Verizon Services Corp., and Verizon Online LLC (collectively "Verizon" or "Defendant") infringes each of the patents-in-suit in violation of the patent laws of the United States of America, 35 U.S.C. § 1 *et seq*.

# **INTRODUCTION**

1. This case arises from Verizon's infringement of Soverain's data extraction and network management patent portfolio. Soverain is the owner by assignment and exclusive licensee to twenty-four issued United States patents, multiple pending patent applications,<sup>1</sup> and numerous foreign patent assets.<sup>2</sup>

The patents asserted in this case arose from the innovative work of Open Market,
Inc. ("Open Market"), an innovative tech firm that in 1993 developed groundbreaking
technologies for the then-nascent Internet. Open Market was founded at a time when conducting

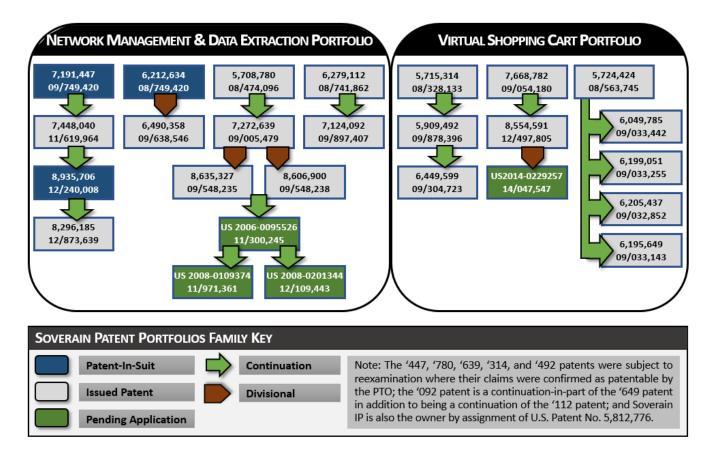
<sup>&</sup>lt;sup>1</sup> See U.S. Patent App. Nos. 11/300,245; 11/971,361; 12/109,443; 14/047,547.

<sup>&</sup>lt;sup>2</sup> See e.g., JP 4485548, JP 3762882B2, EP 0803105B1, DE 69633564T2.

commercial transactions over the Internet was in its beginning stages. Previous uses of the Internet had largely been limited to academic research and military defense work.

3. Professor David K. Gifford of the Massachusetts Institute of Technology, cofounder of Open Market, and inventor of fourteen of the Soverain patents, recognized the potential of enabling secure transactions over computer networks. Professor Gifford and other Open Market employees raced against other companies to bring one of the first secure transaction management systems to market. With the technology developed, Open Market filed for the patents that would comprise the two Soverain Patent Portfolios.

4. Open Market's groundbreaking inventions led to the issuance of patents that comprise two technology portfolios: (1) the virtual shopping cart portfolio and (2) the network management and data extraction portfolio. The below diagram shows Soverain's patents, pending patent applications, and the Soverain patents Verizon infringes.



# SOVERAIN'S LANDMARK DATA EXTRACTION AND NETWORK TECHNOLOGIES

5. Open Market's flagship Internet transaction product, the Open Market Transact system ("Transact") offered a full suite of software technologies, including content management, authorization protocols, and customer relationship management. Transact contained functionality for separating the management of transactions from the management of content, allowing companies to securely and centrally manage transactions using content located on multiple distributed Web servers.

6. In 1995, Open Market began commercial shipment of Transact.<sup>3</sup> Transact was quickly embraced by the market, and its early customers included: Novell,<sup>4</sup> Sprint,<sup>5</sup> Disney,<sup>6</sup> AT&T,<sup>7</sup> and Hewlett-Packard.<sup>8</sup> In March of 1996, the New York Times described Open Market's transaction management products as being adopted by Time Warner, Banc One, and First Union.

Open Market will be competing with Netscape's I-Store and Merchant Server of Microsoft. Besides Time Warner, Open Market has signed several big customers

<sup>5</sup> Sprint Chooses Open Market's Transact as Key Offering of its E-Commerce Services, PRESS RELEASE (September 27, 2000) ("Sprint will host Transact and offer its functionality as a service for these enterprise sites.").

<sup>6</sup> Eric Nee, *Surf's Up*, FORBES ONLINE (July 27, 1998), available at:

https://www.forbes.com/forbes/1998/0727/6202106a.html ("Today Open Market is a leading supplier of Internet commerce software. More than 1,000 Web sites use Open Market software to transact business. Its clients include Disney, which sells on the Internet everything you can buy in one of its shopping mall stores, and Analog Devices, which allows engineers to find and order examples of integrated circuits on its Web site.").

<sup>7</sup> Jeff Symoens, *Transact 3.0: Scalable Solution*, INFOWORLD at 68 (September 8, 1997) ("AT&T is using Transact as part of SecureBuy, a service that gives merchants the infrastructure to run an electronic store on the internet.").

<sup>8</sup> *HP And Open Market Offer Mission-Critical E-Commerce Services*, HP OPEN MARKET PRESS RELEASE (November 18, 1998) ("Open Market is the first member of HP's Domain Commerce alliance program to integrate HP's MC/ServiceGuard with its products.").

<sup>&</sup>lt;sup>3</sup> Ellis Booker, *Internet Security Boosted*, COMPUTERWORLD at 14 (April 17, 1995) ("Last month, Open Market became the first vendor to release a Web server that supports both SHT'I'P and SSL.").

<sup>&</sup>lt;sup>4</sup> Jessica Davis, *Novell, Open Market Ink Deal*, INFOWORLD at 6 (March 25, 1996) ("Novell has licensed OM-SecureLink commerce server software for the Internet, and plans to integrate OM-SecureLink with Novell's Web server by the third quarter.").

including Banc One, First Union Bank, Hewlett-Packard, Digital Equipment and Bloomberg, the financial publisher. Time Warner has been offering electronic versions of Time, People, Sports Illustrated, Money and other publications free on its Pathfinder Web site.<sup>9</sup>

7. By the late 1990s, Transact was an established market leader in e-commerce

technology, commanding dominant market share of the transactional software market against

companies like Microsoft and IBM.<sup>10</sup>

8. The following collection of news articles shows some of the headlines that Open

Market's Transact product garnered in the computer industry press from 1996 to 2000.



Sandy Reed, First-Ever Review of I-commerce System Right For New Section Debut, INFOWORLD at 73 (September 8, 1997); Matthew Nelson, Open Market adds Object Support to I-commerce Product, INFOWORLD at 58 (February 16, 1998.); Ellen Messmer, Open Market to

<sup>&</sup>lt;sup>9</sup> Glenn Rifkin, Open Market Hopes It'll be Next Netscape, N.Y. TIMES (March 4, 1996).

<sup>&</sup>lt;sup>10</sup> Eric Nee, *Surf's Up*, FORBES ONLINE (July 27, 1998); *3 Big New Customers for Open Market, Inc.*, N.Y. TIMES (April 24, 1995) ("Open Market Inc. will announce today that three major media companies will use its software and services to provide content and conduct business on the Internet. A privately held company based in Cambridge, Mass., Open Market said it had signed agreements to provide technology to the Tribune Company, Advance Publications and the Time Inc. unit of Time Warner.").

Liven Up Web-Based Publishing, NETWORK WORLD at 16 (November 9, 1998); Mitch Wagner, Open market Upgrade Will Support Big Business On 'Net, COMPUTERWORLD at 8 (December 9, 1996); Ellen Messmer, Open Market to Debut e-Comm Tools, NETWORK WORLD at 12 (March 27, 2000); Kim Nash, Open Market Aids Web Site Upkeep, COMPUTERWORLD at 12 (March 11, 1996).

9. The inventors of the Soverain Patents include Open Market's founders and engineers. The inventors of the Soverain Patents comprise:

10. <u>Professor David K. Gifford</u> is a professor of electrical engineering and computer science at the Massachusetts Institute of Technology ("MIT") and co-founder of Open Market. Mr. Gifford has been a member of the MIT faculty since 1982 and leads the Programming Systems Research Group at the MIT Laboratory for Computer Science. Professor Gifford is a named inventor on fourteen of Soverain's issued patents.<sup>11</sup>

11. Professor Gifford is the author of over one hundred journal articles and his research areas focus on programming language development; information discovery, retrieval, and distribution; and computation using biological substrates. Professor Gifford earned his S.B. in 1976 from MIT and his M.S. and Ph.D. in electrical engineering from Stanford.

12. Professor Gifford was elected as a fellow by the Association for Computing Machinery, for "contributions to distributed systems, e-commerce and content distribution."<sup>12</sup>

13. <u>Dr. Lawrence Stewart</u> was Open Market's Chief Technology Officer. Dr. Stewart is the co-inventor of nine of Soverain's patents.<sup>13</sup> Dr. Stewart previously held positions at Xerox Palo Alto Research Center ("PARC") and Digital Equipment Corporation. Recently, when writing about his role as a co-inventor of Soverain's patents, Dr. Stewart described the intellectual effort behind the inventions.

The relevant source code of the Open Marketplace system as of October 1994 was included with the patent application for anyone to read – over 50 printed pages of

<sup>&</sup>lt;sup>11</sup> See U.S. Patent Nos. 4,845,658; 5,812,776; 5,724,424; 6,279,112; 6,205,437; 6,195,649; 6,199,051; 6,049,785; 7,191,447; 7,124,092; 7,448,040; 8,935,706; 8,554,591; and 8,286,185.

<sup>&</sup>lt;sup>12</sup> *Gifford Named ACM Fellow*, MIT COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE LABORATORY NEWS (December 13, 2011), available at: https://www.csail.mit.edu/node/1651.

<sup>&</sup>lt;sup>13</sup> See U.S. Patent Nos. 7,272,639; 6,449,599; 8,635,327; 8,606,900; 8,554,591; 5,715,314; 5,708,780; 5,909,492; and 7,668,782.

code. In other words, *Open Market showed that these inventions weren't just a theory but an actual working system.* Open Market submitted the source code to the Patent Office on microfiche since there was no way to submit machine readable appendices back in 1994.<sup>14</sup>

Dr. Stewart received an S.B. in Electrical Engineering from MIT in 1976, followed by M.S. and Ph.D. degrees from Stanford University in 1977 and 1981, respectively. Dr. Stewart is also the author (with fellow Soverain patent inventor Winfield Treese) of the computer science textbook, *Designing Systems for Internet Commerce* (Addison-Wesley, 2002).

14. <u>Dr. John R. Ellis</u> was Open Market's Architect and Technical Lead. Dr. Ellis subsequently was the Senior Vice President of Engineering at AltaVista Internet and has held positions at Xerox PARC and Amazon.com. Dr. Ellis is a named inventor of four Soverain patents.<sup>15</sup> Dr. Ellis holds a Ph.D. from Yale University and BSE from Princeton University.

15. <u>Dr. Daniel Earl Geer, Jr</u>. served as Director of, Engineering at Open Market and named inventor of two Soverain Patents.<sup>16</sup> Dr. Geer was the former President of USENIX, the advanced computing systems association and served as Chief Scientist at Verdasys, Inc. and Digital Guardian, Inc. Dr. Geer holds degrees from Harvard University and MIT.

16. <u>Winfield Treese</u> was previously the Associate Director of the Hariri Institute for Computing at Boston University. Mr. Treese served as Open Market's Vice President of Technology where he was responsible for the security architecture of Open Market's products. Mr. Treese is a named inventor of eight Soverain patents.<sup>17</sup> Mr. Treese was the chair of the Transport Layer Security (TLS) Working Group of the Internet Engineering Task Force (IETF), the Internet standard successor to SSL. Mr. Treese also chaired the 8th USENIX Security

<sup>&</sup>lt;sup>14</sup> Lawrence Steward, *The CAFC Got It Wrong In Soverain v. Newegg*, IPWATCHDOG.COM WEBSITE (December 30, 2013), available at: http://www.ipwatchdog.com/2013/12/30/the-cafc-got-it-wrong/id=47141/ (emphasis added).

<sup>&</sup>lt;sup>15</sup> See U.S. Patent Nos. 7,448,040; 8,935,706; 8,286,185; and 7,191,447.

<sup>&</sup>lt;sup>16</sup> See U.S. Patent Nos. 6,490,358 and 6,212,634.

<sup>&</sup>lt;sup>17</sup> See U.S. Patent Nos. 7,448,040; 8,935,706; 8,286,185; 5,708,780; 7,272,639; 8,635,327; 8,606,900; and 7,191,447.

Symposium. Mr. Treese is the co-author of the book *Designing Systems for Internet Commerce* (Addison-Wesley, 2002).

#### SOVERAIN'S TRANSACT SYSTEM

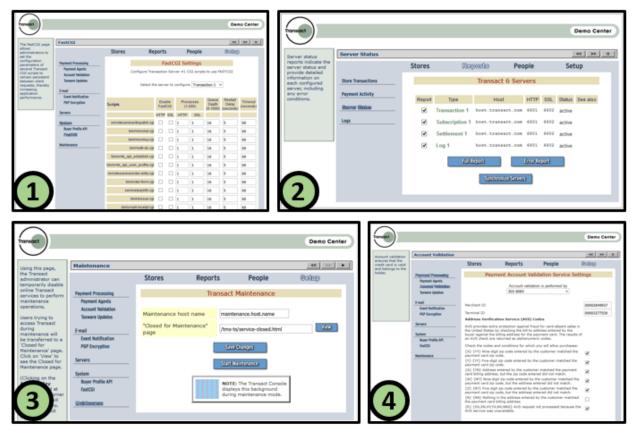
17. From 1996 through 2000, Open Market's product, Transact, was a leader in the ecommerce field, holding the majority of the global market for transaction management systems.<sup>18</sup> When the first Soverain patents issued in 1998, Open Market was hailed for its "secure, robust, distributed architecture." Jeff Symoens, *Transact 3.0: Scalable Solution*, INFOWORLD at 63 (September 8, 1998). Gary Eichorn, chief executive officer of Open Market, stated that Open Market was selling its "transaction engine to telecommunications companies, banks and Internet service providers. They're then offering commerce services to smaller companies." HOTSEAT: GARY EICHORN, CEO OF OPEN MARKET, DESCRIBES HOW TRANSACTIONS WILL HIT THE WEB, InfoWorld at 47 (March 17, 1997).

18. Transact provided an end-to-end solution for secure transaction management over the Internet. Transact included the following components: (1) a transaction server for managing orders, (2) a subscription server for security and authentication by managing access to digital content, (3) a log server for secure management of log entries, and (4) a settlement server for managing the authorization of transactions. A review of Transact in InfoWorld magazine stated "if you're comfortable with Transact's \$125,000 opening price tag, it offers an exceptional architecture and a strong feature set that will handle back-end transaction processing." Jeff Symoens, *Transact 3.0: Scalable Solution*, INFOWORLD at 63 (September 8, 1998).

19. The following images of Soverain's Transact product show: (1) FastCGI configuration screen for keeping application processes running between requests (unlike CGI the system did not require extra overhead by requiring the system start a new process and initializing an application each time a request is made on the system); (2) a server status screen for

<sup>&</sup>lt;sup>18</sup> *Investors Bid Up Internet Stock*, N.Y. TIMES (May 24, 1996) (In May 1996, Open Market made an initial public offering valuing the company at \$1.2 billion.).

monitoring the status of multiple hosts running Transact; (3) a maintenance screen for managing system maintenance; and (4) an account validation service setting screen for managing transaction security and authentication.



A COLLECTION OF IMAGES OF THE OPEN MARKET TRANSACTION SYSTEM (the numbered annotations correspond to the (1) FastCGI settings, (2) server status screen, (3) Transact maintenance settings, and (4) account validation settings).

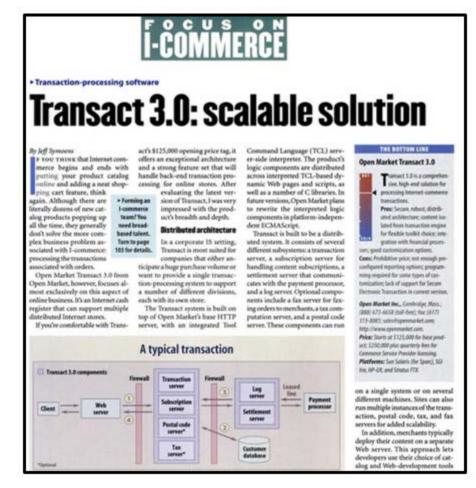
20. As the 2000s approached, larger technology companies entered the transaction management field; the dot-com bubble then burst.<sup>19</sup> As a result, Open Market went through a restructuring and was purchased by Divine interVentures, Inc. ("Divine") for approximately \$70 million in 2001.<sup>20</sup> As a result of the purchase, Divine acquired Open Market's patent portfolio and its Transact software product.

<sup>&</sup>lt;sup>19</sup> See Editorial, *The Dot-Com Bubble Bursts*, N.Y. TIMES, Dec. 24, 2000, at WK8 (describing the aftermath of the dot-com bubble bursting).

<sup>&</sup>lt;sup>20</sup> *Divine to Buy Open Market*, NETWORK WORLD at 8 (August 20, 2001) ("Professional services and software company Divine last week agree to buy struggling Open Market in a stock deal work about \$59 million.").

21. Divine was a venture capital investment company founded in May 1999. Divine focused on "professional services, Web-based technology, and managed services." *Id.* At its peak, Divine employed approximately 3,000 people in more than 20 locations worldwide and offered approximately 50 software products.

22. In 2003, Transact was acquired by Soverain Software. Soverain Software also acquired the patents from the original Open Market inventors and innovators.



Jeff Symoens, *Transact 3.0: Scalable Solution*, INFOWORLD at 63 (September 8, 1998) ("Transact 3.0 is a comprehensive, high-end solution for processing Internet-commerce transactions. Pros: Secure, robust, distributed architecture.").

# SOVERAIN'S PATENT PORTFOLIO

23. Soverain's patents and published patent applications have been cited in over 6,000

issued United States patents and published patent applications as prior art before the United

States Patent and Trademark Office.<sup>21</sup> Companies whose patents and patent applications cite the Soverain patents include: Microsoft Corporation, Oracle Corporation, Facebook, Inc., AT&T, Inc., International Business Machines Corporation, Dell, Inc., etc.

24. It is difficult today to recall a time before Soverain's patented technology had become part of the platform used to operate many websites. But prior to the mid to late 1990's, when the applications leading to the patents in suit were filed, nothing like the patented functionality had been devised, let alone implemented. The simplicity and intuitive features of the patented technology soon became apparent. Almost overnight, companies abandoned older technologies that often required customers to dial in directly to specific sites, shop for products using function codes or other keypad commands, and fax or phone in orders rather than complete transactions online.

<sup>&</sup>lt;sup>21</sup> The over 6,000 forward citations to the Soverain Patents do not include patent applications that were abandoned prior to publication in the face of the Soverain Patents.



The above images show major Internet properties contemporaneous (and later) to the inventions conceived in the Soverain patents, including: (1) Microsoft.com (August 1995), (2) Amazon.com (July 1995), and (3) Apple.com (July 1997).

25. The Soverain network management and data extraction patent portfolio includes technology that allows companies to streamline and secure the single sign-on process, extract data from hosts over a network, and authenticate and encrypt data using asymmetric keys.

26. Soverain has maintained and developed the Open Market patent portfolio, which now consists of over 50 issued and pending U.S. and international patents covering key aspects of e-commerce technology.



Nick Wingfield, *Three Patents Lift Open Market as Observers Guess Their Worth*, WALL ST. J., Mar. 4, 1998 (reporting that one analyst stated: "The most important thing is that it will allow them to be acknowledged as a leader and be sought after for strategic relationships"); Matthew Nelson and Dylan Tweney, *Open Market Wins Three I-Commerce Patents*, INFOWORLD at 10 (March 9, 1998).

27. Confirming the value of Soverain patents, licensees have paid millions of dollars

for a license to practice the technology taught in the Soverain patents. For example,

Amazon.com, Inc. paid 40,000,000 dollars to license the Soverain patents.<sup>22</sup>

# THE PARTIES

# SOVERAIN IP, LLC

28. McKinney, Texas based Soverain owns the intellectual property rights to

information management solutions that allow companies and individuals to manage Internet

content, encrypt network based information, and manage access to network based information.

<sup>&</sup>lt;sup>22</sup> Thom Weidlich, *Amazon.Com Set to Pay On Patents*, THE SEATTLE TIMES (August 12, 2005) ("Amazon.com, the world's largest Internet retailer, agreed to pay \$40 million to Soverain Software to settle two lawsuits over patents related to online shopping.").

29. Soverain's principal place of business is located at 6851 Virginia Parkway, Suite 214, McKinney, Texas 75071. Like Defendant Verizon, Soverain relies on its intellectual property for its financial viability.

Patents: YEAH WE ARE THAT SMART The Verizon Digital Media Services patent portfolio includes our own patents as well as those included in a licensing agreement with Web.com.

*Patents – Verizon Digital Media Services*, VERIZON DIGITAL MEDIA WEBSITE, *available at:* https://www.verizondigitalmedia.com/patents/ (last visited April 2017).

30. The executives of Verizon have placed great emphasis on obtaining patents for their own systems relating to the accused products. A Verizon Senior Vice President and Deputy General Counsel, John Thorne, explained the importance of patents to both businesses and the entire economy: "Patents encourage and protect innovations that benefit consumers, create jobs, and keep the economy growing." Marguerite Reardon, *Vonage to Pay \$58 Million in Verizon Patent Case*, CNET.COM, March 9, 2007.

31. Verizon's sale and distribution of products and services that infringe the patentsin-suit has caused and continues to cause injury to Soverain.

# VERIZON DEFENDANTS

32. On information and belief, Defendant Verizon Communications, Inc. is a Delaware corporation with its principal office at 140 West Street, New York, NY 10013. Verizon Communications, Inc. can be served through its registered agent, The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801. On information and belief, Defendant Verizon Communications, Inc. "has over 500 affiliated entities ....."<sup>23</sup>

33. On information and belief, Defendant Verizon Services Corp. is a Delaware corporation with its principal office at 1717 Arch Street, 21<sup>st</sup> Floor, Philadelphia, PA 19103.

<sup>&</sup>lt;sup>23</sup> Verizon Servs. Corp. v. AIP Acquisition, LLC, IPR2015-01104, Paper 1 at 9 (PTAB April 23, 2015).

Verizon Services Corp. can be served through its registered agent, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201.

34. On information and belief, Defendant Verizon Online LLC is a Delaware limited liability company with its principal office at 22001 Loudoun County Parkway #C 1-3-507, Ashburn, VA 20147. Verizon Online LLC can be served through its registered agent, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201.

35. On information and belief, Verizon maintains retail stores and offices throughout the State of Texas and the Eastern District of Texas. On information and belief, Verizon maintains a 400,000-square foot campus in Richardson, Texas, which includes employees and business units possessing information relevant to Verizon's product development, engineering, and marketing of Verizon network security products and services.<sup>24</sup>

36. According to Verizon's website, Verizon offers infringing products for sale throughout the United States and Canada, including in the Eastern District of Texas. Further, Verizon advertises its infringing products throughout the Eastern District of Texas and claims financial benefits through its conducting of business in Texas.

# JURISDICTION AND VENUE

37. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has exclusive subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a).

38. Upon information and belief, this Court has personal jurisdiction over Verizon in this action because Verizon has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of

<sup>24</sup> See, e.g., Steve Brown, Verizon Campus in Richardson Changes Hands, DALLAS NEWS (July 26, 2015), available at: http://www.dallasnews.com/business/commercial-real-estate/headlines/20150726-verizon-campus-in-richardson-changes-hands.ece; Verizon Job

Listings for Richardson, Texas Facility, VERIZON WEBSITE.COM (last visited October 2015), available at:

 $http://www.verizon.com/about/work/jobs/search?location=Richardson\%2C\%20TX\%2C\%20United\%20States\&v_location=Richardson\%2C\%20TX\%2C\%20United\%20States.$ 

jurisdiction over Verizon would not offend traditional notions of fair play and substantial justice. Defendant Verizon, directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), has committed and continues to commit acts of infringement in this District by, among other things, offering to sell and selling products and/or services that infringe the patents-in-suit. Moreover, Verizon is registered to do business in the State of Texas, has offices and facilities in the State of Texas, and actively directs its activities to customers located in the State of Texas.

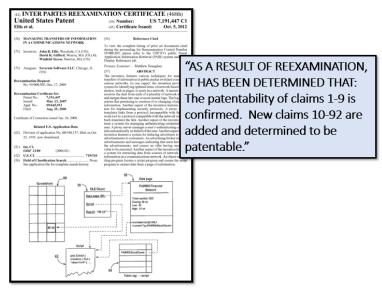
39. Venue is proper in this district under 28 U.S.C. §§ 1391(b)-(d) and 1400(b). Defendant Verizon is registered to do business in the State of Texas, has offices in the State of Texas, and upon information and belief, has transacted business in the Eastern District of Texas and has committed acts of direct and indirect infringement in the Eastern District of Texas.

#### **TECHNOLOGY BACKGROUND**

#### U.S. PATENT NO. 7,191,447

40. U.S. Patent No. 7,191,447 ("the '447 patent") entitled, *Managing Transfer of Information in a Communications Network*, was filed on August 25, 2000, and claims priority to October 25, 1995. The '447 patent is subject to a 35 U.S.C. § 154(b) term extension of 615 days. Soverain is the owner by assignment of the '447 patent. A true and correct copy of the '447 patent is attached hereto as Exhibit A. The '447 patent claims specific methods and systems for managing transfers of information in communications networks such as the World Wide Web.

41. All the claims in the '447 patent were subject to *inter partes* reexamination before the United States Patent Office. The reexamination certificate confirming all claims was issued on October 5, 2012. In addition to confirming the patentability of all claims of the '447 patent, 83 additional claims were added and determined to be patentable over multiple references that were not cited during the prosecution of the '447 patent. 42. During the reexamination proceeding, the United States Patent and Trademark Office Board of Patent Appeals and Interferences confirmed the patentability of the claims over four references.<sup>25</sup>



Reexam Ctrl. No. 95/000,505, '447 PATENT, CERT. ISSUED, OCTOBER 5, 2012.

43. The '447 patent teaches various techniques for managing transfers of information in public packet switched communications networks. For example, the '447 patent teaches a system where a server receives data from one or more networked servers and merges the data into one or more master logs. The '447 patent also teaches a system for implementing security protocols wherein a proxy server translates links between an incompatible network protocol to a compatible network protocol and then back-translates the link. The '447 patent also discloses a system for extracting data from sources of network-based information in a communication network using an object embedding program that locates a script program and causes the script program to extract data and make it available over a computer network.

44. The '447 patent and its underlying application, foreign counterparts, and its related patents have been cited by 135 United States patents and patent applications as relevant

<sup>&</sup>lt;sup>25</sup> Decision of the United States Patent and Trademark Office Board of Appeals and Interferences, INTER PARTES REEXAMINATION CONTROL NO. 95/000,505 (January 26, 2012).

prior art. Specifically, patents issued to the following companies have cited the '447 patent

family as relevant prior art:

- International Business Machines Corporation
- Telefonaktiebolaget L M Ericsson
- Alcatel-Lucent USA, Inc.
- Juniper Networks, Inc.
- Yellowpages.Com LLC
- General Electric Company
- Microsoft Corporation
- Kaspersky Lab Zao
- Lucent Technologies, Inc.
- AOL, Inc.
- Facebook, Inc.
- Siemens Aktiengesellschaft
- Fujitsu Limited
- Vodafone Group plc
- Charles Schwab & Co., Inc.
- Salesforce.com, Inc.
- Samsung Electronics Co., Ltd.
- Amazon.com, Inc.

# U.S. PATENT NO. 8,935,706

45. U.S. Patent No. 8,935,706 ("the '706 patent") entitled, *Managing Transfers of Information in a Communications Network*, was filed on September 29, 2008, and issued on January 13, 2015. The '706 patent is subject to a 35 U.S.C. § 154(b) term extension of 524 days. Soverain is the owner by assignment of the '706 patent. A true and correct copy of the '706 patent is attached hereto as Exhibit B. The '706 patent claims specific methods and systems for implementing security protocols over a network. The patent teaches the use of server to translate links from a protocol incompatible with an Internet browser to a protocol that is compatible with the same browser. The patent also teaches systems and methods for managing the authentication credentials of a user over a computer network.

46. The '706 patent teaches a system for managing authentication credentials on a public packet switched communications network that includes network servers that receive requests for data that is then transmitted to the requesting party. In one example, a proxy server,

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

maintains a table of authenticating credentials for each network server. The proxy server receives a request for authentication from a network server, retrieves authentication credentials from the table, and transmits the authenticating credentials to the network server. The network server upon receiving the credentials forwards the requested data to the requesting computer.

47. The '706 patent teaches the managing of user authentication credentials using a proxy server. The '706 patent is directed at solving a problem unique to computer networks – centrally managing numerous authentication credentials for computer users. Using the same authenticating credentials for a large number of services increases the risk that a breach in security in connection with one service will affect other services. Moreover, a user may be able to use a particular set of authenticating credentials in connection with one service but not another service, for example if one of the credentials is already being used by another user of the other service. The invention is directed at solving issues relating to having users type in a user ID and password each time a user visits a network service.

48. The '706 patent and its underlying application, foreign counterparts, and related domestic patents and patent applications have been cited by 135 United States patents and patent applications as relevant prior art. Specifically, patents issued to the following companies have cited the '706 patent family as relevant prior art:

- International Business Machines Corporation
- Telefonaktiebolaget L M Ericsson
- Alcatel-Lucent USA, Inc.
- Juniper Networks, Inc.
- Yellowpages.Com LLC
- General Electric Company
- Microsoft Corporation
- Kaspersky Lab Zao
- Lucent Technologies, Inc.
- AOL, Inc.
- Facebook, Inc.
- Siemens Aktiengesellschaft
- Fujitsu Limited
- Vodafone Group plc
- Charles Schwab & Co., Inc.

- Salesforce.com, Inc.
- Samsung Electronics Co., Ltd.
- Amazon.com, Inc.

# U.S. PATENT NO. 6,212,634

49. U.S. Patent No. 6,212,634 ("the '634 patent") entitled, *Certifying Authorization in Computer Networks*, was filed on November 11, 1996, and issued on April 3, 2001. Soverain is the owner by assignment of the '634 patent. A true and correct copy of the '634 patent is attached hereto as Exhibit C. The '634 patent claims specific systems for certifying authorization of a computer over a network. The patent teaches specific systems wherein the authorizing computer creates a public key pair comprising a new public key and a new private key, and creates an authorization certificate that certifies that a holder of the authorization certificate.

50. The '634 patent and its related domestic patent<sup>26</sup> have been cited by 254 United States patents and patent applications as relevant prior art. Specifically, patents issued to the following companies have cited the '634 patent as relevant prior art:

- NBC Universal, Inc.
- Adobe Systems, Inc.
- Nokia Corporation
- EMC Corporation
- Microsoft Corporation
- Fujitsu Limited
- International Business Machines Corporation
- Siemens AG
- Intel Corporation
- NCR Corporation
- Samsung Electronics Co., Ltd.
- France Telecom
- Oracle Corporation
- NEC Corporation
- Telefonaktiebolaget L.M. Ericsson
- Hewlett-Packard Company
- AT&T, Inc.
- Lucent Technologies, Inc.

<sup>&</sup>lt;sup>26</sup> See U.S. Patent No. 6,490,358.

- Intertrust Technologies Corporation
- General Electric Company
- Novell, Inc.
- General Electric Company
- Hitachi, Ltd.
- eBay, Inc.

# <u>Count I</u> <u>Infringement of U.S. Patent No. 7,191,447</u>

51. Soverain references and incorporates by reference the preceding paragraphs of this Complaint as if fully set forth herein.

52. Verizon designs, makes, uses, sells, and/or offers for sale in the United States products and/or services for extracting data from sources of network-based information.

53. Verizon designs, makes, sells, offers to sell, imports, and/or uses the Verizon.com Websites (including: tv.verizon.com, www.verizon.com, and www.verizonwireless.com) (collectively, the "Verizon '447 Product(s)").

54. On information and belief, one or more Verizon subsidiaries and/or affiliates use the Verizon '447 Products in regular business operations.

55. On information and belief, one or more of the Verizon '447 Products include technology for extracting data from sources of network-based information in a communications network having a plurality of network servers programmed to transmit network-based information.

56. On information and belief, one or more of the Verizon '447 Products enable an object embedding program implemented on a computer. The object embedding program contains functionality to locate a script program.

57. On information and belief, the Verizon '447 Products are available to businesses and individuals throughout the United States.

58. On information and belief, the Verizon '447 Products are provided to businesses and individuals located in the Eastern District of Texas.

59. On information and belief, the Verizon '447 Products comprise a system containing functionality for a script program that is implemented on a computer on a communication network.

60. On information and belief, the Verizon '447 Products contain a script program wherein the script program is structured to extract data from network-based information provided by a networked server.

61. On information and belief, the Verizon '447 Products contain an object embedding program, implemented on computers. The object embedding program implemented on the '447 Product comprises a link to said network-based information provided by a networked server.

62. On information and belief, the Verizon '447 Products enable an object embedding program to (via a link) locate a script program.

63. On information and belief, the Verizon '447 Products enable an object embedding program that is structured to apply the script program to the network-based information. The application of the script program causes data to be extracted from a networked server.

64. On information and belief, the Verizon '447 Products enable the embedding of data in a compound document that is on the communications network.

65. On information and belief, the Verizon '447 Products enable the object embedding program to locate the script program via a link. Further, the '447 Products enable the network-based information to be linked to the scripting program.

66. On information and belief, the Verizon '447 Products comprise a system for executing an object embedding program to embed said data within a compound document implemented on a computer in said communications network.

67. On information and belief, Verizon has directly infringed and continues to directly infringe the '447 patent by, among other things, making, using, offering for sale, and/or selling technology for extracting data from sources of network-based information, including but not limited to the Verizon '447 Products, which include infringing technology for managing

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

transfers of information in a communications network. Such products and/or services include, by way of example and without limitation, the Verizon '447 Products.

68. By making, using, testing, offering for sale, and/or selling products and services, including but not limited to the Verizon '447 Products, Verizon has injured Soverain and is liable to Soverain for directly infringing one or more claims of the '447 patent, including at least claim 5, pursuant to 35 U.S.C. § 271(a).

69. On information and belief, Verizon also indirectly infringes the '447 patent by actively inducing infringement under 35 USC § 271(b).

70. On information and belief, Verizon had knowledge of the '447 patent since at least service of this Complaint or shortly thereafter, and on information and belief, Verizon knew of the '447 patent and knew of its infringement, including by way of this lawsuit.

On information and belief, Verizon intended to induce patent infringement by 71. third-party customers and users of the Verizon '447 Products and had knowledge that the inducing acts would cause infringement or was willfully blind to the possibility that its inducing acts would cause infringement. Verizon specifically intended and was aware that the normal and customary use of the accused products would infringe the '447 patent. Verizon performed the acts that constitute induced infringement, and would induce actual infringement, with knowledge of the '447 patent and with the knowledge that the induced acts would constitute infringement. For example, Verizon provides the Verizon '447 Products that have the capability of operating in a manner that infringe one or more of the claims of the '447 patent, including at least claim 5, and Verizon further provides documentation and training materials that cause customers and end users of the Verizon '447 Products to utilize the products in a manner that directly infringe one or more claims of the '447 patent. By providing instruction and training to customers and endusers on how to use the Verizon '447 Products in a manner that directly infringes one or more claims of the '447 patent, including at least claim 5, Verizon specifically intended to induce infringement of the '447 patent. On information and belief, Verizon engaged in such inducement to promote the sales of the Verizon '447 Products, e.g., through Verizon user manuals, product

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

support, marketing materials, and training materials to actively induce the users of the accused products to infringe the '447 patent. Accordingly, Verizon has induced and continues to induce users of the accused products to use the accused products in their ordinary and customary way to infringe the '447 patent, knowing that such use constitutes infringement of the '447 patent.

72. The '447 patent is well-known within the industry as demonstrated by the over 135 citations to the '447 patent in published patents and patent applications assigned to technology companies and academic institutions. Several of Verizon's competitors have paid considerable licensing fees for their use of the technology claimed by the '447 patent. In an effort to gain an advantage over Verizon's competitors by utilizing the same licensed technology without paying reasonable royalties, Verizon infringed the '447 patent in a manner best described as willful, wanton, malicious, in bad faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate.

73. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '447 patent.

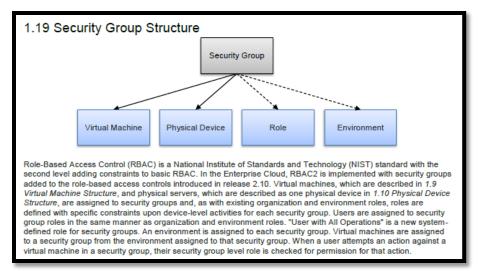
74. As a result of Verizon's infringement of the '447 patent, Soverain has suffered monetary damages, and seeks recovery in an amount adequate to compensate for Verizon's infringement, but in no event less than a reasonable royalty for the use made of the invention by Verizon together with interest and costs as fixed by the Court.

# <u>COUNT II</u> INFRINGEMENT OF U.S. PATENT NO. 8,935,706

75. Soverain references and incorporates by reference the preceding paragraphs of this Complaint as if fully set forth herein.

76. Verizon designs, makes, uses, sells, and/or offers for sale in the United States products and/or services for managing authentication credentials for access to data stored on servers.

77. Verizon designs, makes, sells, offers to sell, imports, and/or uses the Verizon Enterprise Cloud including Role-Based Access Control functionality (the "Verizon '706 Product(s)").



*Verizon Enterprise Cloud*, APPLICATION PROGRAMMING INTERFACE at 25 (October 1, 2015) ("Users are assigned to security group roles in the same manner as organization and environment roles. "User with All Operations" is a new system-defined role for security groups. An environment is assigned to each security group. Virtual machines are assigned to a security group from the environment assigned to that security group.").

78. On information and belief, one or more Verizon subsidiaries and/or affiliates use

the Verizon '706 Products in regular business operations.

79. On information and belief, one or more of the Verizon '706 Products include

technology for managing authentication credentials for access to data stored on a network.

80. On information and belief, one or more of the Verizon '706 Products include

functionality for receiving and storing authentication credentials for each of the plurality of

sources of network based information. Specifically, the Verizon '706 Products enable storing

access credentials that relate to specific systems that are connected via a network.

# **Identity Federation for Virtual Private Cloud**

- You can use identity federation with accounts with Virtual Private Cloud Cloud Spaces and federated users can access Virtual Private Cloud resources.
- You create federation groups that associate specific Virtual Private Cloud account, Cloud Space, and security group roles. You assign a federation group to appropriate federated users to give them permissions defined by the content of the federation group.
- To access Virtual Private Cloud resources, a federated user must have one and only one Virtual Private Cloud federation group assigned in the SAML 2.0 identity provider field mapped to **Groups** in the IDP definition in Account Manager. That federated user can also have any number of Public Cloud roles and groups assigned, but none are applied to Virtual Private Cloud resources.

*Verizon Enterprise Cloud Documentation: Identity Federation*, VERIZON ENTERPRISE WEBSITE, available at: http://www.verizonenterprise.com/cloud/documentation/IdentityFederationVPC-15R09.htm

81. On information and belief, one or more of the Verizon '706 Products enable

storing authentication credentials in a table of pairs. The table that is used by the '706 Products

to store the credentials is organized so that each pair stored in the table represents a subscription

service network server and corresponding credentials for the subscription service.

82. On information and belief, one or more of the Verizon '706 Products enable

forwarding access requests to a server where network based information is stored.

#### 2.6.3 Single Sign-On

Users sign in only once to the central site. The central site ensures Infinicenter Console users' authorization is presented to remote sites as users are directed to those remote sites. Users of the API offer authentication credentials with every call. When a user of the API sends a call to a remote site, the remote site authenticates with the central site.

Return to 2.6 Distributed Architecture.

Return to 2 Features of the Application Programming Interface.

Verizon Enterprise Cloud, APPLICATION PROGRAMMING INTERFACE at 27 (October 1, 2015)

83. On information and belief, one or more of the Verizon '706 Products enable

receiving a request for authentication from a server where network based information is stored.

The authentication request received by the Verizon '706 Products related to the access request

forwarded to the server where the network based information is stored.

84. On information and belief, one or more of the Verizon '706 Products, in response to an authentication request retrieve the stored authentication credentials that are specific to the server where the network based information is stored.

85. On information and belief, one or more of the Verizon '706 Products retrieve the authentication credentials that are assigned to a user upon registration with the subscription service.

86. On information and belief, one or more of the Verizon '706 Products enable associating a password with stored authentication credentials.

87. On information and belief, one or more of the Verizon '706 Products enable receiving a password in response to a user initiating a network session with the network server.

88. On information and belief, one or more of the Verizon '706 Products enable transmitting authentication credentials to the server where network based information is stored. The transmission of authentication credentials occurs in the Verizon '706 Products following successful verification of the user's password.

89. On information and belief, the Verizon '706 Products are provided to businesses and individuals located in the Eastern District of Texas.

90. On information and belief, one or more of the Verizon '706 Products enable using the single password to authenticate a user for multiple sources of network based information (e.g., network based information stored on two different servers).

91. On information and belief, Verizon has directly infringed and continues to directly infringe the '706 patent by, among other things, making, using, offering for sale, and/or selling technology for managing authentication credentials for access to a plurality of sources of network-based information, including but not limited to the Verizon '706 Products, which include infringing authentication credential management technologies. Such products and/or services include, by way of example and without limitation, the Verizon '706 Products.

92. By making, using, testing, offering for sale, and/or selling products and services for managing authentication credentials for access to a plurality of sources of network based

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

information, including but not limited to the Verizon '706 Products, Verizon has injured Soverain and is liable to Soverain for directly infringing one or more claims of the '706 patent, including at least claims 1-5, pursuant to 35 U.S.C. § 271(a).

93. The '706 patent is well-known within the industry as demonstrated by the over 135 citations to the '706 patent in published patents and patent applications assigned to technology companies and academic institutions. Several of Verizon's competitors have paid considerable licensing fees for their use of the technology claimed by the '706 patent. To gain an advantage over Verizon's competitors by utilizing the same licensed technology without paying reasonable royalties, Verizon infringed the '706 patent in a manner best described as willful, wanton, malicious, in bad faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate.

94. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '706 patent.

95. As a result of Verizon's infringement of the '706 patent, Soverain has suffered monetary damages, and seeks recovery in an amount adequate to compensate for Verizon's infringement, but in no event less than a reasonable royalty for the use made of the invention by Verizon together with interest and costs as fixed by the Court.

# <u>COUNT III</u> <u>INFRINGEMENT OF U.S. PATENT NO. 6,212,634</u>

96. Soverain references and incorporates by reference the preceding paragraphs of this Complaint as if fully set forth herein.

97. Verizon designed, made, used, sold, and/or offered for sale in the United States products and/or services for certifying authorizations between computers over a network.

98. Verizon designed, made, sold, offered to sell, imported, and/or used the Verizon Virtual Private Cloud<sup>27</sup> (the "Verizon '634 Product(s)").

<sup>&</sup>lt;sup>27</sup> See e.g., Virtual Private Cloud API Reference, VERIZON ENTERPRISE WEBSITE, available at: http://www.verizonenterprise.com/cloud/documentation/APIReferencePrivateCloud.htm;

99. On information and belief, one or more Verizon subsidiaries and/or affiliates used the Verizon '634 Products in regular business operations.

100. On information and belief, one or more of the Verizon '634 Products include

technology for certifying authorizations between computers over a network.

101. On information and belief, one or more of the Verizon '634 Products create an

authorization certificate that certifies that a holder of the authorization certificate is authorized to

perform a particular action specified in the authorization certificate.

102. On information and belief, one or more of the Verizon '634 Products create an authorization certificate that has a file structure that supports critical components and extension components.

# 2.2 Authentication

The API uses a stateless authentication implementation; every request passes authentication in the header. Support for basic username and password authentication is mainly for backward compatibility and easy addition of new customers. The more secure message-digest authentication is strongly encouraged.

Each call carries a UTC timestamp. Requests delayed for an extended period after the timestamp or submitted too far in advance of the timestamp receive an error. To enable time synchronization, the API permits an anonymous call to retrieve the server time. Determine the difference between local time and server time and apply the difference to each call in a session.

The API supports HMAC-SHA1, HMAC-SHA256 and HMAC-SHA512 hash algorithms for the message digest. In recent years weakness in HMAC-SHA1 has been reported and use of HMAC-SHA256 or HMAC-SHA512 is encouraged.

Verizon Enterprise Cloud, APPLICATION PROGRAMMING INTERFACE at 27 (October 1, 2015)

103. On information and belief, one or more of the Verizon '634 Products cause the authorization certificate to be transmitted to the authorized computer. The authorized computer is programmed to accept certificates having file structures that support critical components and extension components.

104. On information and belief, one or more of the Verizon '634 Products cause the

authorization certificate to be transmitted to an authorized computer that is programmed to

accept the critical components but to reject certificates having file structures that support critical

*Verizon Cloud Deployment Models*, VERIZON ENTERPRISE WEBSITE, *available at:* http://www.verizonenterprise.com/products/it-solutions/cloud/cloud-deployment-models/

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

components and extension components when the authorized computer is not programmed to accept the critical components.

# Private space in a public setting with virtual private cloud.

Want the speed of public cloud, but need more flexibility? Our virtual private cloud gives you fast, cost-efficient access to cloud compute resources – but your workloads are separated from others for added protection. Plus, you can customize setup and increase support.

Need to manage more than one virtual private cloud space? Our console lets you separate projects, grant access to different teams, and see usage on a per-project basis.

See what else you can do with virtual private cloud.

*Verizon Cloud Deployment Models*, VERIZON ENTERPRISE WEBSITE, *available at:* http://www.verizonenterprise.com/products/it-solutions/cloud/cloud-deployment-models

105. On information and belief, one or more of the Verizon '634 Products include in

the authorization certificate information that is unique to a particular action specified in the

authorization certificate as at least one critical component of the authorization certificate.

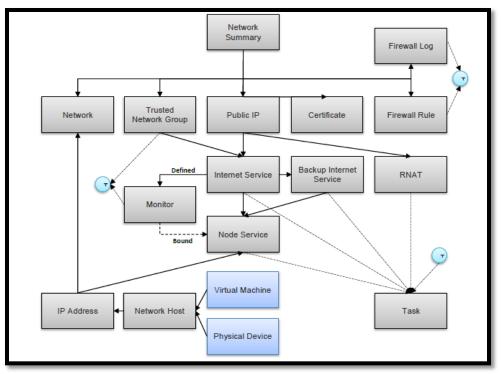
106. On information and belief, one or more of the Verizon '634 Products include

information unique to the particular action specified in the authorization certificate as at least one

critical component of the authorization certificate in order to prevent the authorization certificate

from being accepted by computers that are not programmed to accept the information unique to

the action referred to in the authorization certificate.



*Verizon Enterprise Cloud*, APPLICATION PROGRAMMING INTERFACE (October 1, 2015) ("Trusted network group defines a group of hosts, networks, or a combination of hosts and networks on the public Internet that are permitted access to the Internet service or services to which it is bound on the demilitarized zone network.").

107. On information and belief, the Verizon '634 Products have been provided, sold,

and/or offered for sale to businesses and individuals located in the Eastern District of Texas.

108. On information and belief, Verizon has directly infringed the '634 patent by, among other things, having made, used, offered for sale, and/or sold technology for certifying authorizations between computers over a network, including but not limited to the Verizon '634 Products, which include infringing technologies for certifying authorizations between computers over a network. Such products and/or services include, by way of example and without limitation, the Verizon Products.

109. By having made, used, tested, offered for sale, and/or sold products and services for certifying authorizations between computers over a network, including but not limited to the Verizon '634 Products, Verizon has injured Soverain and is liable to Soverain for directly

SOVERAIN COMPLAINT FOR PATENT INFRINGEMENT

infringing one or more claims of the '634 patent, including at least claim 4, pursuant to 35 U.S.C. § 271(a).

110. The '634 patent is well-known within the industry as demonstrated by the over 196 citations to the '634 patent in published patents and patent applications assigned to technology companies and academic institutions. Several of Verizon's competitors have paid considerable licensing fees for their use of the technology claimed by the '634 patent. To gain an advantage over Verizon's competitors by utilizing the same licensed technology without paying reasonable royalties, Verizon infringed the '634 patent in a manner best described as willful, wanton, malicious, in bad faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate.

111. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '634 patent.

112. Because of Verizon's infringement of the '634 patent, Soverain has suffered monetary damages, and seeks recovery in an amount adequate to compensate for Verizon's infringement, but in no event less than a reasonable royalty for the use made of the invention by Verizon together with interest and costs as fixed by the Court.

# **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Soverain respectfully requests that this Court enter:

- A. A judgment in favor of Plaintiff Soverain that Verizon has infringed, either literally and/or under the doctrine of equivalents, the '447 patent, the '706 patent, and the '634 patent;
- B. An award of damages resulting from Verizon's acts of infringement in accordance with 35 U.S.C. § 284;
- C. A judgment and order finding that Defendant's infringement was willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate within the meaning of 35 U.S.C. § 284 and awarding to Plaintiff enhanced damages.
- D. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees against Defendant.
- E. Any and all other relief to which Soverain may show itself to be entitled.

# JURY TRIAL DEMANDED

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Soverain IP, LLC requests a trial by jury of any issues so triable by right.

Dated: May 3, 2017

Respectfully submitted,

/s/ Dorian S. Berger Elizabeth L. DeRieux (TX Bar No. 05770585) D. Jeffrey Rambin (TX Bar No. 00791478) CAPSHAW DERIEUX, LLP 114 E. Commerce Ave. Gladewater, Texas 75647 Telephone: 903-845-5770 E-mail: ederieux@capshawlaw.com E-mail: jrambin@capshawlaw.com

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