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12 UNITED STATES DISTRICT COURT  
13 NORTHERN DISTRICT OF CALIFORNIA  
14 SAN JOSE DIVISION

15 IN RE PERSONALWEB TECHNOLOGIES,  
16 LLC, ET AL., PATENT LITIGATION

**CASE NO.: 5:18-md-02834-BLF**

**FIRST AMENDED COMPLAINT**

**DEMAND FOR JURY TRIAL**

18  
19 PERSONALWEB TECHNOLOGIES, LLC,  
20 ET AL.,

**Case No.: 5:18-cv-03572-BLF**

21 Plaintiffs,

22 v.

23 BITLY, INC., a Delaware corporation

24 Defendants.  
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1 Plaintiff PersonalWeb Technologies, LLC ("Plaintiff" or "PersonalWeb") files this First  
2 Amended Complaint ("Complaint") for patent infringement against Defendant Bitly, Inc.  
3 ("Defendant"). Plaintiff PersonalWeb Technologies, LLC alleges:

4  
5 **PRELIMINARY STATEMENT**

6 1. PersonalWeb and Level 3 Communications, LLC ("Level 3") are parties to an  
7 agreement between Kinetech, Inc. and Digital Island, Inc. dated September 1, 2000 (the "Agreement").  
8 Pursuant to the Agreement, PersonalWeb and Level 3 each own a fifty percent (50%) undivided  
9 interest in and to the patents at issue in this action: U.S. Patent Nos. 6,928,442, 7,802,310, and  
10 8,099,420 ("Patents-in-Suit"). Level 3 has joined in this Complaint pursuant to its contractual  
11 obligations under the Agreement, at the request of PersonalWeb.

12 2. Pursuant to the Agreement, Level 3 has, among other rights, certain defined rights to  
13 use, practice, license, sublicense and enforce and/or litigate the Patents-in-Suit in connection with a  
14 particular field of use ("Level 3 Exclusive Field"). Pursuant to the Agreement PersonalWeb has,  
15 among other rights, certain defined rights to use, practice, license, sublicense, enforce and/or litigate  
16 the Patents-in-Suit in fields other than the Level 3 Exclusive Field (the "PersonalWeb Patent Field").

17 3. All infringement allegations, statements describing PersonalWeb, statements  
18 describing any Defendant (or any Defendant's products) and any statements made regarding  
19 jurisdiction and venue are made by PersonalWeb alone, and not by Level 3. PersonalWeb alleges that  
20 the infringements at issue in this case all occur within, and are limited to, the PersonalWeb Patent  
21 Field. Accordingly, PersonalWeb has not provided notice to Level 3—under Section 6.4.1 of the  
22 Agreement or otherwise—that PersonalWeb desires to bring suit in the Level 3 Exclusive Field in its  
23 own name on its own behalf or that PersonalWeb knows or suspects that Defendant is infringing or  
24 has infringed any of Level 3's rights in the patents.

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**THE PARTIES**

1  
2 4. Plaintiff PersonalWeb Technologies, LLC is a limited liability company duly organized  
3 and existing under the laws of Texas with its principal place of business at 112 E. Line Street, Suite  
4 204, Tyler, TX 75702.

5 5. Plaintiff Level 3 Communications, LLC is a limited liability company organized under  
6 the laws of Delaware with its principal place of business at 100 CenturyLink Drive, Monroe,  
7 Louisiana, 71203.

8 6. PersonalWeb's infringement claims asserted in this case are asserted by PersonalWeb  
9 and all fall outside the Level 3 Exclusive Field. Level 3 is currently not asserting patent infringement  
10 in this case in the Level 3 Exclusive Field against any Defendant.

11 7. Defendant Bitly, Inc. is, upon information and belief, a Delaware corporation having a  
12 principal place of business and regular and established place of business at 139 5<sup>th</sup> Avenue, 5<sup>th</sup> Floor,  
13 New York, NY 10010.

14  
15 **JURISDICTION AND VENUE**

16 8. The court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a)  
17 because this action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

18 9. Venue is proper in this federal district pursuant to 28 U.S.C. §§ 1391(b)–(c) and  
19 1400(b) because, on information and belief, Defendant has a regular and established place of business  
20 in the Southern District of New York and has committed acts of infringement in such District.

21 10. Venue is also proper in this Court because this action has been transferred to this  
22 District by the Judicial Panel on Multidistrict Litigation for coordinated or consolidated pretrial  
23 proceedings pursuant to 28 U.S.C. § 1407.

24 11. This court has personal jurisdiction over Defendant because, in addition to the  
25 allegations in above paragraphs, on information and belief, Defendant is domiciled in the Southern  
26 District of New York. Further, on information and belief, Defendant purposefully directed activities  
27 at residents of New York, the claims herein arise out of and relate to those activities, and assertion of  
28 personal jurisdiction over Defendant would be fair.

1 12. On information and belief, Defendant is subject to this Court's jurisdiction because this  
2 action has been transferred to this District by the Judicial Panel on Multidistrict Litigation for  
3 coordinated or consolidated pretrial proceedings pursuant to 28 U.S.C. § 1407.  
4

#### 5 **PERSONALWEB BACKGROUND**

6 13. The Patents-in-Suit cover fundamental aspects of cloud computing, including the  
7 identification of files or data and the efficient retrieval thereof in a manner which reduces bandwidth  
8 transmission and storage requirements.

9 14. The ability to reliably identify and access specific data is essential to any computer  
10 system or network. On a single computer or within a small network, the task is relatively easy: simply  
11 name the file, identify it by that name and its stored location on the computer or within the network,  
12 and access it by name and location. Early operating systems facilitated this approach with standardized  
13 naming conventions, storage device identifiers, and folder structures.

14 15. Ronald Lachman and David Farber, the inventors of the Patents-in-Suit, recognized  
15 that the conventional approach for naming, locating, and accessing data in computer networks could  
16 not keep pace with ever-expanding, global data processing networks. New distributed storage systems  
17 use files that are stored across different devices in dispersed geographic locations. These different  
18 locations could use dissimilar conventions for identifying storage devices and data partitions.  
19 Likewise, different users could give identical names to different files or parts of files—or unknowingly  
20 give different names to identical files. No solution existed to ensure that identical file names referred  
21 to the same data, and conversely, that different file names referred to different data. As a result,  
22 expanding networks could not only become clogged with duplicate data, they also made locating and  
23 controlling access to stored data more difficult.

24 16. Lachman and Farber developed a solution: replacing conventional naming and storing  
25 conventions with system-wide “substantially unique,” content-based identifiers. Their approach  
26 assigned substantially unique identifiers to “data items” of any type: “the contents of a file, a portion  
27 of a file, a page in memory, an object in an object-oriented program, a digital message, a digital  
28 scanned image, a part of a video or audio signal, or any other entity which can be represented by a

1 sequence of bits.” Applied system-wide, this invention would permit any data item to be stored,  
2 located, managed, synchronized, and accessed using its content-based identifier.

3 17. To create a substantially unique, content-based identifier, Lachman and Farber turned  
4 to cryptography. Cryptographic hash functions, including MD4, MD5, and SHA, had been used in  
5 computer systems to verify the integrity of retrieved data—a so-called “checksum.” Lachman and  
6 Farber recognized that these same hash functions could be devoted to a vital new purpose: if a  
7 cryptographic hash function was applied to a sequence of bits (a “data item”), it would produce a  
8 substantially unique result value, one that: (1) virtually guarantees a different result value if the data  
9 item is changed; (2) is computationally difficult to reproduce with a different sequence of bits; and  
10 (3) cannot be used to recreate the original sequence of bits.

11 18. These cryptographic hash functions would thus assign any sequence of bits, based on  
12 content alone, with a substantially unique identifier. Lachman and Farber estimated that the odds of  
13 these hash functions producing the same identifier for two different sequences of bits (i.e., the  
14 “probability of collision”) would be about 1 in 2 to the 29<sup>th</sup> power. Lachman and Farber dubbed their  
15 content-based identifier a “True Name.”

16 19. Using a True Name, Lachman and Farber conceived various data structures and  
17 methods for managing data (each data item correlated with a single True Name) within a network—  
18 no matter the complexity of the data or the network. These data structures provide a key-map  
19 organization, allowing for a rapid identification of any particular data item anywhere in a network by  
20 comparing a True Name for the data item against other True Names for data items already in the  
21 network. In operation, managing data using True Names allows a user to determine the location of  
22 any data in a network, determine whether access is authorized, and to selectively provide access to  
23 specific content not possible using the conventional naming arts.

24 20. On April 11, 1995, Lachman and Farber filed their patent application, describing these  
25 and other ways in which content-based “True Names” elevated data-processing systems over  
26 conventional file-naming systems. The first True Name patent issued on November 2, 1999. The last  
27 of the Patents-in-Suit has expired, and the allegations herein are directed to the time period before  
28 expiration of the last of the Patents-in-Suit.

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