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MOBILE NETWORKING SOLUTIONS, LLC

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15 **UNITED STATES DISTRICT COURT**
16 **CENTRAL DISTRICT OF CALIFORNIA**
17 **SOUTHERN DIVISION**

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19 MOBILE NETWORKING SOLUTIONS,
20 LLC,

21 Plaintiff,

22 v.

23 EXPERIAN INFORMATION
24 SOLUTIONS, INC. and MAPR
25 TECHNOLOGIES, INC.,

26 Defendants.

Case No. 8:17-cv-00884-DOC-JCG

**FIRST AMENDED COMPLAINT FOR
PATENT INFRINGEMENT**

1 Plaintiff Mobile Networking Solutions, LLC (“Plaintiff” or “MNS”), by way of this
2 First Amended Complaint against Defendants Experian Information Solutions, Inc.
3 (“Experian”) and MapR Technologies, Inc. (“MapR”) (collectively Experian and MapR are
4 referred to as “Defendants” herein), alleges as follows:

5 **THE PARTIES**

6 1. Plaintiff MNS is a limited liability company organized and existing under the
7 laws of the State of Texas, having its principal place of business at 1400 Preston Road,
8 Suite 483, Plano, TX 75093.

9 2. On information and belief, Defendant Experian is a corporation organized and
10 existing under the laws of the State of Ohio, having its principal place of business at 475
11 Anton Boulevard, Costa Mesa, CA 92626.

12 3. On information and belief, Defendant MapR is a corporation organized and
13 existing under the laws of the Delaware, having its principal place of business at 350
14 Holger Way, San Jose, CA 95134.

15 **JURISDICTION AND VENUE**

16 4. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, et
17 seq., for infringement by each of the Defendants of claims of U.S. Patent No. 7,197,662
18 (the “’662 Patent”); U.S. Patent No. 7,543,177 (the “’177 Patent”); and U.S. Patent No.
19 7,958,388 (the “’388 Patent”) (collectively, the ’662 Patent, ’177 Patent, and ’388 Patent
20 are referred to as the “Patents-in-Suit” herein).

21 5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and
22 1338(a).

23 6. Experian is subject to personal jurisdiction of this Court because, inter alia,
24 upon information and belief, (i) Experian is headquartered in the State of California, (ii)
25 Experian regularly conducts business in the State of California, (iii) Experian is registered
26 to do business in the State of California, (iv) Experian has committed and continues to
27 commit acts of patent infringement in the State of California, including by making, using,
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1 offering to sell, and/or selling accused products and services in California, and upon
2 information belief, Experian has hundreds of employees in the State of California.

3 7. MapR is subject to the personal jurisdiction of this Court because, inter alia,
4 upon information and belief, (i) MapR is headquartered in the State of California, (ii)
5 MapR regularly conducts business in the State of California, (iii) MapR is registered to do
6 business in the State of California, (iv) MapR has committed and continues to commit acts
7 of patent infringement in the State of California, including by making, using, offering to
8 sell, and/or selling accused products and services in California.

9 8. Venue is proper in this judicial district under 28 U.S.C. § 1400(b) as to
10 Experian because, inter alia, on information and belief, Experian has committed acts of
11 infringement of the Patents-in-Suit in this judicial district, and Experian has a regular and
12 established place of business in this judicial district. Experian has a regular and established
13 place of business in this district because its headquarters are located in Costa Mesa,
14 California. On information and belief, Experian has committed acts of infringement of the
15 Patents-in-Suit pursuant to 35 U.S.C. § 271(a) in this judicial district.

16 9. On information and belief, Experian has committed acts of infringement of the
17 Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by using the accused Experian/MapR system
18 in this judicial district, including exercising control and obtaining beneficial use of the
19 system at its Costa Mesa headquarters for the company as a whole. In 2014, Experian's
20 director of the Data Development Technology Group "summarize[d] the benefits of the
21 upgraded [MapR Hadoop] system to both the company and its customers: 'We are realizing
22 increased processing speed which leads to shorter delivery times. In addition, reduced
23 storage expenses means that we can store more, not acquire less. Both the company's
24 internal operations and our clients have access to deeper data supporting and aiding insights
25 into their business areas.'" Coping with Big Data at Experian – "Don't Wait, Don't Stop"
26 (www.datanami.com/2014/09/01/datanami-announcing-2014-big-data-star-awards/, Exhibit
27 A). In another example, LinkedIn profiles for Experian software developers in the Orange
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1 County, California Area include “[h]ands on experience in Cloudera/Hortonworks/MapR
2 Hadoop distribution.” (Exhibit B) (emphasis added).

3 10. On information and belief, Experian has committed acts of infringement of the
4 Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by offering to sell and/or selling the accused
5 Experian/MapR system in this judicial district. For example, as of 2014, with respect to the
6 accused Experian/MapR systems, Experian had “a single customer solution right now. But
7 as we get new customers who can use this kind of capability, we can add additional nodes
8 and storage and processing capacity at the same time.” Coping with Big Data at Experian –
9 “Don’t Wait, Don’t Stop” ([www.datanami.com/2014/09/01/datanami-announcing-2014-](http://www.datanami.com/2014/09/01/datanami-announcing-2014-big-data-star-awards/)
10 [big-data-star-awards/](http://www.datanami.com/2014/09/01/datanami-announcing-2014-big-data-star-awards/), Exhibit A). The Corporate Fact Sheet states that Experian’s “North
11 America annual sales are more than \$2 billion.”
12 (<http://www.experian.com/corporate/experian-corporate-factsheet.html>) (Exhibit C). On
13 further information and belief, Experian has also committed acts of infringement of the
14 Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by making the accused Experian/MapR
15 system in this judicial district.

16 11. Venue is proper in this judicial district under 28 U.S.C. § 1400(b) as to MapR
17 because, inter alia, on information and belief, MapR has committed acts of infringement of
18 the Patents-in-Suit in this judicial district, and MapR has a regular and established place of
19 business in this judicial district. MapR has a regular and established place of business in
20 this district because: (i) MapR currently employs at least six engineers and sales
21 professionals in the “Greater Los Angeles” area (*see* Exhibit D); (ii) MapR has been hiring
22 professionals in the Los Angeles area for several years (“Territory Systems Engineer-
23 Multiple Locations in Los Angeles at MapR Technology” [June 8, 2014], “Territory Sales
24 Director at Mapr Technologies (Los Angeles, CA)” [August 8, 2014], “Territory Sales
25 Engineer – at Mapr (Los Angeles, CA) [October 6, 2014], “Territory Sales Engineer in Los
26 Angeles at MapR Technology” [March 8, 2016], “Territory Systems Engineer – Los
27 Angeles in Los Angeles at MapR Technology” [July 25, 2016], “MapR is hiring for
28 Territory Sales Director – Los Angeles” [August 10, 2016], “MapR is hiring for Territory

1 Sales director – Los Angeles!” [April 9, 2017], and “MapR is looking for: Solutions
2 Engineer – Los Angeles” [June 17, 2017] (*see* Exhibit E); and (iii) MapR continuously
3 markets the accused systems in this judicial district, including attending and sponsoring
4 presentations and meetups (*see* “Ted Dunning #MapR Chief Architect to speak Los
5 Angeles Los Angeles HUG Also DataMeer + WibiData Meet-up” [February 6, 2012]
6 (Exhibit E), “MapR Technologies to Speak on Hadoop Topics at Multiple Big Data Events
7 in September [at the Los Angeles Convention Center on September 20, 2014]” (Exhibit F),
8 “Tomorrow: Los Angeles #ApacheSpark Panel Discussion with MapR, Cloudera, and
9 Pivotal” [September 29, 2014] (Exhibit E), “Twofer - Mac Moore of Gridgain & Dale Kim
10 of MapR - Los Angeles Big Data Users Group (Los Angeles, CA)” [November 7, 2014]
11 (Exhibit E), “Digital Transformation in Big Data” at Fairmont Newport Beach [Dec. 7,
12 2016] (Exhibit G), and “LA Data: Cities Ponder Responsible Use of Big Data” (“Big data
13 companies like IBM, Cloudera and MapR have been courting city, county and state
14 governments...” (emphasis added) (Exhibit H).

15 12. On information and belief, MapR has committed acts of infringement of the
16 Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by using the accused systems in this judicial
17 district, including exercising control and obtaining beneficial use of the system in this
18 judicial district. *See*, for example, MapR’s demonstration of MapR functionality in Los
19 Angeles on March 25, 2017 entitled “Self-Service Data Exploration & Stateful Micro-
20 Services” (video available at www.youtube.com/watch?v=evXmBWYvktk):

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(Exhibit I). On information and belief, the MapR system demonstrated in Los Angeles as noted above included the MapR distribution including Hadoop features accused of infringement in this action. In addition, MapR’s job posting for a “Solutions Engineer – Los Angeles” states that the “Territory Solutions Engineer is responsible for the following prospect and customer-related activities: ...Facilitate validation of the MapR Converged Data Platform ...via product demonstration...Proofs of Concept, performance benchmarking, application integration and other related technical activities” and “[d]emonstration and utilization of the MapR Control System (‘MCS’) to provision and manage prospect and customer workloads.” Exhibit J.

13. On information and belief, MapR has also committed acts of infringement of the Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by making the accused systems in this judicial district. *See, e.g.*, MapR job posting in Exhibit J listed above requiring solutions engineers to integrate the MapR system with customers’ existing systems for which “[e]xperience selling and deploying Linux-based solutions to Enterprise customers is a prerequisite” (emphasis added). Further, on information and belief, MapR makes the accused systems in this judicial district by offering “Implementation” services whereby MapR “will assess your current environment, and then install and configure the MapR

1 Converged Data Platform cluster for optimal service levels for your particular
2 infrastructure.” Exhibit K (emphasis added).

3 14. On information and belief, MapR has also committed acts of infringement of
4 the Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by selling and/or offering to sell the
5 accused systems in this judicial district. *See, e.g.*, MapR’s website explaining its Sales and
6 Professional Services Careers (“At MapR, we offer sales professionals top-rated products,
7 excellent compensation, professional growth, a dynamic team environment, a strong
8 leadership team, and the opportunity to help solve big data problems by selling the best big
9 data platform with Hadoop/Spark, NoSQL and Streaming technologies available. ... You’ll
10 have the opportunity to sell acclaimed products” (Exhibit L)) and listing a “Territory Sales
11 Director – Los Angeles” position in which MapR is “looking for a Sales leader who is
12 experienced in selling solutions to C-level decision makers” with responsibilities of
13 “[m]eeting with key stakeholders CIOs, IT execs, LOB execs” and “[m]eeting/exceeding
14 activity, pipeline, and revenue targets.” (Exhibit M).

15 **SINGLE ACTION**

16 15. This suit is commenced against Defendants Experian and MapR pursuant to
17 35 U.S.C. § 299 in a single action because, inter alia, upon information and belief,
18 Defendant MapR designs, manufactures, and provides technology used in Experian
19 products and services accused of infringement in this action.

20 16. Accordingly, Experian and MapR’s infringement arises out of the same
21 transaction, occurrence, or series of transactions or occurrences relating to the making,
22 using, importing into the United States, offering for sale, or selling of the same accused
23 product or process, and questions of fact common to both Defendants will arise in this
24 action pursuant to 35 U.S.C. § 299.

25 **BACKGROUND**

26 17. On March 27, 2007, the United States Patent and Trademark Office duly and
27 lawfully issued the ’662 Patent, entitled “Methods and Systems for a Storage System”
28 based upon an application filed by the inventors Melvin James Bullen, Steven Louis Dodd,

1 William Thomas Lynch, and David James Herbison. A true and correct copy of the '662
2 Patent is attached hereto as Exhibit N.

3 18. On June 2, 2009, the United States Patent and Trademark Office duly and
4 lawfully issued the '177 Patent, entitled "Methods and Systems for a Storage System"
5 based upon an application filed by the inventors Melvin James Bullen, Steven Louis Dodd,
6 William Thomas Lynch, and David James Herbison. A true and correct copy of the '177
7 Patent is attached hereto as Exhibit O.

8 19. On June 7, 2011, the United States Patent and Trademark Office duly and
9 lawfully issued the '388 Patent, entitled "Methods and Systems for a Storage System"
10 based upon an application filed by the inventors Melvin James Bullen, Steven Louis Dodd,
11 William Thomas Lynch, and David James Herbison. A true and correct copy of the '388
12 Patent is attached hereto as Exhibit P.

13 20. MNS is the owner by assignment of the Patents-in-Suit, and has the right to
14 sue and recover damages for infringement thereof.

15 **NOTICE**

16 21. MapR and Experian have received notice of the Patents-in-Suit, and of their
17 infringement thereof, at least as early as May 19, 2017, when the original complaint in this
18 action for patent infringement was filed.

19 22. In addition, the Patents-in-Suit were previously asserted against EMC
20 Corporation ("EMC") by Parallel Iron, LLC, a prior assignee of the Patents-in-Suit. *See,*
21 *e.g.,* Parallel Iron LLC v. EMC Corp., C.A. No. 12-cv-00764 (D. Del.); EMC Corp. v.
22 Parallel Iron, LLC, C.A. No. 12-cv-11096 (D. Mass.); and EMC Corp. v. Parallel Iron,
23 LLC, C.A. No. 13-cv-00916 (D. Del.) (collectively referred to as the "EMC Actions").

24 23. On information and belief, in the EMC Actions the Patents-in-Suit were
25 asserted against EMC's "Hadoop Distributed File System ('HDFS')." Exhibit Q at 3-7.
26 EMC's Hadoop offerings during the time of the EMC Actions included the EMC
27 Greenplum HD Enterprise Edition, which included MapR technology at issue in the present
28 action. *See, e.g.,* Exhibit R ("MapR Technologies, Inc. today announced a software

1 licensing agreement with EMC Corporation ... in which MapR Technologies will be part
2 of the recently announced ...EMC® Greenplum® HD Enterprise Edition, a 100 percent
3 interface-compatible implementation of the Apache Hadoop software stack. The new EMC
4 system will incorporate MapR Technologies' pre-integrated, tested and hardened
5 distribution for Apache Hadoop.”)

6 24. In a separate action between Parallel Iron and EMC involving an unrelated
7 patent, EMC identified several witnesses as having knowledge with respect to EMC’s
8 Greenplum HD product, which incorporated MapR technology. EMC identified “Susheel
9 Kaushik” of EMC Corporation as having knowledge as to “Technical aspects of EMC’s
10 Greenplum HD,” “Joshua Klahr” of EMC Corporation as having knowledge as to
11 “Business aspects of EMC’s Greenplum HD,” “Joseph Otto” of EMC Corporation as
12 having knowledge as to “Sales aspects of EMC’s Greenplum HD,” and “Peter David
13 Wittenkamp” of EMC Corporation as having knowledge as to “Financial, business, and
14 marketing information related to EMC’s Greenplum HD.” Exhibit S at 2-4 (Exhibit 2 to
15 the Decl. of Josef B. Schenker, Counsel for EMC in a prior action against Parallel Iron).

16 25. On information and belief, EMC employees, including Mr. Susheel Kaushik,
17 were knowledgeable about the details of MapR’s distribution including Hadoop, and in
18 constant communication with MapR. For example, Mr. Susheel Kaushik, then Senior
19 Director, Product Management at Greenplum EMC, stated in 2012 that “We have two
20 flavors of Hadoop for you. The first one is the open source version, which we are
21 calling...the Apache version certified and supported for our enterprise customers, and the
22 second one is the MapR version, which is much more faster, it is two to three times faster
23 than Apache Hadoop, so if you are looking for extreme performance, that’s where basically
24 we direct our customers to”:



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13 Presentation titled Greenplum Database and Hadoop Overview by Susheel Kaushik, Senior
14 Director, Product Management, Greenplum, EMC (Grand Hyatt, Mumbai, November 29-
15 30, 2012) (video available at www.youtube.com/watch?v=ph4bFhzqBKU) (Screenshot at
16 Exhibit T).

17 26. On further information and belief, Mr. Susheel Kaushik also gave a “[b]riefing
18 session on MapR (GreenPlumHD)” in Tokyo, Japan, on January 19, 2012. *See, e.g.*,
19 Google-translated event description at Exhibit U. Mr. Kaushik’s presentation was “an
20 explanation of MapR contents and QA meeting.” *Id.* On information and belief, Mr.
21 Kaushik demonstrated MapR, including its control interface. *See, e.g.*, Google-translated
22 “Summary of content briefing session of MapR (GreenPlumHD)” at Exhibit V, including
23 comments as to Mr. Kaushik’s presentation and a screenshot of a GreenPlumHD/MapR
24 control panel.

25 27. On further information and belief, MapR’s license agreement with EMC
26 included an indemnification provision for patent infringement by MapR technology of
27 third-party patents. For example, MapR’s standard End-User License Agreement states
28 that:

1 MapR shall defend at its own expense any legal action brought
2 against Customer to the extent that it is based on a claim or
3 allegation that the Proprietary Software or the MapR Materials
4 infringes a U.S. patent or copyright of a third party . . . subject to
5 the conditions that (a) Customer gives MapR prompt written
6 notice of such claim . . .

7 Exhibit W at 4.

8 28. In view of the above, on information and belief, EMC communicated with
9 MapR to (i) notify MapR of infringement allegations by a prior assignee of the Patents-in-
10 Suit against MapR technology incorporated in EMC's Greenplum HD products; (ii) discuss
11 the technical aspects of the applicability of the Patents-in-suit to MapR products
12 incorporated by EMC, including to prepare witnesses identified by EMC for testimony in
13 the EMC Actions; (iii) discuss the financial implications of the assertion of the Patents-in-
14 Suit against EMC's and MapR's technologies, and/or (iv) discuss the indemnification
15 obligations, if any, of MapR to EMC for the alleged infringement by EMC of the Patents-
16 in-Suit. Accordingly, MapR was aware of the existence of the Patents-in-Suit, and the
17 infringement thereof by MapR's products.

18 29. On further information and belief, the law firm of Perkins Coie, including
19 attorneys from its Palo Alto office, previously represented Cloudera, Inc., Netflix, Inc.,
20 LinkedIn Corp., and Amazon Web Services, LLC in connection with the Patents-in-Suit.

21 30. On information and belief, the law firm of Perkins Coie, including attorneys
22 from its Palo Alto office, also represent Defendant MapR in connection with the
23 prosecution of MapR's patents relating to MapR's products and services accused of
24 infringement in this action.

25 31. In addition, the Patents-in-Suit and their relationship to the Hadoop framework
26 underlying the MapR and Experian systems accused of infringement in this action were
27 subject to media coverage, including articles in the New York Times and several
28 technology-related publications.

1 32. Accordingly, on information and belief, MapR was aware of the existence of
2 the Patents-in-Suit based at least on communications with counsel, communications with
3 industry partners and affiliates, and publications, and of their infringement thereof.

4 **COUNT I: INFRINGEMENT OF THE '662 PATENT BY MAPR**

5 33. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

6 34. On information and belief, MapR has infringed at least claim 1 of the '662
7 Patent by making, using, offering to sell, and/or selling in the United States, and/or
8 importing into the United States computer storage systems based on the MapR Distribution
9 including Hadoop, up to, and including, Version 5.2. On information and belief, MapR's
10 infringing activities include at least, sales and offers for sale of the accused computer
11 storage systems; making, including manufacture, assembly, and testing of the accused
12 computer storage systems; and use, including testing, demonstration, and operation of the
13 accused computer storage systems. On information and belief, MapR's infringement
14 pursuant to 35 U.S.C. § 271(a) is ongoing.

15 35. On information and belief, MapR infringes claim 1 of the '662 Patent, by, for
16 example, using and/or making a storage system, such as a MapR cluster. Exhibit X.
17 MapR's cluster comprises one or more memory sections, referred to as storage pools by
18 MapR. *Id.* MapR's cluster also comprises one or more memory devices having storage
19 locations for storing data, such as disks. *Id.* MapR's cluster also comprises one or more
20 switches, such as the combination of networking hardware and software components that
21 provide connectivity and facility to read and write data onto and from storage pools and
22 disks on various MapR nodes. Exhibit Y. MapR's switches also include one or more
23 interfaces for connecting to one or more external devices, such as a hardware, software, or
24 protocol interface, for example, a port or an API for connecting to external devices, such as
25 MapR client computers. Exhibit Z. MapR clusters further comprise a switch fabric, such
26 as combination of node buses, backplanes, storage array connectors, network interface
27 cards, network wiring, network switches, routers, and other networking devices included in
28 a switch, connected to one or more memory sections, such as MapR storage pools, and the

1 external device interfaces, such as the interfaces described above. Exhibit X and Y.
2 MapR's switch fabric interconnects the memory sections and the external device interfaces
3 based on an algorithm, such as rules for directing read and write requests and data in the
4 MapR cluster to the appropriate destination, including, for example, CLDB's identification
5 of containers storing data, and locations of those containers, such as IP addresses of nodes
6 storing the containers. Exhibit X and AA. The MapR cluster further comprises a
7 management system, such as the components of the MapR-FS and CLDB service which
8 update data and container identification and location information for the MapR cluster. *Id.*
9 MapR's management system is capable of receiving fault messages from the memory
10 section controllers, such as status and heartbeat messages indicating disk failures, and
11 removing from service the memory section (storage pool) from which the fault message
12 was received. Exhibit BB and CC. MapR's management system is further capable of
13 determining an algorithm for use by a switch fabric in interconnecting the memory sections
14 and the external device interfaces, and instructing the switch to execute the determined
15 algorithm. Exhibit X. For example, if containers in the CLDB volume fall below the
16 minimum replication factor, aggressive re-replication restores the minimum level of
17 replication. Exhibit AA. If a disk failure is detected, data stored on the failed disk is re-
18 replicated to other disks. *Id.* MapR's management system determines the appropriate
19 storage algorithm for use by a switch fabric in interconnecting the MapR storage pools
20 (memory sections) and the external device interface described above, and instructs the
21 switch to execute the determined algorithm, including the routing of read or write requests
22 to appropriate container locations throughout the cluster. Exhibit X and AA. In a MapR
23 cluster, an interface of the switch is connected to a non-volatile storage device, such as a
24 disk. Exhibit X. MapR's MapR-FS and CLDB update service components described
25 above (the management system) are further capable of instructing the non-volatile storage
26 device (disk) to load data into one or more of the memory sections via the switch, such as,
27 for example, when a disk storing data is instructed to replicate or re-replicate the stored
28 data to other storage pools. Exhibit X and AA.

1 36. On information and belief, MapR has infringed at least claim 14 of the '662
2 Patent by making, using, offering to sell, and/or selling in the United States, and/or
3 importing into the United States computer storage systems based on the MapR Distribution
4 including Hadoop. On information and belief, MapR's infringement pursuant to 35 U.S.C.
5 § 271(a) is ongoing.

6 37. On information and belief, MapR infringes claim 14 of the '662 Patent by, for
7 example, performing a method for use in a storage system. MapR stores data in storage
8 locations in a memory device, such as a disk. *See* Exhibit X. MapR's memory devices are
9 included in a memory section, which are referred to as storage pools by MapR. *Id.*
10 MapR's management system, such as the components of the MapR-FS and CLDB service
11 which update data and container identification and location information for the MapR
12 cluster, determines an algorithm, such as the rules for directing read and write requests and
13 data in the MapR cluster to the appropriate destination, including, for example, CLDB's
14 identification of containers storing data, and locations of those containers, such as IP
15 addresses of nodes storing the containers, including the routing of read or write requests to
16 appropriate container locations throughout the cluster. Exhibit X and AA. The algorithm
17 is used by MapR's switch, such as the combination of networking hardware and software
18 components that provide connectivity and facility to read and write data onto and from
19 storage pools and disks on various MapR nodes and storage pools, in connecting the
20 memory section (storage pool) and an external device interface, such as a hardware,
21 software, or protocol interface, for example, a port or an API. Exhibits Y and Z. MapR's
22 management system, such as the components of the MapR-FS and CLDB service which
23 update data and container identification and location information for the MapR cluster,
24 instructs the switch described above to execute the determined algorithm, such as, for
25 example, by updating the CLDB's identification of containers storing data, and locations of
26 those containers, such as IP addresses of nodes storing the containers. Exhibit X and AA.
27 The switch connects the memory section, such as a storage pool, to the external device
28 interfaces described above based on the algorithm. *Id.* MapR's memory section controller,

1 such as MapR software running on a storage node, detects a fault in regard to the data
2 stored in the memory device, such as disk failure and/or CRC errors. Exhibit BB and CC.
3 MapR's memory section controller transmits a fault message, such as an alarm, a heartbeat
4 message including information about the fault in response to the detected fault to the
5 management system, such as the components of the MapR-FS and CLDB service which
6 update data and container identification and location information for the MapR cluster. *Id.*
7 MapR receives the fault message at the management system. MapR's management system
8 removes from service the memory section from which the fault message was received, such
9 as the storage pool that raised the alarm. Exhibit CC. MapR's management system
10 instructs a non-volatile storage device, such as a disk storing data, to load the stored data
11 into a memory section via the switch, such as, for example, to create a new replica of an
12 under replicated container. Exhibit X and AA. MapR then stores the data in a memory
13 device in the memory section, such as a disk or buffer in the storage pool. *Id.*

14 38. On information and belief, MapR has induced infringement of at least the
15 foregoing claims of the '662 Patent pursuant to 35 U.S.C. § 271(b), by actively and
16 knowingly inducing, directing, causing, and encouraging others, including, but not limited
17 to, their partners, software developers, customers, and end users, to make, use, sell, and/or
18 offer to sell in the United States, and/or import into the United States, data storage systems
19 based on the MapR Distribution including Hadoop, by, among other things, providing
20 instructions, manuals, and technical assistance relating to the installation, set up, use,
21 operation, and maintenance of said data storage systems. For example, despite having
22 knowledge of the '662 Patent, and of the infringement of the '662 Patent to MapR
23 products, as described in ¶¶21-32, MapR has persisted in encouraging customers to adopt
24 infringing MapR products, and, in fact, assists clients in making and using the systems
25 accused of infringement in this action. *See, e.g.*, MapR job posting in Exhibit J listed
26 above requiring solutions engineers to integrate the MapR system with customers' existing
27 systems for which "[e]xperience selling and deploying Linux-based solutions to Enterprise
28 customers is a prerequisite" (emphasis added). Further, on information and belief, MapR

1 makes the accused systems by offering “Implementation” services whereby MapR “will
2 assess your current environment, and then install and configure the MapR Converged Data
3 Platform cluster for optimal service levels for your particular infrastructure.” Exhibit K
4 (emphasis added). Moreover, MapR’s standard End User License Agreement includes a
5 provision whereby MapR indemnifies its customers for patent infringement (*see, e.g.*, ¶27),
6 further demonstrating that MapR is aware of the existence of, and risks of infringing, third-
7 party patents, including the ’662 Patent. Yet by offering indemnification, MapR
8 encourages customers to adopt infringing MapR products. In addition, despite having
9 knowledge of the ’662 Patent, and of the infringement of the ’662 Patent to MapR
10 products, MapR publishes customer case studies, such as the Experian case study available
11 on MapR’s website, which heralds, among other things, the financial and technical
12 advantages to adopting MapR products, which are accused of infringement in this action.
13 Exhibit DD. In further addition, MapR continues to provide documentation and
14 instructions to customers to assemble and operate MapR based systems, including
15 documentation and instructions found at doc.mapr.com, maprdocs.mapr.com, and
16 community.mapr.com, such that following the above instructions and documentations
17 results in systems, and use thereof, that infringe the ’662 Patent. *See* Exhibits X, Y, Z, AA,
18 BB, and CC. Upon information and belief, MapR’s inducement of infringement pursuant
19 to 35 U.S.C. § 271(b) is ongoing.

20 39. On information and belief, MapR has committed the foregoing infringing
21 activities without license from MNS.

22 40. On information and belief, MapR knew the ’662 Patent existed while
23 committing the foregoing infringing acts, thereby willfully, wantonly and deliberately
24 infringing the ’662 Patent. For example, despite having knowledge of the ’662 Patent, and
25 of the infringement of the ’662 Patent to MapR products, as described in ¶¶21-32, MapR
26 has persisted in encouraging customers to adopt infringing MapR products, and, in fact,
27 assists clients in making and using the systems accused of infringement in this action. *See,*
28 *e.g.*, MapR job posting in Exhibit J listed above requiring solutions engineers to integrate

1 the MapR system with customers' existing systems for which "[e]xperience selling and
2 deploying Linux-based solutions to Enterprise customers is a prerequisite" (emphasis
3 added). Further, on information and belief, MapR makes the accused systems by offering
4 "Implementation" services whereby MapR "will assess your current environment, and then
5 install and configure the MapR Converged Data Platform cluster for optimal service levels
6 for your particular infrastructure." Exhibit K (emphasis added). Moreover, MapR's
7 standard End User License Agreement includes a provision whereby MapR indemnifies its
8 customers for patent infringement (*see, e.g.*, ¶27), further demonstrating that MapR is
9 aware of the existence of, and risks of infringing, third-party patents, including the '662
10 Patent. Further, MapR has continued to demonstrate its products nationwide, and to update
11 and test its product offerings, recently releasing Version 5.2 of the accused MapR Hadoop
12 product. In addition, despite having knowledge of the '662 Patent, and of the infringement
13 of the '662 Patent by MapR products, MapR continues to publish customer case studies,
14 such as the Experian case study available on MapR's website, which heralds, among other
15 things, the financial and technical advantages to adopting MapR products, which are
16 accused of infringement in this action. Exhibit DD. In further addition, MapR continues to
17 provide documentation and instructions to customers to assemble and operate MapR based
18 systems, including documentation and instructions found at doc.mapr.com,
19 maprdocs.mapr.com, and community.mapr.com, such that following the above instructions
20 and documentations results in systems, and use thereof, that infringe the '662 Patent. *See*
21 Exhibits X, Y, Z, AA, BB, and CC. MNS's damages should be trebled pursuant to 35
22 U.S.C. § 284 because of MapR's willful infringement of the '662 Patent.

23 41. The acts of infringement by MapR will continue unless enjoined by this Court.

24 42. MNS has been and will continue to be irreparably harmed and damaged by
25 MapR's acts of infringement of the '662 Patent and has no adequate remedy at law.
26
27
28

COUNT II: INFRINGEMENT OF THE '177 PATENT BY MAPR

43. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

44. On information and belief, MapR has infringed at least claim 1 of the '177 Patent by making, using, offering to sell, and/or selling in the United States, and/or importing into the United States computer storage systems based on the MapR Distribution including Hadoop, up to, and including, Version 5.2. On information and belief, MapR's infringing activities include at least, sales and offers for sale of the accused computer storage systems; making, including manufacture, assembly, and testing of the accused computer storage systems; and use, including testing, demonstration, and operation of the accused computer storage systems. On information and belief, MapR's infringement pursuant to 35 U.S.C. § 271(a) is ongoing.

45. On information and belief, MapR infringes claim 1 of the '177 Patent, by, for example, using and/or making a storage system, such as a MapR cluster. Exhibit X. MapR's cluster comprises one or more memory sections, referred to as storage pools by MapR. *Id.* MapR's cluster also comprises one or more memory devices having storage locations for storing data, such as disks. *Id.* MapR's cluster also includes a memory section controller, such as MapR software running on a storage node, which is capable of detecting faults in the memory section, such as a disk failure in a storage pool, and transmitting a fault message in response to the detected faults, such as a status or heartbeat message indicating disk failure. Exhibit X, AA, and BB. MapR's cluster also comprises one or more switches, such as the combination of networking hardware and software components that provide connectivity and facility to read and write data onto and from disks on various MapR nodes and storage pools. Exhibit Y. MapR's switches also include one or more interfaces for connecting to one or more external devices, such as a hardware, software, or protocol interface, for example, a port or an API, for connecting to external devices, such as MapR client computers. Exhibit Z. MapR's cluster also includes a switch controller that executes software, including a routing algorithm. For example, components of the CLDB service running on CLDB-enabled nodes and/or processing cores that control

1 the routing of data through the switch by providing directions as to the identification and
2 location of data in the MapR cluster and/or caching copies of the CLDB data on other
3 nodes and client computers are the switch controller, which executes a routing algorithm,
4 such as rules for directing read and write requests and data in the MapR cluster to the
5 appropriate destination, including, for example, CLDB's identification of containers storing
6 data, and locations of those containers, such as IP addresses of nodes storing the containers.
7 Exhibit X and AA. MapR's cluster further comprises a selectively configurable switch
8 fabric, such as combination of node buses, backplanes, storage array connectors, network
9 interface cards, network wiring, network switches, routers, and other networking devices
10 included in a switch, which are connected to one or more memory sections, such as MapR
11 storage pools, and the one or more interfaces described above. Exhibit X and Y. MapR's
12 selectively configurable switch fabric interconnects the memory sections, such as the
13 storage pools, and the one or more interfaces described above, based on the routing
14 algorithm stored in the switch controller. *Id.* MapR's cluster further comprises a
15 management system, such as components of the MapR-FS and CLDB service which update
16 data and container identification and location information for the MapR cluster. Exhibit X
17 and AA. MapR's management system is capable of receiving fault messages from the
18 memory section controllers, such as status and heartbeat messages indicating disk failures,
19 and inactivating the memory section (storage pool) corresponding to the fault message
20 received by changing the routing algorithm described above. *Id.* In a MapR cluster, the
21 management system is further capable of determining and changing the routing algorithm
22 for use by the selectively configurable switch fabric in interconnecting the memory sections
23 and the one or more interfaces. *Id.* For example, if containers in the CLDB volume fall
24 below the minimum replication factor, aggressive re-replication restores the minimum level
25 of replication. *Id.* If a disk failure is detected, data stored on the failed disk is re-replicated
26 to other disks. *Id.* MapR's management system determines and changes the CLDB's
27 identification of containers storing data, and locations of those containers, such as IP
28 addresses of nodes storing the containers for use by the selectively configurable switch

1 fabric in interconnecting the MapR storage pools (memory sections) and the interfaces
2 described above, provides the routing algorithm to the switch controller, and instructs the
3 switch controller to execute the determined algorithm, including the routing of read or write
4 requests to appropriate container locations throughout the cluster. *Id.*

5 46. On information and belief, MapR has infringed at least claim 13 of the '177
6 Patent by making, using, offering to sell, and/or selling in the United States, and/or
7 importing into the United States data storage systems based on the MapR Distribution
8 including Hadoop. On information and belief, MapR's infringement pursuant to 35 U.S.C.
9 § 271(a) is ongoing.

10 47. On information and belief, MapR infringes claim 13 of the '177 Patent by, for
11 example, performing a method for use in a storage system, such as a MapR cluster. Exhibit
12 X. MapR stores data in storage locations in a memory device, such as a disk. *Id.* MapR's
13 memory devices are included in a memory section, which are referred to as storage pools
14 by MapR. *Id.* MapR's management system, the components of the MapR-FS and CLDB
15 service which update data and container identification and location information for the
16 MapR cluster, determines a routing algorithm, such as the rules for directing read and write
17 requests and data in the MapR cluster to the appropriate destination, including, for
18 example, CLDB's identification of containers storing data, and locations of those
19 containers, such as IP addresses of nodes storing the containers. Exhibits X and AA. The
20 routing algorithm is used by MapR's switch controller, such as components of the CLDB
21 service running on CLDB-enabled nodes and/or processing cores that control the routing of
22 data through the switch by providing directions as to the identification and location of data
23 in the MapR cluster and/or caching copies of the CLDB data on other nodes and client
24 computers, which executes software, including the routing algorithm, to configure a
25 selectively configurable switch, such as the combination of networking hardware and
26 software components that provide connectivity and facility to read and write data onto and
27 from disks on various MapR nodes and storage pools, in connecting the memory section
28 (storage pool) and an interface, such as a hardware, software, or protocol interface, such as

1 a port or an API. Exhibits X, Y, Z, and AA. MapR's management system, such as the
2 components of the MapR-FS and CLDB service which update data and container
3 identification and location information for the MapR cluster, provides the determined
4 routing algorithm to the switch controller described above, and instructs the switch
5 controller to execute the determined routing algorithm. *Id.* MapR's selectively
6 configurable switch connects the memory section (storage pool) to the interface described
7 above, based on the routing algorithm. *Id.* MapR's memory section controller described
8 above detects a fault in regard to the data stored in the memory device, such as a CRC
9 error, and transmits a fault message, such as an alarm or a heartbeat message including
10 information about the fault. *Id.* MapR's management system receives the fault message
11 and removes from service the memory section, such as the storage pool from which the
12 fault message was received, by changing the routing algorithm, such that requests to write
13 or read data that was previously stored on the storage pool that was removed from service
14 are no longer routed to the pool and are routed to different locations. Exhibits X, AA, and
15 CC.

16 48. On information and belief, MapR has induced infringement of at least the
17 foregoing claims of the '177 Patent pursuant to 35 U.S.C. § 271(b), by actively and
18 knowingly inducing, directing, causing, and encouraging others, including, but not limited
19 to, their partners, software developers, customers, and end users, to make, use, sell, and/or
20 offer to sell in the United States, and/or import into the United States, data storage systems
21 based on the MapR Distribution including Hadoop, by, among other things, providing
22 instructions, manuals, and technical assistance relating to the installation, set up, use,
23 operation, and maintenance of said data storage systems. For example, despite having
24 knowledge of the '177 Patent, and of the infringement of the '177 Patent to MapR
25 products, as described in ¶¶21-32, MapR has persisted in encouraging customers to adopt
26 infringing MapR products, and, in fact, assists clients in making and using the systems
27 accused of infringement in this action. *See, e.g.*, MapR job posting in Exhibit J listed
28 above requiring solutions engineers to integrate the MapR system with customers' existing

1 systems for which “[e]xperience selling and deploying Linux-based solutions to Enterprise
2 customers is a prerequisite” (emphasis added). Further, on information and belief, MapR
3 makes the accused systems by offering “Implementation” services whereby MapR “will
4 assess your current environment, and then install and configure the MapR Converged Data
5 Platform cluster for optimal service levels for your particular infrastructure.” Exhibit K
6 (emphasis added). Moreover, MapR’s standard End User License Agreement includes a
7 provision whereby MapR indemnifies its customers for patent infringement (*see, e.g.*, ¶27),
8 further demonstrating that MapR is aware of the existence of, and risks of infringing, third-
9 party patents, including the ’177 Patent. Yet by offering indemnification, MapR
10 encourages customers to adopt infringing MapR products. In addition, despite having
11 knowledge of the ’177 Patent, and of the infringement of the ’177 Patent to MapR
12 products, MapR publishes customer case studies, such as the Experian case study available
13 on MapR’s website, which heralds, among other things, the financial and technical
14 advantages to adopting MapR products, which are accused of infringement in this action.
15 Exhibit DD. In further addition, MapR continues to provide documentation and
16 instructions to customers to assemble and operate MapR based systems, including
17 documentation and instructions found at doc.mapr.com, maprdocs.mapr.com, and
18 community.mapr.com, such that following the above instructions and documentations
19 results in systems, and use thereof, that infringe the ’177 Patent. *See* Exhibits X, Y, Z, AA,
20 BB, and CC. Upon information and belief, MapR’s inducement of infringement pursuant
21 to 35 U.S.C. § 271(b) is ongoing.

22 49. On information and belief, MapR has committed the foregoing infringing
23 activities without license from MNS.

24 50. On information and belief, MapR knew the ’177 Patent existed while
25 committing the foregoing infringing acts, thereby willfully, wantonly and deliberately
26 infringing the ’177 Patent. For example, despite having knowledge of the ’177 Patent, and
27 of the infringement of the ’177 Patent to MapR products, as described in ¶¶21-32, MapR
28 has persisted in encouraging customers to adopt infringing MapR products, and, in fact,

1 assists clients in making and using the systems accused of infringement in this action. *See*,
2 *e.g.*, MapR job posting in Exhibit J listed above requiring solutions engineers to integrate
3 the MapR system with customers' existing systems for which "[e]xperience selling and
4 deploying Linux-based solutions to Enterprise customers is a prerequisite" (emphasis
5 added). Further, on information and belief, MapR makes the accused systems by offering
6 "Implementation" services whereby MapR "will assess your current environment, and then
7 install and configure the MapR Converged Data Platform cluster for optimal service levels
8 for your particular infrastructure." Exhibit K (emphasis added). Moreover, MapR's
9 standard End User License Agreement includes a provision whereby MapR indemnifies its
10 customers for patent infringement (*see, e.g.*, ¶27), further demonstrating that MapR is
11 aware of the existence of, and risks of infringing, third-party patents, including the '177
12 Patent. Further, MapR has continued to demonstrate its products nationwide, and to update
13 and test its product offerings, recently releasing Version 5.2 of the accused MapR Hadoop
14 product. In addition, despite having knowledge of the '177 Patent, and of the infringement
15 of the '177 Patent by MapR products, MapR continues to publish customer case studies,
16 such as the Experian case study available on MapR's website, which heralds, among other
17 things, the financial and technical advantages to adopting MapR products, which are
18 accused of infringement in this action. Exhibit DD. In further addition, MapR continues to
19 provide documentation and instructions to customers to assemble and operate MapR based
20 systems, including documentation and instructions found at doc.mapr.com,
21 maprdocs.mapr.com, and community.mapr.com, such that following the above instructions
22 and documentations results in systems, and use thereof, that infringe the '177 Patent. *See*
23 Exhibits X, Y, Z, AA, BB, and CC. MNS's damages should be trebled pursuant to 35
24 U.S.C. § 284 because of MapR's willful infringement of the '177 Patent.

25 51. The acts of infringement by MapR will continue unless enjoined by this Court.

26 52. MNS has been and will continue to be irreparably harmed and damaged by
27 MapR's acts of infringement of the '177 Patent and has no adequate remedy at law.
28

COUNT III: INFRINGEMENT OF THE '388 PATENT BY MAPR

53. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

54. On information and belief, MapR has infringed at least claim 1 of the '388 Patent by making, using, offering to sell, and/or selling in the United States, and/or importing into the United States data storage systems based on the MapR Distribution including Hadoop, up to, and including, Version 5.2. On information and belief, MapR's infringing activities include at least, sales and offers for sale of the accused computer storage systems; making, including manufacture, assembly, and testing of the accused computer storage systems; and use, including testing, demonstration, and operation of the accused computer storage systems. On information and belief, MapR's infringement pursuant to 35 U.S.C. § 271(a) is ongoing.

55. On information and belief, MapR infringes claim 1 of the '388 Patent by, for example, using and/or making a storage system, such as a MapR cluster. Exhibit X. MapR's cluster comprises one or more memory sections, referred to as storage pools by MapR. *Id.* MapR's cluster also comprises one or more memory devices having storage locations for storing data, such as disks. *Id.* MapR's cluster also includes a memory section controller, such as MapR software running on a storage node, which is capable of detecting faults in the memory section, such as a disk failure in a storage pool, and transmitting a fault message in response to the detected faults, such as a status or heartbeat message indicating node failure. Exhibit X, AA, and BB. MapR's cluster also comprises one or more switches, such as the combination of networking hardware and software components that provide connectivity and facility to read and write data onto and from storage pools and disks on various MapR nodes and storage pools. Exhibit Y. MapR's switches also include one or more interfaces for connecting to one or more external devices, such as a hardware, software, or protocol interface, for example, a port or an API for connecting to external devices, such as MapR client computers. Exhibit Z. MapR's cluster also includes a switch controller that executes software, including a routing algorithm. For example, components of the CLDB service running on CLDB-enabled

1 nodes and/or processing cores that control the routing of data through the switch by
2 providing directions as to the identification and location of data in the MapR cluster and/or
3 caching copies of the CLDB data on other nodes and client computers are the switch
4 controller, which executes a routing algorithm, such as the rules for directing read and write
5 requests and data in the MapR cluster to the appropriate destination, including, for
6 example, CLDB's identification of containers storing data, and locations of those
7 containers, such as IP addresses of nodes storing the containers. Exhibit X and AA.
8 MapR's cluster further comprises a selectively configurable switch fabric, such as
9 combination of node buses, backplanes, storage array connectors, network interface cards,
10 network wiring, network switches, routers, and other networking devices included in a
11 switch, which are connected to one or more memory sections, such as MapR storage pools,
12 and the one or more interfaces described above. Exhibit X and Y. MapR's selectively
13 configurable switch fabric interconnects the memory sections, such as the storage pools,
14 and the one or more interfaces, described above, based on the routing algorithm. *Id.* For
15 example, based on the data and container location and routing information algorithm
16 described above, the selectively configurable switch fabric interconnects memory sections
17 (storage pools) and one or more interfaces. *Id.* MapR's cluster further comprises a
18 management system, such as the components of the MapR-FS and CLDB service which
19 update data and container identification and location information for the MapR cluster.
20 Exhibit X and AA. MapR's management system is capable of receiving fault messages
21 from the memory section controllers, such as status and heartbeat messages indicating disk
22 failures, and inactivating the memory section (storage pool) corresponding to the fault
23 message received by changing the routing algorithm described above. Exhibit X, AA, and
24 CC. In a MapR cluster, the management system is further capable of determining and
25 changing the routing algorithm for use by the selectively configurable switch fabric in
26 interconnecting the memory sections and the one or more interfaces. *Id.* For example, if
27 containers in the CLDB volume fall below the minimum replication factor, aggressive re-
28 replication restores the minimum level of replication. *Id.* If a disk failure is detected, data

1 stored on the failed disk is re-replicated to other disks. *Id.* MapR's management system
2 described above determines the rules for directing read and write requests and data in the
3 MapR cluster to the appropriate destination, including, for example, CLDB's identification
4 of containers storing data, and locations of those containers, such as IP addresses of nodes
5 storing the containers for use by the selectively configurable switch fabric in
6 interconnecting the MapR storage pools (memory sections) and the interfaces described
7 above, and provides the routing algorithm to the switch controller described above. *Id.*

8 56. On information and belief, MapR has infringed at least claim 2 of the '388
9 Patent by making, using, offering to sell, and/or selling in the United States, and/or
10 importing into the United States data storage systems based on the MapR Distribution
11 including Hadoop. On information and belief, MapR's infringement pursuant to 35 U.S.C.
12 § 271(a) is ongoing.

13 57. On information and belief, MapR infringes claim 2 of the '388 Patent by, for
14 example, performing a method for use in a storage system. Exhibit X. MapR stores data in
15 storage locations in a memory device, such as a disk. *Id.* MapR's memory devices are
16 included in a memory section, which are referred to as storage pools by MapR. *Id.*
17 MapR's management system, such as the components of the MapR-FS and CLDB service
18 which update data and container identification and location information for the MapR
19 cluster, determines a routing algorithm, such as the rules for directing read and write
20 requests and data in the MapR cluster to the appropriate destination, including, for
21 example, CLDB's identification of containers storing data, and locations of those
22 containers, such as IP addresses of nodes storing the containers. Exhibits X and AA. The
23 routing algorithm is used by MapR's switch controller, such as components of the CLDB
24 service running on CLDB-enabled nodes and/or processing cores that control the routing of
25 data through the switch by providing directions as to the identification and location of data
26 in the MapR cluster and/or caching copies of the CLDB data on other nodes and client
27 computers, which executes software, including the routing algorithm. *Id.* MapR's
28 management system, such as the CLDB and MapR-FS update components described

1 above, provides the routing algorithm to the switch controller described above. MapR's
2 switch controller, such as the components of the MapR-FS and CLDB service which update
3 data and container identification and location information for the MapR cluster, executes
4 the routing algorithm to configure a configurable switch, such as the combination of
5 networking hardware and software components that provide connectivity and facility to
6 read and write data onto and from storage pools and disks on various MapR nodes and
7 storage pools, connecting the memory section (storage pool) to an interface, such as a
8 hardware, software, or protocol interface, for example, a port or an API. Exhibit X, Y, Z,
9 and AA. MapR detects a fault associated with the data in the storage locations in the
10 memory device, such as a CRC error. Exhibit X, Y, and CC. MapR's management system
11 described above determines in response to the detecting of a fault, a new routing algorithm
12 that redirects data for the memory device to a replacement memory device. For example, if
13 containers in the CLDB volume fall below the minimum replication factor, aggressive re-
14 replication restores the minimum level of replication. *Id.* If a disk failure is detected, data
15 stored on the failed disk is re-replicated to other disks. *Id.* Upon detecting a fault, MapR
16 also provides the new routing algorithm to the switch controller described above. *Id.*

17 58. On information and belief, MapR has induced infringement of at least the
18 foregoing claims of the '388 Patent pursuant to 35 U.S.C. § 271(b), by actively and
19 knowingly inducing, directing, causing, and encouraging others, including, but not limited
20 to, their partners, software developers, customers, and end users, to make, use, sell, and/or
21 offer to sell in the United States, and/or import into the United States, data storage systems
22 based on the MapR Distribution including Hadoop, by, among other things, providing
23 instructions, manuals, and technical assistance relating to the installation, set up, use,
24 operation, and maintenance of said data storage systems. For example, despite having
25 knowledge of the '388 Patent, and of the infringement of the '388 Patent to MapR
26 products, as described in ¶¶21-32, MapR has persisted in encouraging customers to adopt
27 infringing MapR products, and, in fact, assists clients in making and using the systems
28 accused of infringement in this action. *See, e.g.*, MapR job posting in Exhibit J listed

1 above requiring solutions engineers to integrate the MapR system with customers' existing
2 systems for which "[e]xperience selling and deploying Linux-based solutions to Enterprise
3 customers is a prerequisite" (emphasis added). Further, on information and belief, MapR
4 makes the accused systems by offering "Implementation" services whereby MapR "will
5 assess your current environment, and then install and configure the MapR Converged Data
6 Platform cluster for optimal service levels for your particular infrastructure." Exhibit K
7 (emphasis added). Moreover, MapR's standard End User License Agreement includes a
8 provision whereby MapR indemnifies its customers for patent infringement (*see, e.g.*, ¶27),
9 further demonstrating that MapR is aware of the existence of, and risks of infringing, third-
10 party patents, including the '388 Patent. Yet by offering indemnification, MapR
11 encourages customers to adopt infringing MapR products. In addition, despite having
12 knowledge of the '388 Patent, and of the infringement of the '388 Patent to MapR
13 products, MapR publishes customer case studies, such as the Experian case study available
14 on MapR's website, which heralds, among other things, the financial and technical
15 advantages to adopting MapR products, which are accused of infringement in this action.
16 Exhibit DD. In further addition, MapR continues to provide documentation and
17 instructions to customers to assemble and operate MapR based systems, including
18 documentation and instructions found at doc.mapr.com, maprdocs.mapr.com, and
19 community.mapr.com, such that following the above instructions and documentations
20 results in systems, and use thereof, that infringe the '388 Patent. *See* Exhibits X, Y, Z, AA,
21 BB, and CC. Upon information and belief, MapR's inducement of infringement pursuant
22 to 35 U.S.C. § 271(b) is ongoing.

23 59. On information and belief, MapR has committed the foregoing infringing
24 activities without license from MNS.

25 60. On information and belief, MapR knew the '388 Patent existed while
26 committing the foregoing infringing acts, thereby willfully, wantonly and deliberately
27 infringing the '388 Patent. For example, despite having knowledge of the '388 Patent, and
28 of the infringement of the '388 Patent to MapR products, as described in ¶¶21-32, MapR

1 has persisted in encouraging customers to adopt infringing MapR products, and, in fact,
2 assists clients in making and using the systems accused of infringement in this action. *See*,
3 *e.g.*, MapR job posting in Exhibit J listed above requiring solutions engineers to integrate
4 the MapR system with customers' existing systems for which "[e]xperience selling and
5 deploying Linux-based solutions to Enterprise customers is a prerequisite" (emphasis
6 added). Further, on information and belief, MapR makes the accused systems by offering
7 "Implementation" services whereby MapR "will assess your current environment, and then
8 install and configure the MapR Converged Data Platform cluster for optimal service levels
9 for your particular infrastructure." Exhibit K (emphasis added). Moreover, MapR's
10 standard End User License Agreement includes a provision whereby MapR indemnifies its
11 customers for patent infringement (*see, e.g.*, ¶27), further demonstrating that MapR is
12 aware of the existence of, and risks of infringing, third-party patents, including the '662
13 Patent. Further, MapR has continued to demonstrate its products nationwide, and to update
14 and test its product offerings, recently releasing Version 5.2 of the accused MapR Hadoop
15 product. In addition, despite having knowledge of the '388 Patent, and of the infringement
16 of the '388 Patent by MapR products, MapR continues to publish customer case studies,
17 such as the Experian case study available on MapR's website, which heralds, among other
18 things, the financial and technical advantages to adopting MapR products, which are
19 accused of infringement in this action. Exhibit DD. In further addition, MapR continues to
20 provide documentation and instructions to customers to assemble and operate MapR based
21 systems, including documentation and instructions found at doc.mapr.com,
22 maprdocs.mapr.com, and community.mapr.com, such that following the above instructions
23 and documentations results in systems, and use thereof, that infringe the '388 Patent. *See*
24 Exhibits X, Y, Z, AA, BB, and CC. MNS's damages should be trebled pursuant to 35
25 U.S.C. § 284 because of MapR's willful infringement of the '388 Patent.

26 61. The acts of infringement by MNS will continue unless enjoined by this Court.

27 62. MNS has been and will continue to be irreparably harmed and damaged by
28 MapR's acts of infringement of the '388 Patent and has no adequate remedy at law.

1 **COUNT IV: INFRINGEMENT OF THE '662 PATENT BY EXPERIAN**

2 63. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

3 64. On information and belief, Experian has infringed at least claim 1 of the '662
4 Patent by making, using, offering to sell, and/or selling in the United States, and/or
5 importing into the United States computer storage systems based on the MapR Distribution
6 including Hadoop. On information and belief, Experian's infringing activities include at
7 least, sales and offers for sale of the accused computer storage systems; making, including
8 manufacture, assembly, and testing of the accused computer storage systems; and use,
9 including testing, demonstration, and operation of the accused computer storage systems.
10 On information and belief, Experian's infringement pursuant to 35 U.S.C. § 271(a) is
11 ongoing. According to Experian, "Experian chose the MapR Distribution including
12 Hadoop to move beyond the restraints of their in-house database while increasing
13 processing power, lowering costs, and devising new ways to store more easily accessible
14 data." Exhibit DD.

15 65. On information and belief, Experian infringes claim 1 of the '662 Patent, by,
16 for example, using and/or making a storage system incorporating a MapR cluster. Exhibit
17 DD and X. Experian's MapR cluster comprises one or more memory sections, referred to
18 as storage pools by MapR. *Id.* Experian's MapR cluster also comprises one or more
19 memory devices having storage locations for storing data, such as disks. *Id.* Experian's
20 MapR cluster also comprises one or more switches, such as the combination of networking
21 hardware and software components that provide connectivity and facility to read and write
22 data onto and from storage pools and disks on various MapR nodes. Exhibit Y. Experian's
23 switches also include one or more interfaces for connecting to one or more external
24 devices, such as a hardware, software, or protocol interface, for example, a port or an API
25 for connecting to external devices, such as Experian/MapR client computers. Exhibit Z.
26 Experian's MapR cluster further comprises a switch fabric, such as combination of node
27 buses, backplanes, storage array connectors, network interface cards, network wiring,
28 network switches, routers, and other networking devices included in a switch, connected to

1 one or more memory sections, such as MapR storage pools, and the external device
2 interfaces, such as the interfaces described above. Exhibit X and Y. Experian's switch
3 fabric interconnects the memory sections and the external device interfaces based on an
4 algorithm, such as rules for directing read and write requests and data in the Experian
5 MapR cluster to the appropriate destination, including, for example, CLDB's identification
6 of containers storing data, and locations of those containers, such as IP addresses of nodes
7 storing the containers. Exhibit X and AA. Experian's MapR cluster further comprises a
8 management system, such as the components of the MapR-FS and CLDB service which
9 update data and container identification and location information for the cluster. *Id.*
10 Experian's management system is capable of receiving fault messages from the memory
11 section controllers, such as status and heartbeat messages indicating disk failures, and
12 removing from service the memory section (storage pool) from which the fault message
13 was received. Exhibit BB and CC. Experian's management system is further capable of
14 determining an algorithm for use by a switch fabric in interconnecting the memory sections
15 and the external device interfaces, and instructing the switch to execute the determined
16 algorithm. Exhibit X. For example, if containers in the CLDB volume fall below the
17 minimum replication factor, aggressive re-replication restores the minimum level of
18 replication. Exhibit AA. If a disk failure is detected, data stored on the failed disk is re-
19 replicated to other disks. *Id.* Experian's management system determines the appropriate
20 storage algorithm for use by a switch fabric in interconnecting the storage pools (memory
21 sections) and the external device interface described above, and instructs the switch to
22 execute the determined algorithm, including the routing of read or write requests to
23 appropriate container locations throughout the cluster. Exhibit X and AA. In an Experian
24 MapR cluster, an interface of the switch is connected to a non-volatile storage device, such
25 as a disk. Exhibit X. Experian's MapR-FS and CLDB update service components
26 described above (the management system) are further capable of instructing the non-
27 volatile storage device (disk) to load data into one or more of the memory sections via the
28

1 switch, such as, for example, when a disk storing data is instructed to replicate or re-
2 replicate the stored data to other storage pools. Exhibit X and AA.

3 66. On information and belief, Experian has infringed at least claim 14 of the '662
4 Patent by making, using, offering to sell, and/or selling in the United States, and/or
5 importing into the United States computer storage systems based on the MapR Distribution
6 including Hadoop. On information and belief, Experian's infringement pursuant to 35
7 U.S.C. § 271(a) is ongoing.

8 67. On information and belief, Experian infringes claim 14 of the '662 Patent by,
9 for example, performing a method for use in a storage system. Exhibit DD and X.
10 Experian stores data in storage locations in a memory device, such as a disk. Exhibit X.
11 Experian's memory devices are included in a memory section, which are referred to as
12 storage pools by MapR. *Id.* Experian's management system, such as the components of
13 the MapR-FS and CLDB service which update data and container identification and
14 location information for the Experian cluster, determines an algorithm, such as the rules for
15 directing read and write requests and data in the Experian cluster to the appropriate
16 destination, including, for example, CLDB's identification of containers storing data, and
17 locations of those containers, such as IP addresses of nodes storing the containers,
18 including the routing of read or write requests to appropriate container locations throughout
19 the cluster. Exhibit X and AA. The algorithm is used by Experian's switch, such as the
20 combination of networking hardware and software components that provide connectivity
21 and facility to read and write data onto and from storage pools and disks on various MapR
22 nodes and storage pools, in connecting the memory section (storage pool) and an external
23 device interface, such as a hardware, software, or protocol interface, for example, a port or
24 an API. Exhibits Y and Z. Experian's management system, such as the components of the
25 MapR-FS and CLDB service which update data and container identification and location
26 information for the Experian cluster, instructs the switch described above to execute the
27 determined algorithm, such as, for example, by updating the CLDB's identification of
28 containers storing data, and locations of those containers, such as IP addresses of nodes

1 storing the containers. Exhibit X and AA. The switch connects the memory section, such
2 as a storage pool, to the external device interfaces described above based on the algorithm.
3 *Id.* Experian's memory section controller, such as MapR software running on a storage
4 node, detects a fault in regard to the data stored in the memory device, such as disk failure
5 and/or CRC errors. Exhibit BB and CC. Experian's memory section controller transmits a
6 fault message, such as an alarm, a heartbeat message including information about the fault
7 in response to the detected fault to the management system, such as the components of the
8 MapR-FS and CLDB service which update data and container identification and location
9 information for the MapR cluster. *Id.* Experian receives the fault message at the
10 management system. Experian's management system removes from service the memory
11 section (storage pool) from which the fault message was received. Exhibit CC. Experian's
12 management system instructs a non-volatile storage device, such as a disk storing data, to
13 load the stored data into a memory section via the switch, such as, for example, to create a
14 new replica of an under replicated container. Exhibit X and AA. Experian then stores the
15 data in a memory device in the memory section, such as a disk or buffer in the storage pool.
16 *Id.*

17 68. On information and belief, Experian has committed the foregoing infringing
18 activities without license from MNS.

19 69. The acts of infringement by Experian will continue unless enjoined by this
20 Court.

21 70. MNS has been and will continue to be irreparably harmed and damaged by
22 Experian's acts of infringement of the '662 Patent and has no adequate remedy at law.

23 **COUNT V: INFRINGEMENT OF THE '177 PATENT BY EXPERIAN**

24 71. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

25 72. On information and belief, Experian has infringed at least claim 1 of the '177
26 Patent by making, using, offering to sell, and/or selling in the United States, and/or
27 importing into the United States computer storage systems based on the MapR Distribution
28 including Hadoop. On information and belief, Experian's infringing activities include at

1 least, sales and offers for sale of the accused computer storage systems; making, including
2 manufacture, assembly, and testing of the accused computer storage systems; and use,
3 including testing, demonstration, and operation of the accused computer storage systems.
4 On information and belief, Experian's infringement pursuant to 35 U.S.C. § 271(a) is
5 ongoing. According to Experian, "Experian chose the MapR Distribution including
6 Hadoop to move beyond the restraints of their in-house database while increasing
7 processing power, lowering costs, and devising new ways to store more easily accessible
8 data." Exhibit DD.

9 73. On information and belief, Experian infringes claim 1 of the '177 Patent, by,
10 for example, using and/or making a storage system incorporating a MapR cluster. Exhibit
11 DD and X. Experian's MapR cluster comprises one or more memory sections, referred to
12 as storage pools by MapR. *Id.* Experian's MapR cluster also comprises one or more
13 memory devices having storage locations for storing data, such as disks. *Id.* Experian's
14 MapR cluster also includes a memory section controller, such as MapR software running
15 on a storage node, which is capable of detecting faults in the memory section, such as a
16 disk failure in a storage pool, and transmitting a fault message in response to the detected
17 faults, such as a status or heartbeat message indicating disk failure. Exhibit X, AA, and
18 BB. Experian's MapR cluster also comprises one or more switches, such as the
19 combination of networking hardware and software components that provide connectivity
20 and facility to read and write data onto and from disks on various MapR nodes and storage
21 pools. Exhibit Y. Experian's switches also include one or more interfaces for connecting
22 to one or more external devices, such as a hardware, software, or protocol interface, for
23 example, a port or an API, for connecting to external devices, such as Experian/MapR
24 client computers. Exhibit Z. Experian's MapR cluster also includes a switch controller
25 that executes software, including a routing algorithm. For example, components of the
26 CLDB service running on CLDB-enabled nodes and/or processing cores that control the
27 routing of data through the switch by providing directions as to the identification and
28 location of data in the MapR cluster and/or caching copies of the CLDB data on other

1 nodes and client computers are the switch controller, which executes a routing algorithm,
2 such as rules for directing read and write requests and data in the MapR cluster to the
3 appropriate destination, including, for example, CLDB's identification of containers storing
4 data, and locations of those containers, such as IP addresses of nodes storing the containers.
5 Exhibit X and AA. Experian's MapR cluster further comprises a selectively configurable
6 switch fabric, such as combination of node buses, backplanes, storage array connectors,
7 network interface cards, network wiring, network switches, routers, and other networking
8 devices included in a switch, which are connected to one or more memory sections, such as
9 MapR storage pools, and the one or more interfaces described above. Exhibit X and Y.
10 Experian's selectively configurable switch fabric interconnects the memory sections, such
11 as the storage pools, and the one or more interfaces described above, based on the routing
12 algorithm stored in the switch controller. *Id.* Experian's MapR cluster further comprises a
13 management system, such as components of the MapR-FS and CLDB service which update
14 data and container identification and location information for the cluster. Exhibit X and
15 AA. Experian's management system is capable of receiving fault messages from the
16 memory section controllers, such as status and heartbeat messages indicating disk failures,
17 and inactivating the memory section (storage pool) corresponding to the fault message
18 received by changing the routing algorithm described above. *Id.* In Experian's MapR
19 cluster, the management system is further capable of determining and changing the routing
20 algorithm for use by the selectively configurable switch fabric in interconnecting the
21 memory sections and the one or more interfaces. *Id.* For example, if containers in the
22 CLDB volume fall below the minimum replication factor, aggressive re-replication restores
23 the minimum level of replication. *Id.* If a disk failure is detected, data stored on the failed
24 disk is re-replicated to other disks. *Id.* Experian's management system determines and
25 changes the CLDB's identification of containers storing data, and locations of those
26 containers, such as IP addresses of nodes storing the containers for use by the selectively
27 configurable switch fabric in interconnecting the MapR storage pools (memory sections)
28 and the interfaces described above, provides the routing algorithm to the switch controller,

1 and instructs the switch controller to execute the determined algorithm, including the
2 routing of read or write requests to appropriate container locations throughout the cluster.

3 *Id.*

4 74. On information and belief, Experian has infringed at least claim 13 of the '177
5 Patent by making, using, offering to sell, and/or selling in the United States, and/or
6 importing into the United States data storage systems based on the MapR Distribution
7 including Hadoop. On information and belief, Experian's infringement pursuant to 35
8 U.S.C. § 271(a) is ongoing.

9 75. On information and belief, Experian infringes claim 13 of the '177 Patent by,
10 for example, performing a method for use in a storage system incorporating a MapR
11 cluster. Exhibit X. Experian stores data in storage locations in a memory device, such as a
12 disk. *Id.* Experian's memory devices are included in a memory section, which are referred
13 to as storage pools by MapR. *Id.* Experian's management system, the components of the
14 MapR-FS and CLDB service which update data and container identification and location
15 information for the MapR cluster, determines a routing algorithm, such as the rules for
16 directing read and write requests and data in the MapR cluster to the appropriate
17 destination, including, for example, CLDB's identification of containers storing data, and
18 locations of those containers, such as IP addresses of nodes storing the containers. Exhibits
19 X and AA. The routing algorithm is used by Experian's switch controller, such as
20 components of the CLDB service running on CLDB-enabled nodes and/or processing cores
21 that control the routing of data through the switch by providing directions as to the
22 identification and location of data in the MapR cluster and/or caching copies of the CLDB
23 data on other nodes and client computers, which executes software, including the routing
24 algorithm, to configure a selectively configurable switch, such as the combination of
25 networking hardware and software components that provide connectivity and facility to
26 read and write data onto and from disks on various MapR nodes and storage pools, in
27 connecting the memory section (storage pool) and an interface, such as a hardware,
28 software, or protocol interface, such as a port or an API. Exhibits X, Y, Z, and AA.

1 Experian's management system, such as the components of the MapR-FS and CLDB
2 service which update data and container identification and location information for the
3 MapR cluster, provides the determined routing algorithm to the switch controller described
4 above, and instructs the switch controller to execute the determined routing algorithm. *Id.*
5 Experian's selectively configurable switch connects the memory section (storage pool) to
6 the interface described above, based on the routing algorithm. *Id.* Experian's memory
7 section controller described above detects a fault in regard to the data stored in the memory
8 device, such as a CRC error, and transmits a fault message, such as an alarm or a heartbeat
9 message including information about the fault. *Id.* Experian's management system
10 receives the fault message and removes from service the memory section (storage pool)
11 from which the fault message was received, by changing the routing algorithm, such that
12 requests to write or read data that was previously stored on the storage pool that was
13 removed from service are no longer routed to the pool and are routed to different locations.
14 Exhibits X, AA, and CC.

15 76. On information and belief, Experian has committed the foregoing infringing
16 activities without license from MNS.

17 77. The acts of infringement by Experian will continue unless enjoined by this
18 Court.

19 78. MNS has been and will continue to be irreparably harmed and damaged by
20 Experian's acts of infringement of the '177 Patent and has no adequate remedy at law.

21 **COUNT VI: INFRINGEMENT OF THE '388 PATENT BY EXPERIAN**

22 79. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

23 80. On information and belief, Experian has infringed at least claim 1 of the '388
24 Patent by making, using, offering to sell, and/or selling in the United States, and/or
25 importing into the United States data storage systems based on the MapR Distribution
26 including Hadoop. On information and belief, Experian's infringing activities include at
27 least, sales and offers for sale of the accused computer storage systems; making, including
28 manufacture, assembly, and testing of the accused computer storage systems; and use,

1 including testing, demonstration, and operation of the accused computer storage systems.
2 On information and belief, Experian's infringement pursuant to 35 U.S.C. § 271(a) is
3 ongoing. According to Experian, "Experian chose the MapR Distribution including
4 Hadoop to move beyond the restraints of their in-house database while increasing
5 processing power, lowering costs, and devising new ways to store more easily accessible
6 data." Exhibit DD.

7 81. On information and belief, Experian infringes claim 1 of the '388 Patent by,
8 for example, using and/or making a storage system incorporating a MapR cluster. Exhibit
9 DD and X. Experian's MapR cluster comprises one or more memory sections, referred to
10 as storage pools by MapR. *Id.* Experian's MapR cluster also comprises one or more
11 memory devices having storage locations for storing data, such as disks. *Id.* Experian's
12 MapR cluster also includes a memory section controller, such as MapR software running
13 on a storage node, which is capable of detecting faults in the memory section, such as a
14 disk failure in a storage pool, and transmitting a fault message in response to the detected
15 faults, such as a status or heartbeat message indicating node failure. Exhibit X, AA, and
16 BB. Experian's MapR cluster also comprises one or more switches, such as the
17 combination of networking hardware and software components that provide connectivity
18 and facility to read and write data onto and from storage pools and disks on various MapR
19 nodes and storage pools. Exhibit Y. Experian's switches also include one or more
20 interfaces for connecting to one or more external devices, such as a hardware, software, or
21 protocol interface, for example, a port or an API for connecting to external devices, such as
22 Experian/MapR client computers. Exhibit Z. Experian's MapR cluster also includes a
23 switch controller that executes software, including a routing algorithm. For example,
24 components of the CLDB service running on CLDB-enabled nodes and/or processing cores
25 that control the routing of data through the switch by providing directions as to the
26 identification and location of data in the Experian MapR cluster and/or caching copies of
27 the CLDB data on other nodes and client computers are the switch controller, which
28 executes a routing algorithm, such as the rules for directing read and write requests and

1 data in the Experian MapR cluster to the appropriate destination, including, for example,
2 CLDB's identification of containers storing data, and locations of those containers, such as
3 IP addresses of nodes storing the containers. Exhibit X and AA. Experian's MapR cluster
4 further comprises a selectively configurable switch fabric, such as combination of node
5 buses, backplanes, storage array connectors, network interface cards, network wiring,
6 network switches, routers, and other networking devices included in a switch, which are
7 connected to one or more memory sections, such as MapR storage pools, and the one or
8 more interfaces described above. Exhibit X and Y. Experian's selectively configurable
9 switch fabric interconnects the memory sections, such as the storage pools, and the one or
10 more interfaces, described above, based on the routing algorithm. *Id.* For example, based
11 on the data and container location and routing information algorithm described above, the
12 selectively configurable switch fabric interconnects memory sections (storage pools) and
13 one or more interfaces. *Id.* Experian's MapR cluster further comprises a management
14 system, such as the components of the MapR-FS and CLDB service which update data and
15 container identification and location information for the MapR cluster. Exhibit X and AA.
16 Experian's management system is capable of receiving fault messages from the memory
17 section controllers, such as status and heartbeat messages indicating disk failures, and
18 inactivating the memory section (storage pool) corresponding to the fault message received
19 by changing the routing algorithm described above. Exhibit X, AA, and CC. In Experian's
20 MapR cluster, the management system is further capable of determining and changing the
21 routing algorithm for use by the selectively configurable switch fabric in interconnecting
22 the memory sections and the one or more interfaces. *Id.* For example, if containers in the
23 CLDB volume fall below the minimum replication factor, aggressive re-replication restores
24 the minimum level of replication. *Id.* If a disk failure is detected, data stored on the failed
25 disk is re-replicated to other disks. *Id.* Experian's management system described above
26 determines the rules for directing read and write requests and data in the cluster to the
27 appropriate destination, including, for example, CLDB's identification of containers storing
28 data, and locations of those containers, such as IP addresses of nodes storing the containers

1 for use by the selectively configurable switch fabric in interconnecting the MapR storage
2 pools (memory sections) and the interfaces described above, and provides the routing
3 algorithm to the switch controller described above. *Id.*

4 82. On information and belief, Experian has infringed at least claim 2 of the '388
5 Patent by making, using, offering to sell, and/or selling in the United States, and/or
6 importing into the United States data storage systems based on the MapR Distribution
7 including Hadoop. On information and belief, Experian's infringement pursuant to 35
8 U.S.C. § 271(a) is ongoing.

9 83. On information and belief, Experian infringes claim 2 of the '388 Patent by,
10 for example, performing a method for use in a storage system. Exhibit DD and X.
11 Experian stores data in storage locations in a memory device, such as a disk. *Id.*
12 Experian's memory devices are included in a memory section, referred to as a storage pool
13 by MapR. *Id.* Experian's management system, such as the components of the MapR-FS
14 and CLDB service which update data and container identification and location information
15 for Experian's MapR cluster, determines a routing algorithm, such as the rules for directing
16 read and write requests and data in cluster to the appropriate destination, including, for
17 example, CLDB's identification of containers storing data, and locations of those
18 containers, such as IP addresses of nodes storing the containers. Exhibits X and AA. The
19 routing algorithm is used by Experian's switch controller, such as components of the
20 CLDB service running on CLDB-enabled nodes and/or processing cores that control the
21 routing of data through the switch by providing directions as to the identification and
22 location of data in Experian's MapR cluster and/or caching copies of the CLDB data on
23 other nodes and client computers, which executes software, including the routing
24 algorithm. *Id.* Experian's management system, such as the CLDB and MapR-FS update
25 components described above, provides the routing algorithm to the switch controller,
26 described above. Experian's switch controller, such as the components of the MapR-FS
27 and CLDB service which update data and container identification and location information
28 for the MapR cluster, executes the routing algorithm to configure a configurable switch,

1 such as the combination of networking hardware and software components that provide
2 connectivity and facility to read and write data onto and from storage pools and disks on
3 various MapR nodes and storage pools, connecting the memory section (storage pool) to an
4 interface, such as a hardware, software, or protocol interface, for example, a port or an API.
5 Exhibit X, Y, Z, and AA. Experian detects a fault associated with the data in the storage
6 locations in the memory device, such as a CRC error. Exhibit X, Y, and CC. Experian's
7 management system described above determines in response to the detecting of a fault, a
8 new routing algorithm that redirects data for the memory device to a replacement memory
9 device. For example, if containers in the CLDB volume fall below the minimum
10 replication factor, aggressive re-replication restores the minimum level of replication. *Id.*
11 If a disk failure is detected, data stored on the failed disk is re-replicated to other disks. *Id.*
12 Upon detecting a fault, Experian also provides the new routing algorithm to the switch
13 controller described above. *Id.*

14 84. On information and belief, Experian has committed the foregoing infringing
15 activities without license from MNS.

16 85. The acts of infringement by MapR will continue unless enjoined by this Court.

17 86. MNS has been and will continue to be irreparably harmed and damaged by
18 Experian's acts of infringement of the '388 Patent and has no adequate remedy at law.

19 20 **PRAYER FOR RELIEF**

21 WHEREFORE, MNS prays for the judgment in its favor against Defendants,
22 individually and jointly and severally, granting MNS the following relief:

- 23 A. Entry of judgment in favor of MNS against Defendants on all counts;
24 B. Entry of judgment that Defendants have infringed the Patents-in-Suit;
25 C. An order permanently enjoining Defendants together with their officers,
26 directors, agents, servants, employees, and attorneys, and upon those persons in active
27 concert or participation with them from infringing the Patents-in-Suit;

1 D. Award of compensatory damages adequate to compensate MNS for
2 Defendants' infringement of the Patents-in-Suit, in no event less than a reasonable royalty
3 trebled as provided by 35 U.S.C. § 284;

4 E. MNS's costs;

5 F. Pre-judgment and post-judgment interest on MNS's award; and

6 G. All such other and further relief as the Court deems just or equitable.
7

8 Dated: July 31, 2017

ONE LLP

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10 By: /s/ Stephen M. Lobbin

11 Stephen M. Lobbin
12 Attorneys for Plaintiff,
13 MOBILE NETWORKING SOLUTIONS, LLC
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DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Fed. R. Civ. P., Plaintiff MNS hereby demands trial by jury in this action of all claims so triable.

Dated: July 31, 2017

ONE LLP

By: /s/ Stephen M. Lobbin

Stephen M. Lobbin
Attorneys for Plaintiff,
MOBILE NETWORKING SOLUTIONS, LLC

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