

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

**SOVERAIN IP, LLC,**

*Plaintiff,*

v.

**WAL-MART STORES, INC. AND  
WAL-MART STORES TEXAS LLC**

*Defendants.*

**Civil Action No.** \_\_\_\_\_

**JURY TRIAL DEMANDED**

**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”), 8,606,900 (“the ‘900 patent”); and the 5,708,780 (“the ‘780 patent”) (collectively, the “patents-in-suit” or the “Soverain Patents”). Defendants Wal-Mart Stores, Inc. and Wal-Mart Stores Texas LLC (“Wal-Mart” 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 Wal-Mart’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>

2. 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

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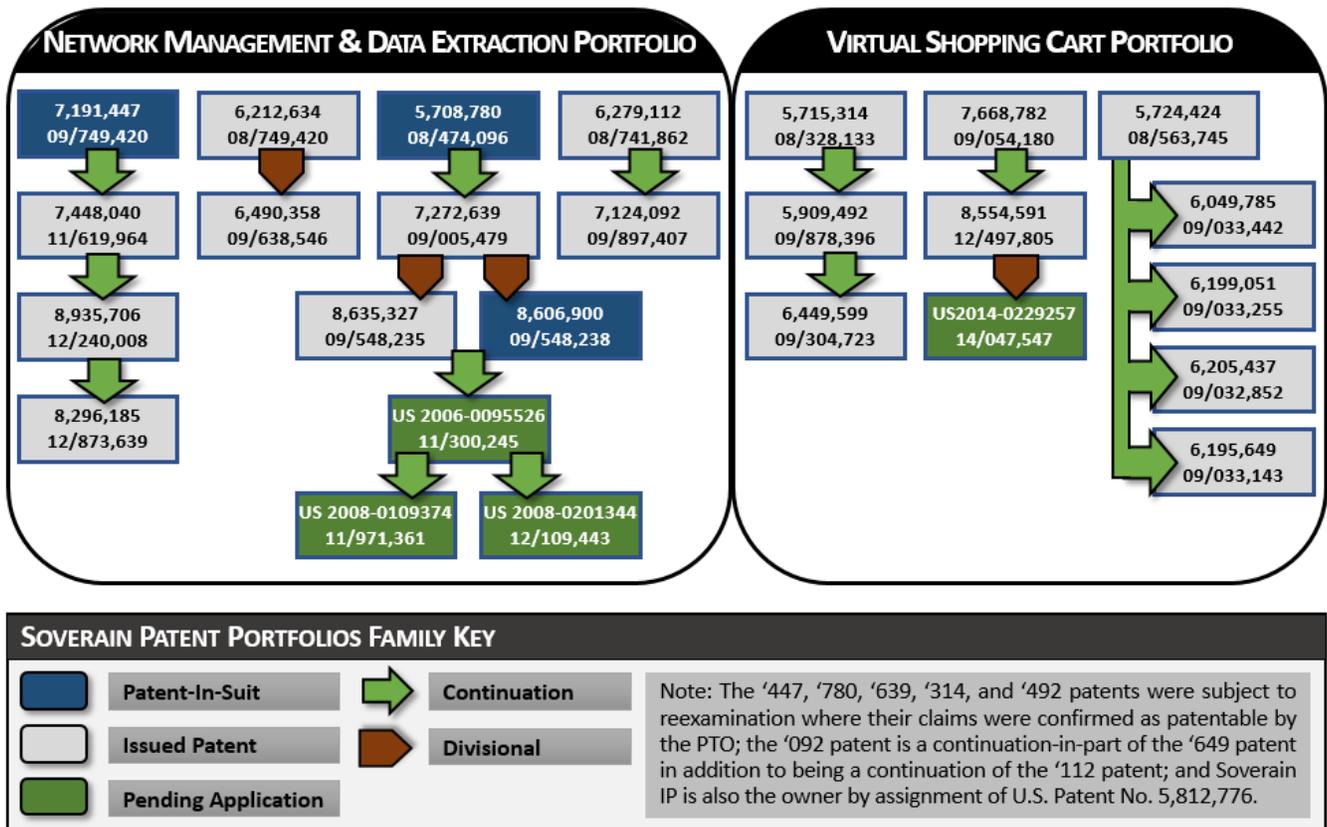
<sup>1</sup> See U.S. Patent App. Nos. 11/300,245; 11/971,361; 12/109,443; 14/047,547.

<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, co-founder of Open Market, and inventor of fourteen of the Sovereign 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 Sovereign 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 Sovereign’s patents, pending patent applications, and the Sovereign patents Wal-Mart 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 manage transactions securely and centrally 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

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<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'IP and SSL.").

<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.").

<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.").

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

<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. Professor David K. Gifford 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. Dr. Lawrence Stewart 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

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<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>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>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. Dr. John R. Ellis 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. Dr. Daniel Earl Geer, Jr. 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. Winfield Treese 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

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

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

<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 e-commerce field, holding the majority of the global market for transaction management systems.<sup>18</sup> When the first Sovereign 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).

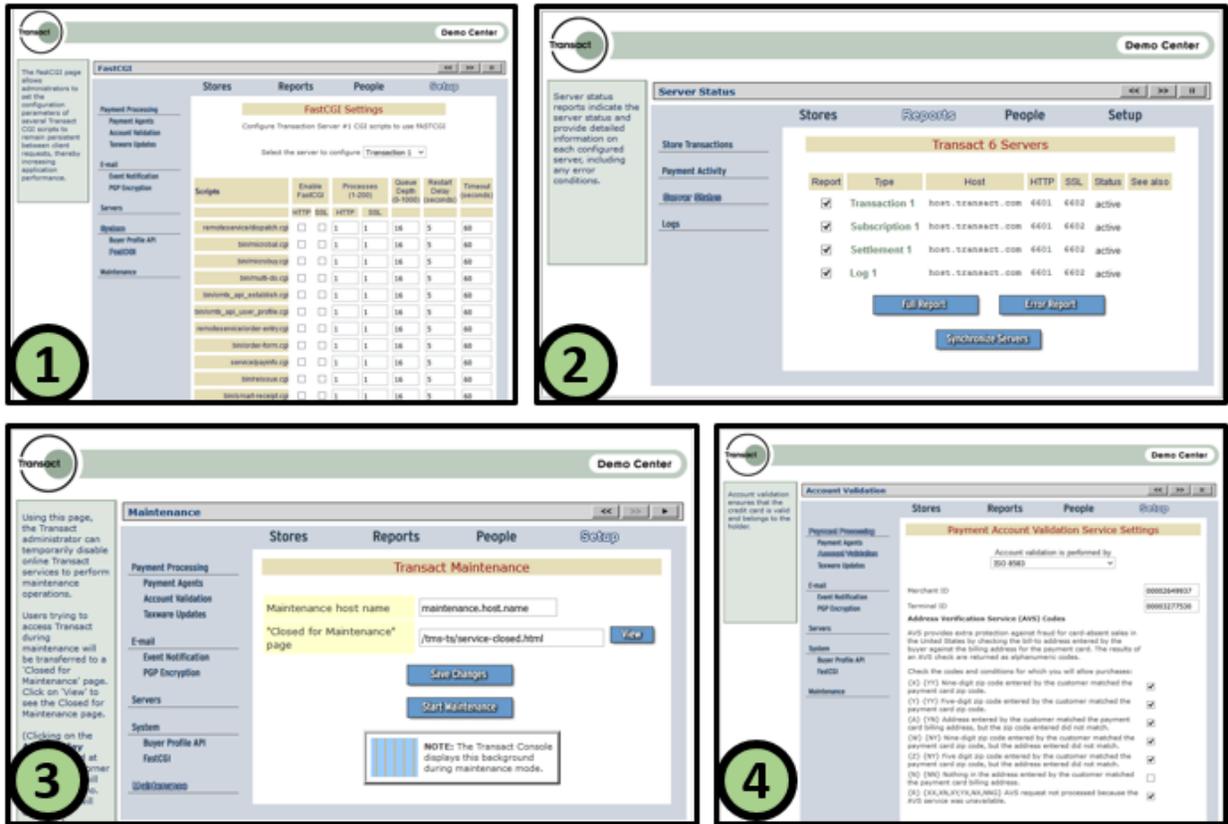
18. Transact provided an end-to-end solution for secure transaction management over the Internet. Transact included the following components: (1) a transaction server for managing orders, (2) a subscription server for security and authentication by managing access to digital content, (3) a log server 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 Sovereign’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

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<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>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>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 worth 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.

**FOCUS ON I-COMMERCE**

• Transaction-processing software

## Transact 3.0: scalable solution

*By Jeff Symoens*

**IF YOU THINK** that Internet-commerce begins and ends with putting your product catalog online and adding a neat shopping cart feature, think again. Although there are literally dozens of new catalog products popping up all the time, they generally don't solve the more complex business problem associated with I-commerce: processing the transactions associated with orders.

Open Market Transact 3.0 from Open Market, however, focuses almost exclusively on this aspect of online business. It's an Internet cash register that can support multiple distributed Internet stores.

If you're comfortable with Trans-

act's \$125,000 opening price tag, it offers an exceptional architecture and a strong feature set that will handle back-end transaction processing for online stores. After evaluating the latest version of Transact, I was very impressed with the product's breadth and depth.

**Distributed architecture**

In a corporate IS setting, Transact is most suited for companies that either anticipate a huge purchase volume or want to provide a single transaction-processing system to support a number of different divisions, each with its own store.

The Transact system is built on top of Open Market's base HTTP server, with an integrated Tool

Command Language (TCL) server-side interpreter. The product's logic components are distributed across interpreted TCL-based dynamic Web pages and scripts, as well as a number of C libraries. In future versions, Open Market plans to rewrite the interpreted logic components in platform-independent ECMAScript.

Transact is built to be a distributed system. It consists of several different subsystems: a transaction server, a subscription server for handling content subscriptions, a settlement server that communicates with the payment processor, and a log server. Optional components include a fax server for faxing orders to merchants, a tax computation server, and a postal code server. These components can run

**THE BOTTOM LINE**

**Open Market Transact 3.0**

**T**ransact 3.0 is a comprehensive, high-end solution for processing Internet-commerce transactions.

**Pros:** Secure, robust, distributed architecture; content isolated from transaction engine for flexible toolkit choice; integration with financial processors; good customization options.

**Cons:** Prohibitive price; not enough preconfigured reporting options; programming required for some types of customization; lack of support for Secure Electronic Transaction in current version.

**Open Market Inc.,** Cambridge, Mass.; (800) 673-4658 (toll-free); fax: (617) 373-8063; sales@openmarket.com; http://www.openmarket.com.

**Price:** Starts at \$125,000 for base product; \$250,000 plus quarterly fees for Commerce Service Provider licensing.

**Platforms:** See Solaris (for Sparc), SGX Irix, HP-UX, and Stratus FTX.

on a single system or on several different machines. Sites can also run multiple instances of the transaction, postal code, tax, and fax servers for added scalability.

In addition, merchants typically deploy their content on a separate Web server. This approach lets developers use their choice of catalog and Web-development tools

**A typical transaction**

The diagram shows a Client connecting to a Web server. The Web server connects to a Transaction server (containing Subscription server, Postal code server, and Tax server) through a Firewall. The Transaction server connects to a Log server and a Settlement server through another Firewall. The Log server and Settlement server connect to a Payment processor via a leased line. A Customer database is connected to the Transaction server.

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.

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<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 Sovereign patents, including: (1) Microsoft.com (August 1995), (2) Amazon.com (July 1995), and (3) Apple.com (July 1997).

25. The Sovereign 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. Sovereign 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 Sovereign patents, licensees have paid millions of dollars for a license to practice the technology taught in the Sovereign patents. For example, Amazon.com, Inc. paid 40,000,000 dollars to license the Sovereign patents.<sup>22</sup>

### THE PARTIES

#### SOVERAIN IP, LLC

28. McKinney, Texas based Sovereign 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.

29. Sovereign's principal place of business is located at 6851 Virginia Parkway, Suite 214, McKinney, Texas 75071.

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<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 Sovereign Software to settle two lawsuits over patents related to online shopping.").

30. Wal-Mart's sale and distribution of products and services that infringe the patents-in-suit has caused and continues to cause injury to Soverain.

**WAL-MART STORES, INC. AND WAL-MART STORES TEXAS, LLC**

31. Wal-Mart Stores, Inc. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 702 S.W. 8th Street, Bentonville, Arkansas 72716. Wal-Mart Stores may be served with process by serving its registered agent, CT Corp. System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

32. Upon information and belief, Wal-Mart Stores Texas, LLC is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business at 702 S.W. 8th Street, Bentonville, Arkansas 72716. Wal-Mart Stores Texas, LLC may be served with process by serving its registered agent, CT Corp. System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

**JURISDICTION AND VENUE**

33. 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).

34. Upon information and belief, this Court has personal jurisdiction over Wal-Mart in this action because Wal-Mart 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 jurisdiction over Wal-Mart would not offend traditional notions of fair play and substantial justice. Defendant Wal-Mart, 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, the Defendants are registered to do business in the State of Texas, have offices and facilities in the State of Texas, and actively direct activities to customers located in the State of Texas.

35. Venue is proper in this district under 28 U.S.C. §§ 1391(b)-(d) and 1400(b). Defendants are registered to do business in the State of Texas, have 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**

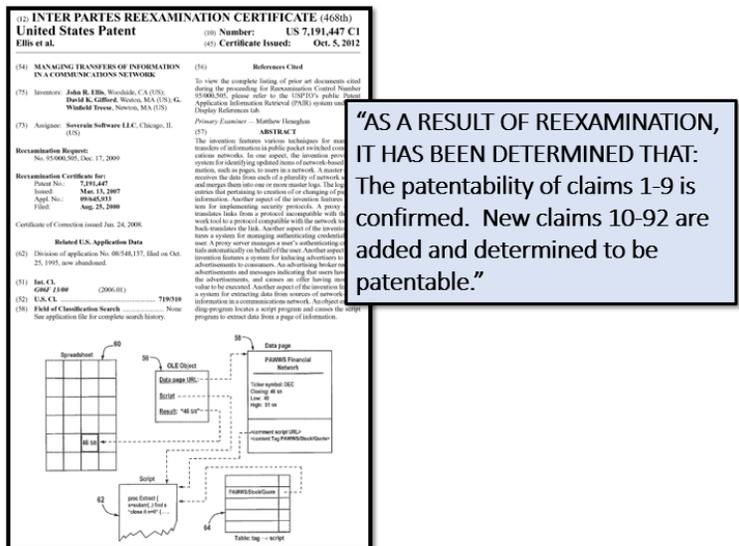
36. U.S. Patent No. 7,191,447 (“the ‘447 patent”) entitled, *Managing Transfer of Information in a Communications Network*, was filed on August 25, 2000, and claims priority to October 25, 1995. The ‘447 patent is subject to a 35 U.S.C. § 154(b) term extension of 615 days. Sovereign is the owner by assignment 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.

37. 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.

38. 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>23</sup>

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<sup>23</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).



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

39. 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.

40. 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 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. 8,606,900**

U.S. Patent No. 8,606,900 (“the ‘900 patent”) entitled, *Method and System for Counting Web Access Requests*, was filed on April 12, 2000, and issued on December 10, 2013. The ‘900 patent is subject to a 35 U.S.C. § 154(b) term extension of 1,645 days. Sovereign is the owner by assignment of the ‘900 patent. A true and correct copy of the ‘900 patent is attached hereto as Exhibit B. The ‘900 patent claims specific methods and systems for processing service requests from a client to a server through a network. In particular, the ‘900 patent teaches methods and systems applicable to processing client requests in an HTTP (Hypertext Transfer Protocol) environment.

41. The ‘900 patent teaches the processing of service requests from a client to a server through a computer network. Specifically, the ‘900 patent describes forwarding a service request from the client to the server and appending a session identification to the request and to subsequent service requests from the client to the server within a session. A session identifier may include an authorization identifier to allow a user to access controlled files.

42. The ‘900 patent and its related patents have been cited by 139 United States patents and patent applications as relevant prior art. Specifically, patents issued to the following companies have cited the ‘900 patent family as relevant prior art:

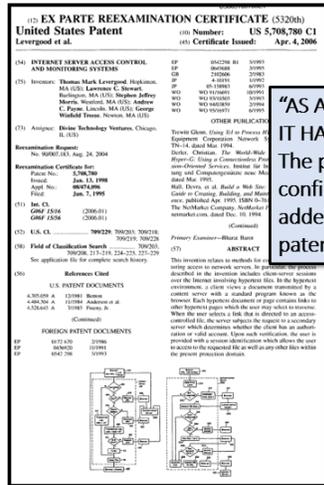
- Sprint Communications Company L.P.
- Qualcomm, Inc.

- Netscape Communications Corporation<sup>24</sup>
- SAP AG
- Facebook, Inc.
- AOL, Inc.
- Fuji Xerox Co., Ltd.
- About, Inc.
- Bellsouth Intellectual Property Corporation
- AT&T, Inc.
- Dell, Inc.
- Microsoft Corporation

**U.S. PATENT NO. 5,708,780**

U.S. Patent No. 5,708,780 (“the ‘780 patent”) entitled, *Internet Server Access Control and Monitoring*, was filed on June 7, 1995, and issued on January 13, 1998. Sovereign is the owner by assignment of the ‘780 patent. A true and correct copy of the ‘780 patent is attached hereto as Exhibit C. The ‘780 patent claims specific methods and systems for controlling and monitoring access to network servers. In particular, the process described in the invention includes client-server sessions over the Internet involving hypertext files.

43. The reexamination proceeding culminated with the United States Patent and Trademark Office confirming the patentability of all 45 claims of the ‘780 patent over 260 prior art references, including over 120 patent references.<sup>25</sup>



Reexam Ctrl. No. 90/007,183, ‘780 Patent, Cert. Issued, April 4, 2006.

<sup>24</sup> Netscape Communications Corporation was originally founded under the name Mosaic Communications Corporation and was one of the early developers of web browsing technology. It was subsequently purchased by AOL, Inc.

<sup>25</sup> Reexam Ctrl. Nos. 90/007,183, ‘780 PATENT, CERT. ISSUED, APRIL 4, 2006.

44. In addition to confirming the patentability of all claims in the '780 patent, the United States Patent and Trademark Office confirmed the patentability of 90 new claims which were added to the '780 patent.

45. The '780 patent has been subject to review by Courts in the Eastern District of Texas. In prior orders, the Court denied a motion for partial summary judgment that claims 28 and 32-42 are indefinite under 35 U.S.C. § 112.<sup>26</sup>

46. The '780 patent teaches the use of a "session identifier" to permit web servers to recognize a series of inquiries (or "service requests") from the same client during an online session, and to control and monitor the client's access to information on a website. This technology is important due to the "stateless" nature of the Internet.

47. The '780 Patent discloses the use of a web server that assigns a session identifier, which can be as simple as a string of text or numbers, in response to an initial service request from a client. When the server receives a subsequent request with the same session identifier appended to it, the server can then associate that request with earlier requests. The session identifier allows the web server to recognize the client during a series of requests and responses, to provide access to information resources which the user is authorized to access, and to monitor the user's access.

48. The '780 patent discloses the use of a "session identifier" for operating on a "stateless network," such as the Internet, meaning that the system can simultaneously handle multiple communications from different users. The claimed methods and systems achieve this, in part, by appending a unique "session identifier" to each user request.

49. The '780 patent has been the subject of a *Markman* order in the Eastern District of Texas. Specifically, the Court interpreted seventeen disputed terms in the '780 patent. The

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<sup>26</sup> *Soverain Software LLC v. Amazon.com, Inc.*, Case No. 04-cv-00014-LED, Dkt. No. 497 (August 8, 2005).

Court grouped the terms “in groups relating to: (1) path name in a URL, (2) session, (3) hypertext, (4) authentication server, and (5) means-plus-function elements.”<sup>27</sup>

50. The means-plus-function claims in the ‘780 patent have been previously construed by the Court:

The Court agrees with Sovereign that limiting the claims beyond what is disclosed in the block diagrams is not required by case law and penalizes the inventors for submitting software code during prosecution. . . .<sup>28</sup>

51. The court went on to identify specific structures for the mean-plus-function elements that corresponded to the means-plus-function elements. The below excerpt from the Court’s *Markman* Order shows the means-plus-function elements and the associated structure for two exemplary terms.

DISPUTED CLAIM TERMS	COURT’S CONSTRUCTION
<b>means for servicing service requests from a client which include the session identifier</b>  Claim 32	Content server (element 120 in Fig. 2A and element 52 in Fig. 3), executing a computer program implementing algorithm shown in Fig. 2A, including blocks 110, 112, and 116, or the client server exchange 9 and 10 in Fig. 3.
<b>means for providing the session identifier</b>  Claim 33	Authentication server (element 200 in Figs. 2A and 2B, element 54 in Fig. 3), executing a computer program implementing algorithm steps as shown in Fig. 2B, including blocks 228, 230, and 232.

*Sovereign Software LLC v. Amazon, Inc.*, Case No. 04-cv-00014-LED, Dkt. No. 246 at 24 (April 7, 2005).

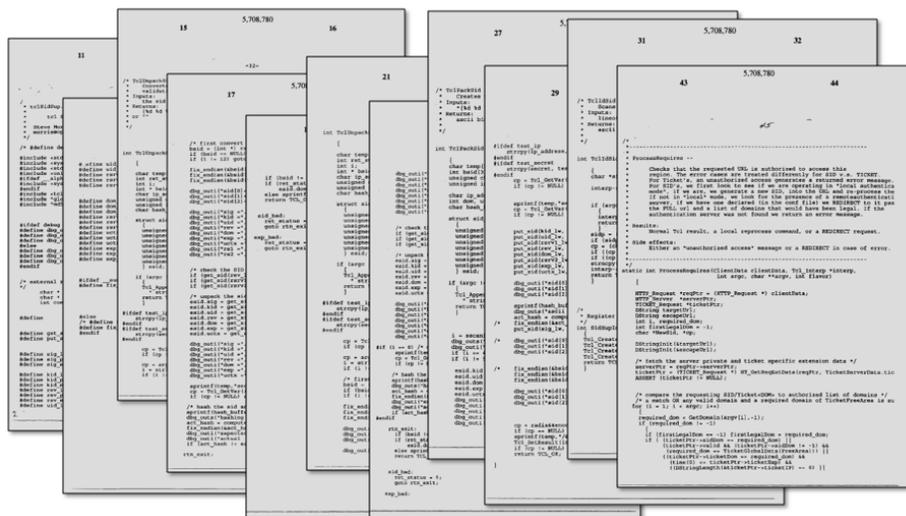
52. One or more of the claims of the ‘780 patent recite a means or step for performing a specified function. The corresponding structure(s) in the ‘780 patent specification and appendix include computer code that improves the functioning of a computer. ‘780 patent, cols. 11-114.

<sup>27</sup> *Sovereign Software LLC v. Amazon, Inc.*, Case No. 04-cv-00014-LED, Dkt. No. 246 (April 7, 2005).

<sup>28</sup> *Id.* at 9.

53. One or more of the claims in the ‘780 patent recite means-plus-function claim limitations governed by 35 U.S.C. § 112, ¶ 6.

54. The ‘780 patent discloses computer algorithms in an appendix to the specification. In addition to the structures and algorithms disclosed throughout the specification, these algorithms correspond to means-plus-function claims in the ‘780 patent.



‘780 patent, cols. 11-114 (excerpt of some of the computer algorithms disclosed in an appendix to the specification).

55. Means-plus-function claims such as those included in the ‘780 patent are inherently not abstract ideas. In *Enfish LLC v. Microsoft Corp.*, the Federal Circuit upheld the patentability of claims containing means-plus-function elements. “Accordingly, we find that the claims at issue in this appeal are not directed to an abstract idea within the meaning of Alice. Rather, they are directed to a specific improvement to the way computers operate, embodied in the self-referential table.” 822 F.3d 1327, 1336 (Fed. Cir. 2016). Stanford Law Professor Mark Lemley described the basis for means-plus-function elements conferring patentability:

If the patent is interpreted as a means-plus-function claim, it will be limited to the particular software implementation the patentee actually built or described. Such a narrow, specific claim should not be an unpatentable “abstract idea.”<sup>29</sup>

<sup>29</sup> Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WISC. L. REV. 905 (2013).

56. The '780 patent has been cited by 1,840 United States patents and patent applications as relevant prior art. Specifically, patents issued to the following companies have cited the '780 patent as relevant prior art.

- International Business Machines Corporation (cited in 61 patents and patent applications)
- Microsoft Corporation (cited in 62 patents and patent applications)
- Oracle Corporation
- Amazon.com, Inc.
- AT&T Corp.
- Cisco Systems, Inc.
- Dell, Inc.
- eBay, Inc.
- First Data Corporation
- Google, Inc.
- Hewlett-Packard Company
- Level 3 Communications, LLC
- McAfee, Inc.
- Ricoh Co., Ltd.
- Yahoo!, Inc.
- Xerox Corporation
- NEC Corporation
- Goldman Sachs & Co.
- Facebook, Inc.
- Comcast Corporation
- Intel Corporation
- Akamai Technologies, Inc.

57. The '780 patent relates to methods for controlling and monitoring access to network servers through the use of a session identifier. This session identifier allows web servers to recognize and service multiple requests from the same client and control access to the server without repeated authentication.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 7,191,447**

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

59. Wal-Mart 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.

60. Wal-Mart designs, makes, sells, offers to sell, imports, and/or uses the Walmart.com Webpage, servers and computer equipment including: (i) web pages and content to

be interactively presented in browsers, including, without limitation, the web pages and content accessible via [www.walmart.com](http://www.walmart.com) and maintained on servers located within and/or accessible from the United States under the control of Wal-Mart; (ii) software, including, without limitation, software that allows content to be interactively presented in and/or served to browsers; and/or (iii) computer equipment, including, without limitation, computer equipment that stores, serves, and/or runs any of the foregoing (collectively, the “Wal-Mart ‘447 Product(s)’”).

61. On information and belief, one or more Wal-Mart subsidiaries and/or affiliates use the Wal-Mart ‘447 Products in regular business operations.

62. On information and belief, one or more of the Wal-Mart ‘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. For example, the Walmart page contains scripts that enable the extraction of network based information. For example, a search result will extract information from a network server such as [us-i5.wal.co](http://us-i5.wal.co) that then is propagated to the HTML page loaded to the client.

```

▼ <div class="search-result-productimage listview"> ev
  <span class="visuallyhidden">Product Image</span>
  ▼ <div class="display-inline-block pull-left prod-ProductCard--Image">
    ▼ <a class="" href="//ip/Netgear-WNDR4300-100NAS-N750-Wireless-Dual-Band-Gigabit-Router-Premium-Edition/22036755" itemprop="url"> ev
       ev
    </a>
  
```

*Walmart.com Network Inspection Report: Inspector Report*, WALMART.COM WEBSITE, available at: <https://www.walmart.com/ip/> (annotation added) (showing the data extracted from the network server located at [us-i5.wal.co](http://us-i5.wal.co) server).

63. On information and belief, one or more of the Wal-Mart ‘447 Products enable an object embedding program implemented on a computer. The object embedding program contains functionality to locate a script program. For example, scripts that extract data from network based sources include the scripts identified below:

Status	Method	File	Domain	Cause	Type	Transferred	Size	0 ms	1.28 s
200	GET	capabilities.min.js	a14.wal.co	script	js	778 B	1.43 KB	183 ms	
200	GET	cdn-perf.min.js	a14.wal.co	script	js	1.19 KB	2.72 KB	252 ms	
200	GET	rum.js;RofQmxXiz5GFR9gjNzml70sCcM7bh=beacon.walmart.com	b.wal.co	script	js	108.17 KB	665.60 KB	562 ms	
200	GET	beacon.js	beacon.walmart.com	script	js	1.61 KB	3.84 KB	90 ms	
302	GET	rum.js?mode=release&bh=beacon.walmart.com&bd=&pv_id=a07ff2ce-169...	beacon.walmart.com	script	js	108.17 KB	665.60 KB	97 ms	
200	GET	fqp0ia.js	fonts.walmart.com	script	js	8.56 KB	21.37 KB	490 ms	
200	GET	k2-_ce6b2cd5-7246-488c-9811-0f03b44ff05.v833.js	i5.walmartimages.com	script	js	29.67 KB	103.00 KB	368 ms	
200	GET	k2-_1cf91030-5b66-42d4-88af-42da1d47cf61.v746.js	i5.walmartimages.com	script	js	29.75 KB	99.37 KB	416 ms	
200	GET	desktop.bundle.1a2f7ffa30311a39899c.js	ll-us-i5.wal.co	script	js	713.28 KB	2.41 MB	1381 ms	
200	GET	ft.js	ll-us-i5.wal.co	script	js	53 B	16 B	227 ms	

Walmart.com Network Inspection Report: Inspector Report, WALMART.COM WEBSITE, available at: <https://www.walmart.com/search/> (showing the scripts used to extract network based data).

64. On information and belief, the Wal-Mart ‘447 Products are available to businesses and individuals throughout the United States.

65. On information and belief, the Wal-Mart ‘447 Products are provided to businesses and individuals located in the Eastern District of Texas.

66. On information and belief, the Wal-Mart ‘447 Products comprise a system containing functionality for a script program that is implemented on a computer on a communication network.

67. On information and belief, the Wal-Mart ‘447 Products contain a script program wherein the script program is structured to extract data from network-based information provided by a networked server. For example, these script programs shown below lead to the execution of network extraction of resources located on a computer network. For example, a script program loaded through the Wal-Mart ‘447 Products are loaded by a web browser and lead to the extraction of data from network sources.

File	Domain	Cause	Type	Transferred	Size	0 ms	1.28 s	2.56 s
capabilities.min.js	a14.wal.co	script	js	778 B	1.43 KB		117 ms	
cdn-perf.min.js	a14.wal.co	script	js	1.19 KB	2.72 KB		98 ms	
beacon.js?bh=beacon.walmart.com	b.wal.co	script	js	1.61 KB	3.84 KB		149 ms	
rum.js;RofQmxXiz5GFR9gjNzml70sCcM7bh=beacon.walmart.com	b.wal.co	script	js	108.17 KB	665.60 KB		643 ms	
rum.js?mode=release&bh=beacon.walmart.com&bd=&pv_id=52560cf2-6af...	beacon.walmart.com	script	js	108.17 KB	665.60 KB		383 ms	
fqp0ia.js	fonts.walmart.com	script	js	8.56 KB	21.37 KB		326 ms	
ft.js	ll-us-i5.wal.co	script	js	53 B	16 B		142 ms	
hp.bundle.5f6ed12037cacd791e26.js	ll-us-i5.wal.co	script	js	321.76 KB	1.04 MB		1087 ms	
tealeaf.min.js	ll-us-i5.wal.co	script	js	37.84 KB	110.69 KB		244 ms	
k2-_ce6b2cd5-7246-488c-9811-0f03b44ff05.v833.js	ll-us-i5.wal.co	script	js	29.67 KB	103.00 KB		349 ms	
k2-_1cf91030-5b66-42d4-88af-42da1d47cf61.v746.js	ll-us-i5.wal.co	script	js	29.75 KB	99.37 KB		574 ms	

Walmart.com Network Inspection Report: Inspector Report, WALMART.COM WEBSITE, available at: <https://www.walmart.com/> (showing the scripts used to extract network based data and showing that they are loaded at the beginning of the rendering of a webpage so that the script program is applied to network-based information).

68. On information and belief, the Wal-Mart '447 Products contain an object embedding program, implemented on computers. The object embedding program implemented on the Wal-Mart '447 Products comprises a link to said network-based information provided by a networked server. For example, the script programs retrieve network based information that in turn comprises a link to the script program. A script program retrieves information that itself is a link back to the script program that is referenced.

```
Object.defineProperty(t,"isTouchDevice",{enumerable:!0,get:function(){return
n.isTouchDevice}});var
a=r(829);Object.defineProperty(t,"completeURL",{enumerable:!0,get:function(){
return
a.completeURL}});var
o=r(830);Object.defineProperty(t,"idEncode",{enumerable:!0,get:function(){retur
n
o.idEncode}}),function(e,t){"use
strict";t.__esModule=!0;t.isTouchDevice=function(e){return"ontouchstart"in
e||e.navigator.MaxTouchPoints>0||e.navigator.maxTouchPoints>0||e.navigator.ms
MaxTouchPoints>0}},function(e,t){"use
strict";t.__esModule=!0;var
r=/^[\\#]/,n="www.walmart.com";t.completeURL=function(e,t){var
a=arguments.length<=2||void
0===arguments[2]?n:arguments[2];return
t&&e&&e.match(r)?"/"+(a?a:n)+e:e}},function(e,t){"use
strict";t.__esModule=!0;t.idEncode=function(e){return"string"===typeof
e?e.replace(/\\W/g,"-").toLowerCase():""}},function(e,t,r){"use
strict";function
n(e){return
e&&e.__esModule?e:{default:e}}t.__esModule=!0;var
a=r(596),o=n(a),i=r(516),s=n(i),l=r(517),u=n(l),c=r(586),d=n(c),p=r(303),f=n(p),
m=r(455),h=n(m),y=r(603),g=n(y),v=r(832),_=n(v),T=r(758),E=n(T),P=r(653),b=
n(P),C=r(827),S=function(e){var
t=function(e){return
e?(0,_.default)(e,function(e){return
e.className}):[]},r=t(e.path);return
r.join().match("flyout-modal")},I=function(e,t){return
e.target===t||t.contains(e.target)||S(e)},A=function(e){function
t(){(0,s.default)(this,t);var
r=(0,u.default)(this,e.call(this));return
r._documentClick=r._documentClick.bind(r),r}return(0,d.default)(t,e),t.prototype.
componentWillUnmount=function()
```

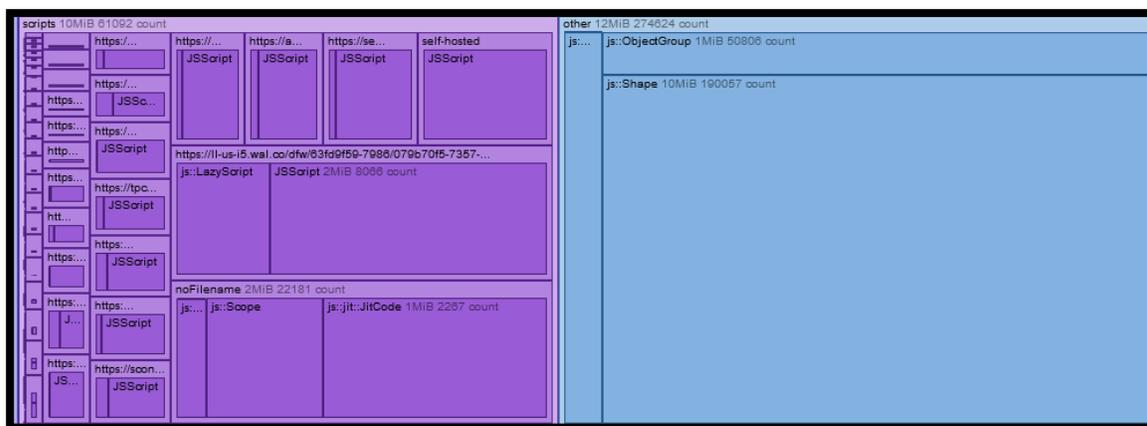
*Walmart.com Network Inspection Report: Excerpt of Inspector Report, WALMART.COM WEBSITE, available at: <https://ll-us-i5.wal.co/dfw/63fd9f59-7986/079b70f5-7357-4005-bdb9-ef8f295fd967/v1/bundle.6bc50453648e2f6196ea.js> (showing link back to script program),*

69. On information and belief, the Wal-Mart '447 Products enable an object embedding program to (via a link) locate a script program.

70. On information and belief, the Wal-Mart '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.

71. On information and belief, the Wal-Mart '447 Products enable the embedding of data in a compound document that is on the communications network. Specifically, the Wal-Mart '447 Products continue to execute the object embedding program such that network data is embedded in the compound document and is displayed to the user. The below Network Inspection Report shows how content is then rendered in the compound document.



*Walmart.com Network Inspection Report: Inspector Report, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/>

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

73. On information and belief, the Wal-Mart '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.

74. On information and belief, Wal-Mart 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 Wal-Mart '447 Products, which include infringing technology for managing

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

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

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

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

78. On information and belief, Wal-Mart intended to induce patent infringement by third-party customers and users of the Wal-Mart '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. Wal-Mart specifically intended and was aware that the normal and customary use of the accused products would infringe the '447 patent. Wal-Mart 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, Wal-Mart provides the Wal-Mart '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 Wal-Mart further provides documentation and training materials that cause customers and end users of the Wal-Mart '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 end-users on how to use the Wal-Mart '447 Products in a manner that directly infringes one or more claims of the '447 patent, including at least claim 5, Wal-Mart specifically intended to induce infringement of the '447 patent. On information and belief, Wal-Mart engaged in such inducement to promote the sales of the Wal-Mart '447 Products, e.g.,

through Wal-Mart user manuals, product support, marketing materials, and training materials to actively induce the users of the accused products to infringe the '447 patent. Accordingly, Wal-Mart 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.

79. 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 Wal-Mart'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 Wal-Mart's competitors by utilizing the same licensed technology without paying reasonable royalties, Wal-Mart 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.

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

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

**COUNT II**  
**INFRINGEMENT OF U.S. PATENT NO. 8,606,900**

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

83. Wal-Mart designs, makes, uses, sells, and/or offers for sale in the United States products and/or services for tracking web page requests received at a web server.

84. Wal-Mart designs, makes, sells, offers to sell, imports, and/or uses the Walmart.com Webpage, servers and computer equipment including: (i) web pages and content to

be interactively presented in browsers, including, without limitation, the web pages and content accessible via [www.walmart.com](http://www.walmart.com) and maintained on servers located within and/or accessible from the United States under the control of Wal-Mart; (ii) software, including, without limitation, software that allows content to be interactively presented in and/or served to browsers; and/or (iii) computer equipment, including, without limitation, computer equipment that stores, serves, and/or runs any of the foregoing (collectively, the “Wal-Mart ‘900 Product(s)”).

85. On information and belief, one or more Wal-Mart subsidiaries and/or affiliates use the Wal-Mart ‘900 Products in regular business operations.

86. On information and belief, one or more of the Wal-Mart ‘900 Products include technology for tracking webpage requests received at a web server from multiple clients.

87. On information and belief, the Wal-Mart ‘900 Products generate multiple session identifiers. The session identifiers that are generated by the Wal-Mart ‘900 Products are text strings that identify a series of requests and responses to perform a complete task or set of tasks between a client and a server system. For example, the Wal-Mart ‘900 Products generate session identifiers such as “Visitor\_ID.” The Wal-Mart ‘900 Products append a “Visitor\_ID” session identifier to URLs to enable Wal-Mart to track requests from visitors to the [Walmart.com](http://Walmart.com) website. The “Visitor\_ID” session identifiers enable the Wal-Mart ‘900 Products server system to process requests sent by a client computer ([Walmart.com](http://Walmart.com) website visitor). These session identifiers are appended to a URL in the following format “visitor\_id=Xfo5pEJcAdTd9cGWNKS8xE.” The session identifiers employed by the Wal-Mart ‘900 Products can comprise a string of digits and letters that are 22 characters long.

```

▼ Query string
action: "product_interest"
action_type: "title"
beacon_version: "1.0.2"
bucket_id: "irsbucketdefault"
client_guid: "77843327-95d2-4065-8fa8-f0f8b342d6f6"
config_id: "109"
customer_id_enc: ""
findingMethod: "p13n"
guid: "77843327-95d2-4065-8fa8-f0f8b342d6f6"
item_id: "10294441"
parent_anchor_item_id: "38470909"
parent_item_id: "38470909"
placement_id: "irs-109-b1"
reporter: "recommendations"
source: "new_site"
strategy: "PWBAB2"
visitor_id: "Xfo5pEJcAdTd9cGWNKS8xE"

```

*Walmart.com Network Inspection Report: Query String, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/ip/> (annotation added) (showing the 22-character “visitor\_id” session identifier that is added to the URL by the Wal-Mart Products).

88. On information and belief, the Wal-Mart ‘900 Products generate session identifiers that have information associated with a particular accessing computer where the accessing computer makes a webpage request to the web server. For example, the Visitor\_ID session identifier has information associated with a particular client (the client associated with the Visitor\_ID session identifier. The Wal-Mart ‘900 Products use the Session ID to further track users as they move from HTML content to further HTML content. In addition, the “visitor\_id” is associated with cookies that are placed by the Wal-Mart ‘900 Products on a client computer and these cookies allow further tracking using the “visitor\_id.”

89. On information and belief, academic research on Web tracking software has found that Wal-Mart’s website tracks users by “embedding user identifiers in URL queries contained in HTTP requests.”<sup>30</sup>

The last years witnessed the silent growth of web tracking services: collecting information about users’ online activity is one of the most profitable activity in the Internet. There are hundreds of companies which base their whole business on it. A countless number of web tracking technologies are in use and tens of business models have been developed around web tracking. This phenomenon is

<sup>30</sup> Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “*Unsupervised Detection of Web Trackers*,” in IEEE GLOBECOM AT 2 (2015); *see also* Hassan Metwalley, *et al*, “*CrowdSurf: Empowering Transparency in the Web*,” ACM SIGCOMM COMPUT. COMMUN. REV. OCT. 2015 ISSUE, vol. 45, no. 4 (2015).

ubiquitous, with both major and mostly unknown players taking part in it. *The web tracking practice raises many concerns about its implications on user’s privacy. Indeed, its implementation results in leakage of information that users and companies would like to keep private:* from sexual or religious preferences, to simple browsing histories.

Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “Unsupervised Detection of Web Trackers,” in IEEE GLOBECOM AT 2 (2015).

90. On information and belief, Metwalley, Traverso, and Mellia go on to identify the specific tracking technology at issue and identify it as including the “visitor\_id” tag identified above along with other Keys that are embedded at various time in the URL of HTTP requests by clients on the walmart.com website.

Web service	Keys
<i>www.walmart.com</i>	customerId
<i>omniture.walmart.com</i>	vidn, c17
<i>beacon.walmart.com</i>	btc, ezakus_id, dwtc, visitor_id
<i>dis.criteo.com</i>	google_gid, CriteoUserId
<i>cm.g.doubleclick.net</i>	CriteoUserId, cb
<i>dw.wmt.co</i>	btc, dwtc

TABLE I. THE USER-TRACKING WEB SERVICES AND THE KEYS OUR ALGORITHM DETECTS FOR WEBSITE *www.walmart.com*.

Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “Unsupervised Detection of Web Trackers,” in IEEE GLOBECOM AT 4 (2015).

91. On information and belief, the Wal-Mart ‘900 Products enable the storing of the session identifiers at the accessing computer in the accessing computer’s web browser. For example, if an accessing computer is running a browser such as Microsoft Internet Explorer the session identifier is stored in the web browser.

92. On information and belief, Wal-Mart describes that it uses cookies, web beacons, and mobile device identifiers to track uses.

***Browsing Information: We use technologies such as cookies, web beacons, and mobile device identifiers to collect information about the use of our websites and mobile services.*** Cookies allow us to provide you relevant information as you use or return to our sites. Web beacons allow us to know if a certain page was visited, an email was opened, or if ad banners on our websites and other sites were effective. We use these tools to provide a continuous and more personalized shopping experience for you. See “What Are Your Choices?” below for more information.

Wal-Mart Privacy Policy, WALMART.COM WEBSITE, available at: <http://corporate.walmart.com/privacy-security/walmart-privacy-policy> (last visited March 2017) (emphasis added).

93. On information and belief, the Wal-Mart ‘900 Products enable the receipt of web page requests at the web server. Each web page request includes a session identifier associated with a client making the web page request. Specifically, the Wal-Mart ‘900 Products receive requests from accessing computers wherein each request for a web page includes the session identifier associated with the requesting computer.

94. On information and belief, the Wal-Mart ‘900 Products enable storing data regarding the web page requests. The data includes the webpage that is requested and the session identifiers associated with the request. Specifically, the Wal-Mart ‘900 Products keep a log of access requests wherein the log includes the requests for specific web pages and related session identifiers. For example, the session identifier “Visitor\_ID” is stored at the web browser that is operated by a client. For example, the session identifier Visitor\_ID is associated with a specific value that is stored in the “vtc” and “exp” cookie value. The below diagram shows the value that is stored in the “vtc” and “exp” cookie at the client computer.

Name	Path	Domain	Expires on	Last accessed on	Value
exp	/	.walmart.com	Tue, 11 Apr 2017 14:42:38...	Tue, 11 Apr 2017 14:12:38...	1%2B1491917936%2BYqWH_alrTFOJn0FFSG2vWA%2B0%2B3pnQM.xqgl0l...
vtc	/	.walmart.com	Mon, 12 Apr 2027 02:16:00...	Tue, 11 Apr 2017 14:16:01...	YqWH_alrTFOJn0FFSG2vWA

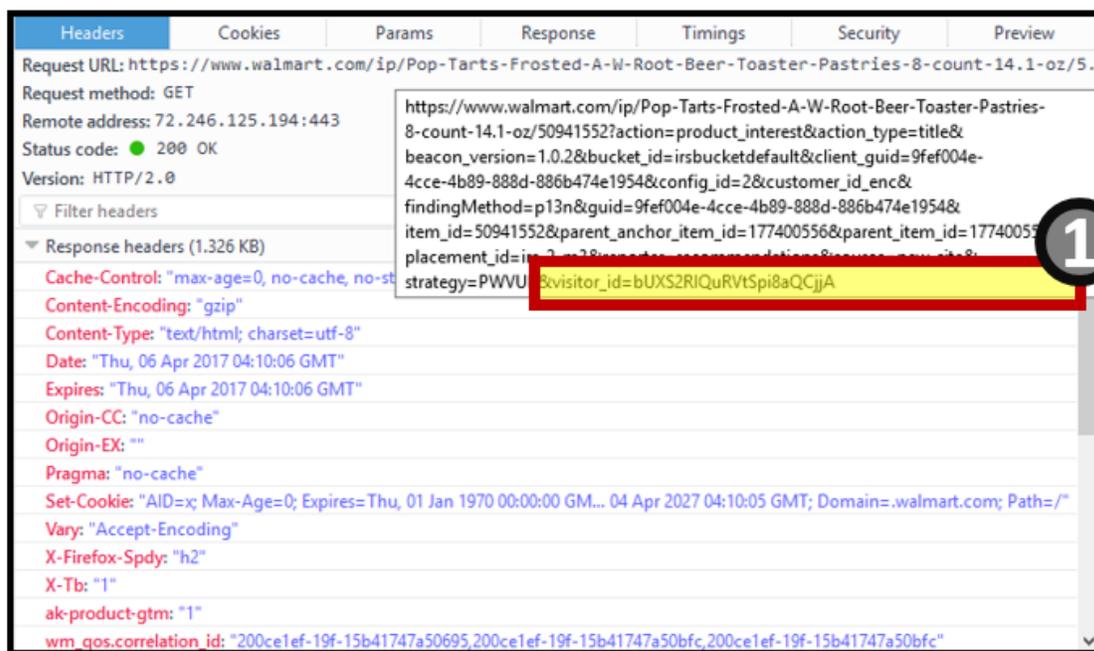
*Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/> (showing the value stored in the cookies named “exp’ and “vtc” at the client computer).

95. On information and belief, the Wal-Mart ‘900 Products are provided to businesses and individuals located in the Eastern District of Texas.

96. On information and belief, the Wal-Mart ‘900 Products enable the tracking of webpage requests by evaluating the information stored at the web server and by counting the number of requests for particular web pages exclusive of repeated requests from a particular client utilizing information associated with a particular client. Specifically, the Wal-Mart ‘900 Products contain website analytics functionality that allows tracking the number of webpage

requests that exclude multiple requests from the same computer associated with a unique session identifier.

97. On information and belief, when a client requests further content from the webpage where the session identifier is appended to the URL, the further request returns content specific to the associated session identifier. For example, the below network inspection reports for a further HTML document requested by a client appends the session identifier to the URL of the further requested HTML document which is sent over a network using the “GET” request method (annotated with a yellow box and identified by the number “1”). The header report from a network inspection shows that the requested HTML content “Request URL” appends the same session ID contained in the referring HTML content (annotated with a yellow box and identified by the number “2”).



*Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/ip/> (showing that the HTML content requested following clicking on HTML content containing a “visitor\_id” appends the “visitor\_id” session identifier to the requested HTML content).

```

Request URL: https://www.walmart.com/ip/Eight-O-Clock-HazeInut-Whole-Bean-Coffee-11-oz/15718135?action=product_interest&
Request method: GET
Remote address: 184.86.95.72:443
Status code: 200 OK
Version: HTTP/2.0
Request headers:
Host: www.walmart.com
User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:52.0)
Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*
/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate, br
Referer: https://www.walmart.com/ip/Eight-O-Clock-Coffee-Original-
Whole-Bean-Coffee-36-oz/10294441?action=product_interest&
action_type=title&beacon_version=1.0.2&bucket_id=irsbucketdefault&
client_guid=77843327-95d2-4065-8fa8-f0f8b342d6f6&config_id=109&
customer_id_enc&findingMethod=p13n&
guid=77843327-95d2-4065-8fa8-f0f8b342d6f6&item_id=10294441&
parent_anchor_item_id=38470909&parent_item_id=38470909&
cement_id=irs-109-b1&reporter=recommendations&
source=new_site&strategy=RWBAB28;
visitor_id=Xfo5pEjCAdTd9cGWNKS8xE
Cookie:
akavpau_p4=1491446566~id=23ccbfc5a6a5292b32584dfe7334c238;
Response headers:
Set-Cookie: AID=x; max-age=0; expires=Thu, 01 Jan 1970 00:00:00 GMT;
Path=/
akavpau_p3=1491448074~id=a1de4c3836be2eef22e8c54f9fb648e;
path=/
akavpau_p3=1491448074~id=a1de4c3836be2eef22e8c54f9fb648e;
path=/
exp-ck=NzCSovOXNpKMTvFmTgMe; Path=/; Domain=walmart.com;
Expires=Thu, 06 Apr 2017 03:27:54 GMT; Max-Age=1800
exp=1%2B1491445578%2BbUXS2RIQuRVtSpi8aQCjJA%2B0%2BCWbw9.Nz
CSoJCcvJB.vOXNpIbCt4O.KMTvFImg9al.mTgMe; Path=/;
Domain=walmart.com; Expires=Thu, 06 Apr 2017 03:27:54 GMT;
Max-Age=1800
bstc=bUXS2RIQuRVtSpi8aQCjJA;Path=/;Domain=.walmart.com;
Expires=Thu, 06 Apr 2017 03:27:54 GMT;Max-Age=1800
vtc=bUXS2RIQuRVtSpi8aQCjJA;Path=/;Domain=.walmart.com;
Expires=Tue, 06 Apr 2027 14:57:54 GMT;Max-Age=315576000
www.wm.reflector="reflectorid:00000000000000000000@lastupd:149144
7473788@firstcreate:1491445578345"; Max-Age=315360000; Expires=Sun,
04 Apr 2027 02:57:54 GMT; Domain=.walmart.com; Path=/

```

*Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/ip/> (showing that the HTML content requested that returns a URL appended with a “visitor\_id” is referred (the “Referrer”) by an HTML document containing the same “visitor\_id” session identifier”).

98. On information and belief, the Wal-Mart ‘900 Products enable counting the number of requests for a webpage wherein the counting performed by the Wal-Mart ‘900 Products excludes repeated requests from a client computer that occur within a predetermined period, and thereafter counts a repeated request for the same web page from the client. Specifically, the Wal-Mart ‘900 Products enable frequency thresholds that exclude counting access requests where the frequency exceeds a specific threshold within a set period.

99. On information and belief, Wal-Mart uses a variety of beacons and cookies to track user activities across its websites these include “vtc,” “exp,” “s\_pers,” “s\_sess,” etc. By looking at the value associated with each session tracking technology, the Wal-Mart product is able to look at particular requests for web pages exclusive of repeated requests for information associated with a particular client and instead look to only the value associated with the session tracking value. Further, the session identifier is set based on the first web page that is accessed. For example, the value of “vtc” is set on the first web page that is visited and not reset based on the access to scripts, images, etc. on a particular web page.

100. On information and belief, Wal-Mart has directly infringed and continues to directly infringe the '900 patent by, among other things, making, using, offering for sale, and/or selling web tracking technology, including but not limited to the Wal-Mart '900 Products, which include infringing web server tracking technologies. Such products and/or services include, by way of example and without limitation, the Wal-Mart '900 Products.

101. By making, using, testing, offering for sale, and/or selling web tracking products and services, including but not limited to the Wal-Mart '900 Products, Wal-Mart has injured Soverain and is liable to Soverain for directly infringing one or more claims of the '900 patent, including at least claims 1 and 5, pursuant to 35 U.S.C. § 271(a).

102. On information and belief, Wal-Mart also indirectly infringes the '900 patent by actively inducing infringement under 35 USC § 271(b).

103. On information and belief, Wal-Mart had knowledge of the '900 patent since at least service of this Complaint or shortly thereafter, and on information and belief, Wal-Mart knew of the '900 patent and knew of its infringement, including by way of this lawsuit.

104. On information and belief, Wal-Mart intended to induce patent infringement by third-party customers and users of the Wal-Mart '900 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. Wal-Mart specifically intended and was aware that the normal and customary use of the accused products would infringe the '900 patent. Wal-Mart performed the acts that constitute induced infringement, and would induce actual infringement, with knowledge of the '900 patent and with the knowledge that the induced acts would constitute infringement. For example, Wal-Mart provides the Wal-Mart '900 Products that have the capability of operating in a manner that infringe one or more of the claims of the '900 patent, including at least claims 1 and 5, and Wal-Mart further provides documentation and training materials that cause customers and end users of the Wal-Mart '900 Products to utilize the products in a manner that directly infringe one or more claims of the '900 patent. By providing instruction and training to customers and end-users on how to use the Wal-Mart '900 Products in

a manner that directly infringes one or more claims of the '900 patent, including at least claims 1 and 5, Wal-Mart specifically intended to induce infringement of the '900 patent. On information and belief, Wal-Mart engaged in such inducement to promote the sales of the Wal-Mart '900 Products, *e.g.*, through Wal-Mart user manuals, product support, marketing materials, and training materials to actively induce the users of the accused products to infringe the '900 patent. Accordingly, Wal-Mart 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 '900 patent, knowing that such use constitutes infringement of the '900 patent.

105. The '900 patent is well-known within the industry as demonstrated by the over 139 citations to the '900 patent in published patents and patent applications assigned to technology companies and academic institutions. Several of Wal-Mart's competitors have paid considerable licensing fees for their use of the technology claimed by the '900 patent. To gain an advantage over Wal-Mart's competitors by utilizing the same licensed technology without paying reasonable royalties, Wal-Mart infringed the '900 patent in a manner best described as willful, wanton, malicious, in bad faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate.

106. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '900 patent.

107. Because of Wal-Mart's infringement of the '900 patent, Sovereign has suffered monetary damages, and seeks recovery in an amount adequate to compensate for Wal-Mart's infringement, but in no event less than a reasonable royalty for the use made of the invention by Wal-Mart together with interest and costs as fixed by the Court.

**COUNT III**  
**INFRINGEMENT OF U.S. PATENT NO. 5,708,780**

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

109. Wal-Mart designed, made, used, sold, and/or offered for sale in the United States products and/or services for processing service requests from a client to a server system through a network.

110. Wal-Mart designed, made, sold, offered to sell, imported, and/or used the Walmart.com Webpage, servers and computer equipment including: (i) web pages and content to be interactively presented in browsers, including, without limitation, the web pages and content accessible via www.walmart.com and maintained on servers located within and/or accessible from the United States under the control of Wal-Mart; (ii) software, including, without limitation, software that allows content to be interactively presented in and/or served to browsers; and/or (iii) computer equipment, including, without limitation, computer equipment that stores, serves, and/or runs any of the foregoing (collectively, the “Wal-Mart ‘780 Product(s)”).

111. On information and belief, one or more Wal-Mart subsidiaries and/or affiliates used the Wal-Mart ‘780 Products in regular business operations.

112. On information and belief, one or more of the Wal-Mart ‘780 Products include technology for processing service requests from a client to server system through a network.

113. On information and belief, the Wal-Mart Products append a “Visitor\_ID” session identifier to URLs to enable Wal-Mart to track requests from visitors to the Walmart.com website. The “Visitor\_ID” session identifiers enable the Wal-Mart Product server system to process requests sent by a client computer (Walmart.com website visitor). These session identifiers are appended to a URL in the following format “visitor\_id=Xfo5pEJcAdTd9cGWNKS8xE.” The session identifiers employed by the Wal-Mart ‘780 Products can comprise a string of digits and letters that are 22 characters long.

```

▼ Query string
action: "product_interest"
action_type: "title"
beacon_version: "1.0.2"
bucket_id: "irsbucketdefault"
client_guid: "77843327-95d2-4065-8fa8-f0f8b342d6f6"
config_id: "109"
customer_id_enc: ""
findingMethod: "p13n"
guid: "77843327-95d2-4065-8fa8-f0f8b342d6f6"
item_id: "10294441"
parent_anchor_item_id: "38470909"
parent_item_id: "38470909"
placement_id: "irs-109-b1"
reporter: "recommendations"
source: "new_site"
strategy: "PWBAB2"
visitor_id: "Xfo5pEJcAdTd9cGWNKS8xE"

```

*Walmart.com Network Inspection Report: Query String, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/ip/> (annotation added) (showing the 22-character “visitor\_id” session identifier that is added to the URL by the Wal-Mart Products).

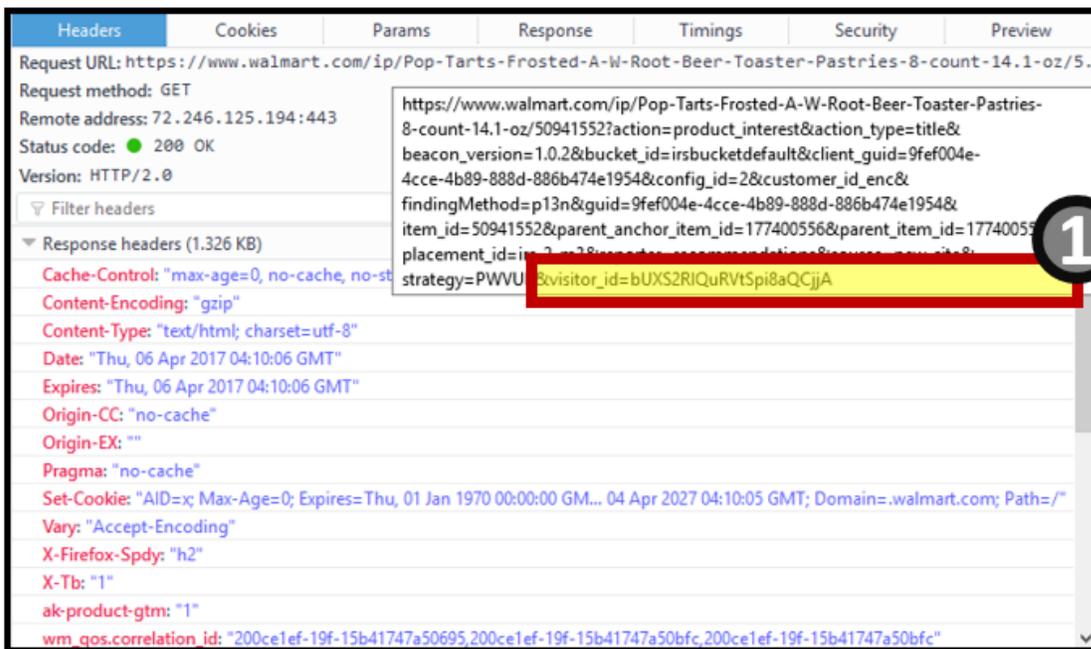
114. On information and belief, one or more of the Wal-Mart ‘780 Products append to a path name in a uniform resource locator a session identifier. Specifically, the ‘780 Products tag, add, affix, or supplement to the sequence of zero or more elements that follows the host address in a URL a text string that identifies a session.

115. On information and belief, when the Wal-Mart ‘780 Products transfer through a network various types of data the session identifier is appended to the URL of the data. The Network Inspection Report for a single Walmart.com webpage shows that over 22 different pieces of content have the unique session identifier appended to their URL. Further, this network data is transferred by Wal-Mart using a “GET” method as shown in the second column in the below screenshot.

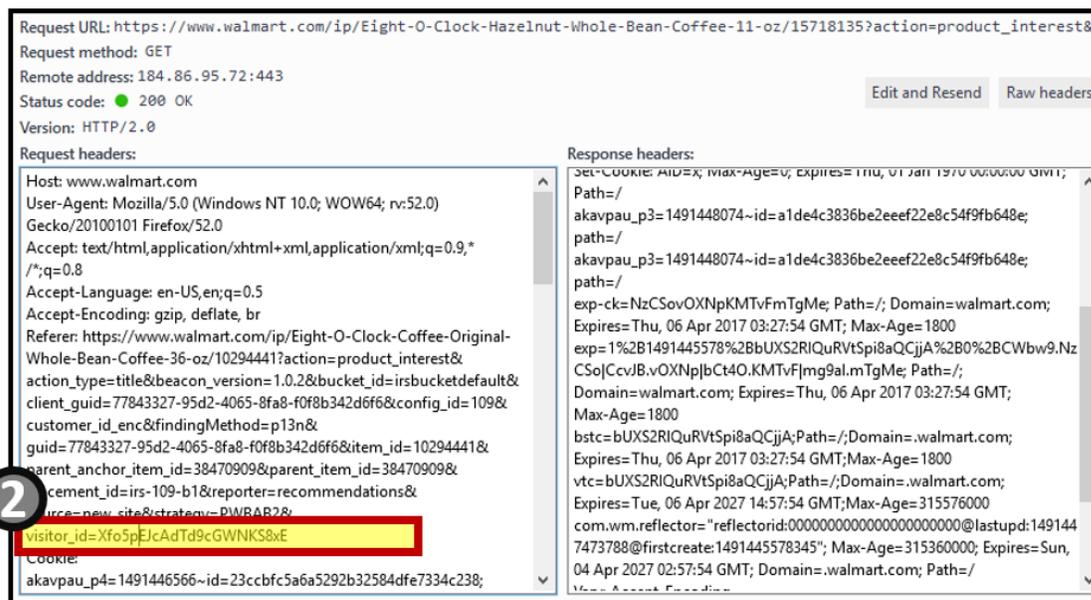
Status	Method	File	Domain	Cause	Type
200	GET	10294441?action=product_interest&action_type=title&beacon_version=1.0.2...	www.walmart.com	JS document	html
200	GET	rum.gif?ads=({"adsData":{"viewPortWidth":1920,"viewPortHeight":464,"br...	beacon.walmart.com	JS img	gif
200	GET	ads?gdfp_req=1&correlator=1571500769293342&output=json_html&callbac...	securepubads.g.doubleclick.net	JS script	js
200	GET	p13n?category=0:976759:1086446:1229652&client_guid=25e999e3-0ac6-40c2-...	www.walmart.com	JS fetch	json
302	GET	rum.gif?v=0.9.1370628800&u=https://www.walmart.com/ip/Eight-O-Clo...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ee=({"XP":{"nm":"XP","fm":"CWbw9 NzCSo,bCt4O KMTvF"}}&tee_...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?iw=1920&resp=&om_prop13=&om_prop20=&om_errors=&...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ee=({"XP":{"nm":"XP","fm":"CWbw9 NzCSo,bCt4O KMTvF"}}&tee_...	beacon.walmart.com	JS img	gif
200	GET	s68347767098262?AQB=1&ndh=1&t=5/3/2017 19:39:43 3 420&fid=60E5E...	omniture-ssl.walmart.com	JS img	gif
200	GET	541098-15.js?&cb=0.23197876726221955&tk_st=1&rf=https://www.walmart.c...	optimized-by.rubiconproject.com	JS script	js
200	GET	s64907622653697?AQB=1&ndh=1&t=5/3/2017 19:39:45 3 420&fid=60E5E...	omniture-ssl.walmart.com	JS img	gif
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif
200	GET	ads?q=Eight OClock The Original Whole Bean Coffee 36 oz Bag&theme=wall...	www.google.com	JS subdocument	html
200	GET	ads?q=Eight OClock The Original Whole Bean Coffee 36 oz Bag&qry_ctbt=fo...	www.google.com	JS subdocument	html
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif

*Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE*, available at: <https://www.walmart.com/ip/> (showing a selection of the network data transmitted by Wal-Mart to a client that appends the “visitor\_id” session identifier to the data).

116. On information and belief, one or more of the Wal-Mart ‘780 Products process service requests between a client and server using hypertext transfer protocol. Specifically, the ‘780 Products process service requests using a client/server protocol used to access information on the World Wide Web. When a client requests further content from the webpage where the session identifier is appended to the URL, the further request returns content specific to the associated session identifier. For example, the below network inspection reports for a further HTML document requested by a client appends the session identifier to the URL of the further requested HTML document, which is sent over a network using the “GET” request method (annotated with a yellow box and identified by the number “1”). The header report from a network inspection shows that the requested HTML content “Request URL” appends the same session ID contained in the referring HTML content (annotated with a yellow box and identified by the number “2”).



Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE, available at: <https://www.walmart.com/ip/> (showing that the HTML content requested following clicking on HTML content containing a “visitor\_id” appends the “visitor\_id” session identifier to the requested HTML content).



Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE, available at: <https://www.walmart.com/ip/> (showing that the HTML content requested that returns a URL appended with a “visitor\_id” is referred (the “Referrer”) by an HTML document containing the same “visitor\_id” session identifier”).

117. On information and belief, one or more of the Wal-Mart ‘780 Products return requests hypertext pages to a client in response to requests for hypertext pages received from the

client through a network. Specifically, the Wal-Mart ‘780 Products return requests for screen renderings referenced by (or including) hypertext links.

118. On information and belief, the Wal-Mart ‘780 Products respond to further client requests related to links in hypertext pages. Specifically, the Wal-Mart ‘780 Products respond to requests from a client computer relating to a non-sequential web association which the user can use to navigate through related topics. The Wal-Mart Products use the Session ID to further track users as they move from HTML content to further HTML content. In addition, the “visitor\_id” is associated with cookies that are placed by the Wal-Mart Products on a client computer and these cookies allow further tracking using the “visitor\_id.”

119. On information and belief, academic research on Web tracking software has found that Wal-Mart’s website tracks users by “embedding user identifiers in URL queries contained in HTTP requests.”<sup>31</sup>

The last years witnessed the silent growth of web tracking services: collecting information about users’ online activity is one of the most profitable activity in the Internet. There are hundreds of companies which base their whole business on it. A countless number of web tracking technologies are in use and tens of business models have been developed around web tracking. This phenomenon is ubiquitous, with both major and mostly unknown players taking part in it. ***The web tracking practice raises many concerns about its implications on user’s privacy. Indeed, its implementation results in leakage of information that users and companies would like to keep private:*** from sexual or religious preferences, to simple browsing histories.

Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “*Unsupervised Detection of Web Trackers*,” in IEEE GLOBECOM AT 2 (2015).

120. On information and belief, Metwalley, Traverso, and Mellia go onto identify the specific tracking technology at issue and identify it as including the “visitor\_id” tag identified above along with other Keys that are embedded at various time in the URL of HTTP requests by clients on the walmart.com website.

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<sup>31</sup> Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “*Unsupervised Detection of Web Trackers*,” in IEEE GLOBECOM AT 2 (2015); *see also* Hassan Metwalley, *et al*, “*CrowdSurf: Empowering Transparency in the Web*,” ACM SIGCOMM COMPUT. COMMUN. REV. OCT. 2015 ISSUE, vol. 45, no. 4 (2015).

Web service	Keys
<i>www.walmart.com</i>	customerId
<i>omniture.walmart.com</i>	vidn, c17
<i>beacon.walmart.com</i>	btc, ezakus_id, dwtc, visitor_id
<i>dis.criteo.com</i>	google_gid, CriteoUserId
<i>cm.g.doubleclick.net</i>	CriteoUserId, cb
<i>dw.wmt.co</i>	btc, dwtc

TABLE I. THE USER-TRACKING WEB SERVICES AND THE KEYS OUR ALGORITHM DETECTS FOR WEBSITE *www.walmart.com*.

Hassan. Metwalley, Stefano Traverso, and Marco Mellia, “*Unsupervised Detection of Web Trackers*,” in IEEE GLOBECOM AT 4 (2015).

121. On information and belief, the Wal-Mart ‘780 Products track further requests from a client computer relating to a particular hypertext page. Specifically, the Wal-Mart ‘780 Products track additional client computer requests for screen rendering referenced by (or including) hypertext links.

122. On information and belief, the Wal-Mart ‘780 Products are described by Wal-Mart as including tracking technologies such as cookies, web beacons and mobile device identifiers.

***Browsing Information: We use technologies such as cookies, web beacons, and mobile device identifiers to collect information about the use of our websites and mobile services.*** Cookies allow us to provide you relevant information as you use or return to our sites. Web beacons allow us to know if a certain page was visited, an email was opened, or if ad banners on our websites and other sites were effective. We use these tools to provide a continuous and more personalized shopping experience for you. See “What Are Your Choices?” below for more information.

*Wal-Mart Privacy Policy*, WALMART.COM WEBSITE, available at: <http://corporate.walmart.com/privacy-security/walmart-privacy-policy> (last visited March 2017) (emphasis added).

123. On information and belief, the Wal-Mart ‘780 Products enable the use of a session identifier where the session identifier is a common session identifier and the server tracks client request within a session of requests. Specifically, the communications between the client and server system are made according to HTTP/2.0 protocol made using a “GET” request method.

Status	Method	File	Domain	Cause	Type
200	GET	10294441?action=product_interest&action_type=title&beacon_version=1.0.2...	www.walmart.com	JS document	html
200	GET	rum.gif?ads=({"adsData":{"viewPortWidth":1920,"viewPortHeight":464,"br...	beacon.walmart.com	JS img	gif
200	GET	ads?gdfp_req=1&correlator=1571500769293342&output=json_html&callbac...	securepubads.g.doubleclick.net	JS script	js
200	GET	p13n?category=0:976759:1086446:1229652&client_guid=25e999e3-0ac6-40c2-...	www.walmart.com	JS fetch	json
302	GET	rum.gif?v=0.9.1370628800&u=https://www.walmart.com/ip/Eight-O-Clo...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ee=({"XP":{"nm":"XP","fm":"CWbw9 NzCSo,bCt4O KMTvF"}})&tee_...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?iw=1920&resp=&om_prop13=&om_prop20=&om_errors=&...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ee=({"XP":{"nm":"XP","fm":"CWbw9 NzCSo,bCt4O KMTvF"}})&tee_...	beacon.walmart.com	JS img	gif
200	GET	s68347767098262?AQB=1&ndh=1&tt=5/3/2017 19:39:43 3 420&fid=60E5E...	omniture-ssl.walmart.com	JS img	gif
200	GET	541098-15.js?&cb=0.23197876726221955&tk_st=1&rf=https://www.walmart.c...	optimized-by.rubiconproject.com	JS script	js
200	GET	s64907622653697?AQB=1&ndh=1&tt=5/3/2017 19:39:45 3 420&fid=60E5E...	omniture-ssl.walmart.com	JS img	gif
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif
200	GET	ads?q=Eight OClock The Original Whole Bean Coffee 36 oz Bag&theme=wall...	www.google.com	JS subdocument	html
200	GET	ads?q=Eight OClock The Original Whole Bean Coffee 36 oz Bag&qry_ctbt=fo...	www.google.com	JS subdocument	html
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif
200	GET	rum.gif?ads=({"adsData":{"async":1,"adUid":"761f9f2b-0cb1-4046-af1e-71...	beacon.walmart.com	JS img	gif
200	GET	beacon.gif?async=1&adUid=761f9f2b-0cb1-4046-af1e-718d92a6ea30&ty...	beacon.walmart.com	JS img	gif

Walmart.com Network Inspection Report: Network Traffic, WALMART.COM WEBSITE, available at: <https://www.walmart.com/ip/> (showing a selection of the network data transmitted by Wal-Mart to a client that appends the “visitor\_id” session identifier to the data).

124. On information and belief, the Wal-Mart ‘780 Products have been provided, sold, and/or offered for sale to businesses and individuals located in the Eastern District of Texas.

125. On information and belief, the Wal-Mart ‘780 Products contain a means for receiving service requests from clients and for determining whether a service request includes a session identifier. Specifically, the Wal-Mart ‘780 Products contain a content server as shown in the ‘780 patent specification at element 120 in Fig. 2A and element 52 in Fig. 3, executing a computer program implementing algorithm steps as shown in Fig. 2A, including block 104, and equivalent structures.

126. On information and belief, the Wal-Mart ‘780 Products enable methods for controlling and monitoring access to network servers using a session identifier. Further, the Wal-Mart ‘780 Products utilize a session identifier that allows web servers to recognize and service multiple requests from the same client and control access to the server without repeated authentication.

127. On information and belief, the Wal-Mart ‘780 Products contain a means for appending the session identifier as part of a path name in a uniform resource locator in response to an initial service request in a session of requests. Specifically, the Wal-Mart ‘780 Products

contain an authentication server as shown in the '780 Patent specification at element 200 in Figs. 2A and 2B, element 54 in Fig. 3, executing a computer program implementing algorithm steps as shown in Fig. 2B, including blocks 228, 230, and 232, and equivalent structures.

128. On information and belief, the Wal-Mart '780 Products comprise means for servicing service requests from a client which include a session identifier where subsequent service requests are processed in the session. Specifically, the Wal-Mart '780 Products comprise a content server as shown in the '780 Patent specification at element 120 in Fig. 2A and element 52 in Fig. 3, executing a computer program implementing algorithm shown in Fig. 2A, including blocks 110, 112, and 116, or the client server exchange 9 and 10 in Fig. 3, and equivalent structures.

129. On information and belief, the Wal-Mart '780 Products comprise a means for providing a session identifier. Specifically, the Wal-Mart '780 Products comprise an authentication server as shown in the '780 Patent specification at element 200 in Figs. 2A and 2B, and element 54 in Fig. 3, executing a computer program implementing algorithm steps as shown in Fig. 2B, including blocks 228, 230, and 232, and equivalent structures.

130. On information and belief, the Wal-Mart '780 Products enable the use of a uniform resource locator that includes a transfer protocol identifier, a host name, one or more directory names, and a file name.

131. On information and belief, the Wal-Mart '780 Products enable the use of session identifier where the session identifier is appended to the path name in the uniform resource locator between the transfer protocol identifier and the file name. Specifically, the Wal-Mart '780 Products use a text string that identifies a series of requests and responses to perform a complete task or set of tasks between a client and a server system. The Wal-Mart '780 Products tag, add, affix, or supplement the text string that identifies a session to the sequence of zero or more elements that follows the host address in a URL between the transfer protocol identifier and file name.

132. On information and belief, the Wal-Mart '780 Products comprise a server system that tracks access history information within a client-server session.

133. On information and belief, the Wal-Mart '780 Products use a session identifier that enables the client to access files within a protected domain. Specifically, the Wal-Mart '780 Products use a text string that identifies a session to enable a client computer to access files within a protected domain.

134. On information and belief, the Wal-Mart '780 Products enable the use of a session identifier to access files with a plurality of servers.

135. On information and belief, the Wal-Mart '780 Products enable the use of a client computer running a web browser (e.g., Internet Explorer) and a web server where the session of requests include hypertext transfer protocol GET requests transmitted from the web browser on the client computer to the web server. Further, the Wal-Mart '780 Products use GET requests which include a uniform resource locator having the session identifier appended to it. Specifically, the GET requests include a text string that identifies a session where the text string is tagged, added, affixed, or supplemented to the URL as part of a path name.

136. On information and belief, Wal-Mart has directly infringed the '780 patent by, among other things, having made, used, offered for sale, and/or sold technology for processing service requests from a client to a server system over a computer network, including but not limited to the Wal-Mart '780 Products, which include infringing technologies for processing service requests from a client to a server system over a computer network. Such products and/or services include, by way of example and without limitation, the Wal-Mart '780 Products.

137. By having made, used, tested, offered for sale, and/or sold products and services for processing service requests from a client to a server system over a computer network, including but not limited to the Wal-Mart '780 Products, Wal-Mart has injured Sovereign and is liable to Sovereign for directly infringing one or more claims of the '780 patent, including at least claims 22, 23, 32, 33, 112-114, 127, 128, and 129, pursuant to 35 U.S.C. § 271(a).

138. The '780 patent is well-known within the industry as demonstrated by the over 1,840 citations to the '780 patent in published patents and patent applications assigned to technology companies and academic institutions. Several of Wal-Mart's competitors have paid considerable licensing fees for their use of the technology claimed by the '780 patent. To gain an advantage over Wal-Mart's competitors by utilizing the same licensed technology without paying reasonable royalties, Wal-Mart infringed the '780 patent in a manner best described as willful, wanton, malicious, in bad faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate.

139. To the extent applicable, the requirements of 35 U.S.C. § 287(a) have been met with respect to the '780 patent.

140. Because of Wal-Mart's infringement of the '780 patent, Sovereign has suffered monetary damages, and seeks recovery in an amount adequate to compensate for Wal-Mart's infringement, but in no event less than a reasonable royalty for the use made of the invention by Wal-Mart 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 Wal-Mart has infringed, either literally and/or under the doctrine of equivalents, the '447 patent, the '900 patent, and the '780 patent;
- B. An award of damages resulting from Wal-Mart'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: April 12, 2017

Respectfully submitted,

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