

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS  
EASTERN DIVISION**

RED BEND LTD., and  
RED BEND SOFTWARE INC.,

Plaintiffs,

v.

GOOGLE INC.,

Defendant.

Civil Action No. 09-cv-11813-DPW

**MEMORANDUM IN SUPPORT OF PLAINTIFFS' MOTION FOR A  
PRELIMINARY INJUNCTION ENJOINING GOOGLE'S INFRINGEMENT**

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Pursuant to Federal Rule of Civil Procedure 65(a) and 35 U.S.C. § 283, Plaintiffs Red Bend Ltd. and Red Bend Software Inc. (collectively “Red Bend”) submit this Memorandum in Support of their Motion for a Preliminary Injunction against Defendant Google Inc. (“Google”) enjoining Google from generating and distributing infringing software updates and from publicly posting (on the Internet or otherwise) source code that induces and encourages the widespread and unquantifiable infringement of Red Bend’s U.S. Patent No. 6,546,552, entitled “Difference Extraction Between Two Versions Of Data-Tables Containing Intra-References” (“the ‘552 Patent”).

**I. PRELIMINARY STATEMENT**

By 1998, the Chief Technology Officer of Plaintiff Red Bend Ltd. had developed a highly-efficient technique for updating old versions of software programs over a communication network, so that end-users could more easily and quickly receive new software updates. Red Bend applied for a patent on that technique, which ultimately led to the issuance of the ‘552 Patent in 2003. Just a few months ago, however, over eleven years after Red Bend’s invention, Google proudly proclaimed that it had invented a new technique, it called “Courgette,” for generating small software updates for its Chrome Internet browser.<sup>1</sup> Google boasts that Courgette is a “new differential compression algorithm” that makes software updates “significantly smaller” than any prior technique. (See Exh. 3).<sup>2</sup>

Alarming, consistent with Google’s “open source” strategy, pursuant to which Google allows developers and others to copy certain, but not all, of its code for free, Google posted on its website its purportedly “new” Courgette technique and associated detailed computer code and

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<sup>1</sup> Google Chrome was released in 2008 and (as of July) was used by over 30 million people regularly. Google has recently announced that it is extending the Chrome Internet browser into a complete Operating System (“OS”). See, e.g., <http://googleblog.blogspot.com/2009/07/introducing-google-chrome-os.html> (describing the Chrome OS as a “natural extension of Google Chrome”).

<sup>2</sup> Citations to “Exh. \_\_\_” refer to the exhibits attached to the Declaration of Jennifer C. Tempesta submitted contemporaneously herewith.

instructions, effectively telling the world that its Courgette technique is open and free for all to copy and use.

This, however, is not the case. Google's purportedly "new" Courgette technique is not new at all, but instead infringes Red Bend's '552 Patent. Specifically, and as detailed below, Google's use of Courgette to generate and distribute updates for its Chrome web browser, as well as its publication of the Courgette source code, together with instructions for using that code, infringes, both directly and indirectly, Red Bend's '552 Patent. Indeed, as also explained below, Google's description of the Courgette technique uses language almost verbatim from Red Bend's '552 Patent.

Unfortunately, Google, despite (1) being informed that Red Bend had long ago patented this purportedly "new" technique; (2) learning that Red Bend's core business and survival depends on its ability to protect its licensed technology and intellectual property; and (3) Red Bend's repeated requests to Google, as relayed in writing and in two in-person meetings, the last occurring on November 5, 2009, that Google remove its infringing Courgette technique from the Internet, has refused to remove the code. Consequently, Red Bend has been left with no choice but to seek a preliminary injunction. Red Bend requests an Order requiring, at least until trial, that Google (1) discontinue using the infringing Courgette algorithm to generate Chrome updates; (2) remove from the Internet, and refrain from further publication, the infringing code and accompanying instructions; and (3) announce that its previously published Courgette code is not "open" and free for all to use, but instead is alleged to be protected by Red Bend's '552 Patent.

Red Bend recognizes that preliminary injunctive relief is an unusual remedy, but Red Bend respectfully submits that Google's behavior, and the irreparable harm it is causing and will continue to cause Red Bend, justifies such interim relief. Google's open and flagrant infringement as well as its distribution of the infringing code as "open source" causes Red Bend irreparable harm, which should be enjoined pending trial. Without such preliminary injunctive relief, Red Bend will be severely harmed.

As demonstrated below, all of the requirements for preliminary relief are met here. First, there is a high likelihood that Red Bend will succeed on the merits. Regarding infringement, because all the limitations in Claims 8-10, 21-23, 42-44, and 55-57 of the '552 Patent read on (and are contained within) Google's Courgette, there is direct infringement. Further, Google's publishing the infringing code on the Internet for others' adoption constitutes indirect infringement under 35 U.S.C. §§ 271(b), 271(c), and/or 271(f). Regarding validity, the '552 Patent underwent rigorous review by the U.S. Patent and Trademark Office ("PTO") and is entitled to a statutory presumption of validity. Further, Google's own public statements regarding the inventiveness of the techniques in Courgette show that the '552 Patent is valid. If the techniques were old, Google would not (when it *rediscovered* the techniques set forth in Red Bend's patent application filed eleven years earlier), have proclaimed those techniques to be "new," nor would it have gone on at length in various website postings about the benefits of those techniques. (*See, e.g.*, Exh. 2).

The balance of the hardships also weighs heavily in favor of Red Bend, particularly in view of the narrowly tailored relief requested, which would require only that Google take down the infringing code and discontinue using the patented techniques for generating software updates, pending trial. This would cause very little harm to Google, because it would be free to use and distribute code containing unpatented, prior art techniques for generating software updates, as it did prior to the launch of Courgette. On the other hand, Red Bend would likely suffer injury to its reputation, and lose existing and potential licensees, given the choice to use code being freely offered, and touted incorrectly and misleadingly as being open to all, by Google. Finally, the public interest favors Red Bend because a patentee is entitled to protect its investment and enforce a valid U.S. patent, our Constitution's way to promote investment in and the progress of technology (*i.e.*, the "useful arts"). A preliminary injunction should therefore issue.



## **II. STATEMENT OF FACTS**

### **A. Red Bend**

Red Bend is a company with approximately 100 employees. (Salinger Decl. ¶ 3. *See also* Exh. 8).<sup>3</sup> Despite its relatively small size, Red Bend has grown to be the world's leading provider of electronic software distribution technology designed to dramatically reduce the size of software update files, accelerating delivery of software updates to end-users, while using minimal bandwidth. (Salinger Decl. ¶ 3. *See also* Exh. 8). Red Bend's success is directly attributable to its commitment over the last decade to research and development, and to the protection of cutting-edge technology resulting from such efforts, as evidenced, in part, by the '552 Patent. (*Id.* ¶¶ 4-6).

Red Bend has incorporated its patented software updating technology into products that have been widely adopted in the marketplace, being used both in Internet-delivered update environments and in firmware over the air ("FOTA") implementations. (Salinger Decl. ¶¶ 7-8. *See also* Exh. 8). For example, Red Bend's FOTA solution is used in more than 520 million mobile devices by eight of the top ten cell phone manufacturers, as well as dozens of other leading companies in the mobile, M2M and WiMAX markets who have obtained non-exclusive licenses from Red Bend. (Salinger Decl. ¶¶ 7-8. *See also* Exh. 8). Further, Red Bend is actively negotiating additional non-exclusive licenses and seeking new partnerships for the expanded use of its updating technology. (Salinger Decl. ¶ 10).

### **B. The Patented Technology**

The '552 Patent claims priority to an application filed on August 19, 1998 and it issued on April 8, 2003. (Exh. 1). The patent is generally directed to updating computer programs on an end-user's computer. (*See id.* at 1:22-25 ("an old program is installed at a remote client site and is subject to be upgraded to a new program, where the latter includes some modifications as

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<sup>3</sup> Citations to "Salinger Decl." refer to the Declaration of Yoram Salinger submitted contemporaneously herewith.

compared to the old program”)). The state of the art at the time of the filing of the ‘552 Patent included techniques for generating updates using a “difference result” or “diff” between the old and new versions of the program, and transmitting only that “diff” to the end-user, rather than re-sending the new computer program in its entirety. This was described in the background of the invention as follows: “the provider should, preferably, generate a difference result representative of the difference between the old program and the new program, and send the resulting file through the Internet to the remote client . . . .” (*Id.* at 1:27-30). By transmitting only the “diff,” the prior art techniques permitted large programs to be updated by transmitting a relatively small amount of data to the end-user. This was important in view of “the relatively low throughput of the Internet and the bottleneck of the modem throughput at the client end (say an average of 33,600 [bits per second]),” at the time of the invention. (*Id.* at 1:41-44).

Although an improvement over techniques that involved transmitting a complete copy of the program every time a small update occurred, the inventor of the ‘552 Patent realized that traditional “difference result” or “diff” approaches were still inefficient. As the inventor noted, use of prior art “diff” techniques “normally results in a relatively large amount of data, even if the modifications that were introduced to the old program (in order to generate the new program) are very few.” (*Id.* at 1:56-60). This is so because executable programs are made up of computer instructions containing target addresses or “references” that (for various reasons) identify or “point” to another instruction in the program.

For example, an instruction in a program may ask the processor to “jump” to and continue processing instructions starting at a target address. (*Id.* at 1:59-2:2). This is shown in Figure 2A of the ‘552 Patent, which depicts a program (P<sub>1</sub>) made up of instructions, numbered 1-15. In that figure, instruction numbers 6 and 9 both contain a reference to instruction number 1. Although not depicted, it can be seen that if, as a result of updating the program from an older version (P<sub>1</sub>) to a new version (P<sub>2</sub>), a single new instruction is inserted before instruction number 1, several changes will occur. First, old instruction number 1 would become new instruction number 2. Assuming that old entries 6 and 9 (now renumbered 7 and 10 as a result of

the insertion) still refer to the “old” instruction number 1, those entries would be revised so that instead of “pointing” to instruction 1, they now point to instruction number 2. Thus, when computing the “diff” between old version (P<sub>1</sub>) and new version (P<sub>2</sub>) using prior art techniques, the resulting “diff” would include not only the new instruction number 1, but also a revised instruction number 7 and 10 (as well as other revised instructions reflecting the renumbering of internal references as a result of the single insertion).

The inventor realized that the size of the “diff” generated by prior art techniques could be greatly reduced by performing pre-processing on the old and new versions of the program, to generate a “modified” old program and a “modified” new program, where the internal references of corresponding instructions in the old and new programs are replaced with a common “invariant” reference or label. The diff is then performed on the modified old and new programs, thereby generating a “diff” result that excludes the effect of these invariant references. As summarized by the inventor:

The present invention is based on the observation that the relatively large size of the difference result stems from the alterations of reference in reference entries as a result of other newly inserted entries (and/or entries that were deleted).

On the basis of this observation, the invention aims at generating a modified old program and a modified new program, wherein the difference in references in corresponding entries in said new and old programs as explained above, will be reflected as invariant entries in the modified old and new programs. *The net effect is that the invariant reference entries (between the modified old program and the modified new program), will not appear in the difference result, thereby reducing its size as compared to a conventional difference result obtained by using hitherto known techniques.*

(*Id.* at 3:31-46) (emphasis supplied).

The ‘552 Patent contains 68 claims directed to different aspects of the invention.

Exemplary Claim 42 provides:

A method for generating a compact difference result between an old data table and a new data table;

each data table including reference entries that contain reference that refer to other entries in the data table;

the method comprising the steps of:

- (a) generating a modified old data table utilizing at least said old data table;
- (b) generating a modified new data table utilizing at least said new data table, said modified old data table and modified new data table have at least the following characteristics:
  - (i) substantially each reference in an entry in said old data table that is different than corresponding entry in said new data table due to delete/insert modifications that form part of the transition between said old data table and new data table are reflected as invariant references in the corresponding entries in said modified old and modified new data tables;
- (c) generating said compact difference result utilizing at least said modified new data table and modified old data table.

(*Id.* at 19:63-20:14).

**C. Chrome Courgette and Google’s Infringement**

On July 15, 2009, Google announced that they just deployed a new “algorithm called Courgette to make Google Chrome updates small.” (Exh. 2). Google published the corresponding source code on the Internet. Google’s publications include statements that the software is governed by an open source license, *i.e.*, is in the public domain and freely available for use by others so long as they comply with certain requirements in the open source license. (Exhs. 5-6). Thus, the source code, according to Google, is publicly available to Internet users. Internet users who typically utilize such information in performing software updates include software developers. (Edwards Decl. ¶ 23).<sup>4</sup>

Red Bend became aware of Google’s Courgette on or about July 15, 2009, the date of Google’s announcement. (Salinger Decl. ¶ 11). Red Bend immediately investigated Google’s potential infringement of the ‘552 Patent based on its new Courgette updates and publication thereof. (*See id.*). Upon concluding that Google likely infringes and induces infringement of the ‘552 Patent, Red Bend sent Google a cease and desist letter on September 3, 2009. (*Id.* ¶ 12; Exh. 9). Red Bend requested that Google “immediately cease and desist from using and inducing others’ use of, [ ] infringing algorithms, including by ceasing publication of the

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<sup>4</sup> Citations to “Edwards Decl.” refer to the Expert Declaration of Professor Stephen A. Edwards submitted contemporaneously herewith.

Courgette delta-update source code (at <http://src.chromium.org/viewvc/chrome/trunk/src/courgette/>)." (Exh. 9).

Shortly thereafter, on September 16, 2009, Red Bend and Google began talks to arrange a meeting to discuss Red Bend's infringement claim. (Salinger Decl. ¶ 13). To facilitate resolution discussions, the parties agreed to a truce period. (*Id.* ¶ 14). During that time, Red Bend reiterated its request that Google remove the offending source code from its website and requested that Google post a notice on its Chrome blog notifying users they should contact Red Bend for a license before making use of Courgette code. (*Id.* ¶ 15). Google refused. (*Id.* ¶ 16).

The parties' truce period ended on October 23, 2009. (*Id.* ¶ 17). On October 26, 2009, Red Bend filed the complaint against Google. (*Id.* ¶ 18). Nonetheless, Red Bend's Chief Executive Officer met with Google representatives on November 5, 2009 in another attempt to reach an amicable resolution. (*Id.* ¶ 19). The parties' meeting did not end favorably (*id.* ¶ 20), and Red Bend was forced to file this motion.

### **III. APPLICABLE PRINCIPLES**

The decision to grant a preliminary injunction is within the sound discretion of the district court. *Nat'l Steel Car, Ltd. v. Canadian Pacific Ry., Ltd.*, 357 F.3d 1319, 1325 (Fed. Cir. 2004). "A plaintiff seeking a preliminary injunction must establish [1] that he is likely to succeed on the merits, [2] that he is likely to suffer irreparable harm in the absence of preliminary relief, [3] that the balance of equities tips in his favor, and [4] that an injunction is in the public interest." *Winter v. Natural Res. Defense Council, Inc.*, 129 S. Ct. 365, 374 (2008); *see also eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (enunciating similar test in the context of a permanent injunction inquiry). In order for an injunction to be granted, the movant must establish at least the first two of these factors. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001).

#### IV. ARGUMENT

##### A. There Is a High Likelihood That Red Bend Will Prevail on the Merits of its Infringement Claim

In order to establish a likelihood of success on the merits, “the patentee must demonstrate that it will likely prove infringement of one or more claims of the patents-in-suit, and that at least one of those same allegedly infringed claims will also likely withstand the validity challenges presented by the accused infringer.” *Amazon.com*, 239 F.3d at 1351.

Google both directly and indirectly infringes, either literally or under the doctrine of equivalents. Google should be held liable for direct infringement and for contributing to and inducing others’ infringement, respectively, because: (1) Google itself uses the patented methods in its Chrome Courgette updates; and (2) Google supplies and “sells” or offers to “sell” (via an open source license) code constituting a material part of the patented invention, and instructs and encourages others to use that code in a manner that infringes the ‘552 Patent.

##### 1. **Google Infringes the ‘552 Patent**

###### a. Google and Internet Users Directly Infringe

The determination of infringement is a two step inquiry. First, the court construes the claims as a matter of law, and then compares the construed claims to the accused method. *See, e.g., Purdue Pharma L.P. v. Boehringer Ingelheim, GMBH*, 237 F.3d 1359, 1363 (Fed. Cir. 2001). Infringement occurs where the accused product contains all of the limitations set forth in at least one claim of the patent at issue. *See, e.g., Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 532 (Fed. Cir. 1996). As illustrated in the following chart, Google’s use of Courgette infringes, and software developers/Internet users who utilize the source code published by Google also infringe Claim 42 of the ‘522 Patent. Additional detail demonstrating the proper claim construction, infringement of Claim 42, and infringement of several additional claims (Claims 8-10, 21-23, 43-44, and 55-57), literally and under the doctrine of equivalents is included in the Expert Declaration of Professor Stephen A. Edwards submitted contemporaneously herewith.

<b>'552 Patent Claim 42</b>	<b>Google Chrome</b>	<b>Software Developers Using Published Courgette Code</b>
A method for generating a compact difference result between an old data table and a new data table;	<p>“Rather than push out a whole new 10MB update, we send out a diff that takes the previous version of chrome and generates the new version.” (Edwards Decl. ¶ 25; Exh. C).</p> <p>The old data table and new data table consists of the old and new versions of Google Chrome, respectively. (<i>Id.</i>).</p>	A software developer or anyone with a C++ compiler and little experience, would be able to use code posted by Google and the comments and instructions provided to generate a compact difference result between versions of his or her own products. (Edwards Decl. ¶ 25; Exh. C). The old data table is a prior version of the developer’s program and the new data table would be the new version. ( <i>Id.</i> ).
each data table including reference entries that contain reference that refer to other entries in the data table;	“The compiled code is full of internal references where some instruction or datum contains the address (or offset) of another instruction or datum.” ( <i>Id.</i> ).	A compiled version of any program would be full of internal references where some instruction or datum contains the address of another instruction or datum. ( <i>Id.</i> ).
the method comprising the steps of: (a) generating a modified old data table utilizing at least said old data table;	“Courgette transforms the program into a primitive assembly language and does the diffing at the assembly level: . . . asm_old = disassemble(original).” Therefore, the modified old data table is generated when Courgette “transforms” the program into a “primitive assembly language.” ( <i>Id.</i> ).	The posted Courgette code can easily be compiled into an executable following the instructions posted at: <a href="http://www.chromium.org/developers/how-tos/get-the-code">http://www.chromium.org/developers/how-tos/get-the-code</a> . The executable generated in part from file courgette_tool.cc is used to disassemble an old version of a program ( <i>Id.</i> ).
(b) generating a modified new data table utilizing at least said new data table,	“Courgette transforms the program into a primitive assembly language and does the diffing at the assembly level: . . . asm_new = disassemble(update); asm_new_adjusted=adjust(asm_new , asm_old).” Therefore, a modified new data table is generated when Courgette “transforms” the program into a “primitive assembly language.” ( <i>Id.</i> ).	The user is instructed to disassemble and adjust using the courgette executable by invoking it using a different switch, -disadj. This parses the new version of the program, and creates a disassembled new version. ( <i>Id.</i> ).
said modified old data table and modified new data table have at least the following characteristics: (i)	As part of the above “disassemble(original)” step, method DefaultAssignIndex in file assembly_program.cc creates new references in program “m” (the old	The user is instructed to use the -dis (disassemble process) on the old program, and the -disadj (disassemble and adjust process) on the new version of the program, in

<b>‘552 Patent Claim 42</b>	<b>Google Chrome</b>	<b>Software Developers Using Published Courgette Code</b>
substantially each reference in an entry in said old data table that is different than corresponding entry in said new data table due to delete/insert modifications that form part of the transition between said old data table and new data table are reflected as invariant references in the corresponding entries in said modified old and modified new data tables;	“data table”) by assigning indices to labels. Method AssignOne of adjustment_method.cc copies these references to the corresponding labels of program “p” (the new “data table”), thereby rendering them invariant. ( <i>Id.</i> ).	order to scan the programs and encode them. Comments in the Courgette source code state that an encoded program is a set of tables that contain a simple 'binary assembly language' that can be assembled to produce a sequence of bytes, e.g., a Windows 32-bit executable. During the generation of the encoded program, references are replaced with labels, which are invariant references where the references refer to corresponding entries in the modified old and modified new data tables. ( <i>Id.</i> ).
(c) generating said compact difference result utilizing at least said modified new data table and modified old data table.	“Courgette transforms the program into a primitive assembly language and does the diffing at the assembly level: asm_diff = bsdiff(asm_old, asm_new_adjusted).” Therefore, the difference calculation operates on the modified old program (asm_old) and the modified new program (asm_new_adjusted). ( <i>Id.</i> ).	To generate the difference result, the user of the courgette code is instructed to run the courgette executable with the argument -gen specifying the old version, new version, and location for the patch file to be generated. ( <i>Id.</i> ).

As illustrated in the above chart and confirmed in the supporting evidence, both Google and software developers/Internet users using the published Courgette source code practice each limitation of Claim 42 of the ‘552 Patent and Claims 8-10, 21-23, 43-44 and 55-57, either literally or under the doctrine of equivalents, resulting in infringement.

b. Google Induces Infringement by Internet Users/Software Developers

“Whoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. 271(b). A party is liable for inducing infringement where: (1) another party directly infringes the claim at issue; (2) the party intentionally encourages the acts that constitute direct infringement; and (3) the party knows or should know that its actions will cause direct



infringement. *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1305-06 (Fed. Cir. 2006) (en banc). “[I]nstructing how to engage in an infringing use” constitutes “active steps” to “encourage direct infringement.” *Cf. Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 936 (2005) (applying copyright law).

i) Internet Users/Software Developers Directly Infringe

The first element of the inducement inquiry, requiring direct infringement by another, is met here. As illustrated in the chart above, Internet users/software developers and companies, directly infringe the ‘522 Patent by using the Courgette source code published by Google.

ii) Google Intentionally Encourages Infringing Acts

As to the second element of the inducement inquiry, namely that Google intentionally encourages acts that constitute direct infringement, Google encourages the infringement by others by publishing infringing source code on the Internet. Google is publishing the source code with instructions on how to utilize the source code, and intentionally encouraging infringement in so doing. Specifically, Google has a webpage devoted to instructing users regarding obtaining and using the Courgette source code. (Exh. 4). These instructions include recommendations on how to speed up the download process, uncompress the downloaded files and make use of the code. (*See id.*).

Google has had actual knowledge of the ‘522 Patent at least since on or about September 9, 2009 upon receipt of Red Bend’s cease and desist letter, and has ignored Red Bend’s requests to remove the infringing source code from its website. (Salinger Decl. ¶ 16; Exh. 9). Google publishes the code with a statement that it is governed by an open source license, *i.e.*, that everyone is free to use it, when Google knows this is not the case. (*See Exhs. 5-6*).

iii) Google Knows or Should Know its Acts Will Cause Infringement

Finally, regarding the third element of the inducement inquiry, Google knows or should know that its acts will cause direct infringement. Google publishes the source code on the

Internet not only with actual knowledge of Red Bend’s infringement claims but also with actual knowledge that the utilization of that code will result in infringement of the ‘552 Patent. Consequently, there is a high likelihood that Red Bend will succeed on the merits of its infringement claims against Google.

c. Google Contributes to Infringement

35 U.S.C. §§ 271(c) and (f) make it an act of infringement to “offer[ ] to sell or sell[ ]” or to “suppl[y] or cause[ ] to be supplied” a component of a patented invention that is “especially adapted” for use in an infringement and not a “staple article or commodity of commerce suitable for substantial noninfringing use.” Google infringes under these statutes because it supplies the open source Courgette code over the Internet for download, subject to the terms of Google’s open source license. (Exhs. 5-6). This code is a material component of the patented invention because, when downloaded from the Internet and compiled into executable code on a computer, the computer becomes capable of carrying out the functionality recited in the asserted system claims (*e.g.*, Claim 21).<sup>5</sup> (*See* Edwards Decl. ¶ 23). The Courgette code has no use other than in carrying out an infringing software update, and therefore is not a staple article of commerce. (*Id.*). When the code is used as intended by developers in the United States, Google is liable under 35 U.S.C. § 271(c). When the code is used outside the United States, Google is liable under 35 U.S.C. § 271(f).

**2. Google Cannot Raise a Substantial Question Concerning The Validity of the ‘552 Patent**

It is extremely unlikely that Google can raise a substantial question concerning the validity of the asserted claims. *See, e.g., Altana Pharma AG v. Teva Pharms. USA, Inc.*, 566 F.3d 999, 1005-06 (Fed. Cir. 2009) (where “the alleged infringer raises a ‘substantial question’ of invalidity, the preliminary injunction should not issue”). Pursuant to 35 U.S.C. § 282, issued

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<sup>5</sup> 35 U.S.C. § 271(c) further makes it an act of infringement to offer to sell or sell a “material . . . for use in practicing a patented process . . . .” As the Courgette source code is such a “material,” Google’s distribution of the Courgette code infringes the process claims (*e.g.*, Claims 8 and 42) under this theory as well.

patents are entitled to a presumption of validity. “[T]he patent enjoys the same presumption of validity during preliminary injunction proceedings as at other stages of litigation.” *Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1377 (Fed. Cir. 2009). “Thus, unless the alleged infringer undertakes to challenge validity with evidence, the patentee need do nothing to establish its rights under the patent.” *New England Braiding Co., Inc. v. A.W. Chesterton Co.*, 970 F.2d 878, 882 (Fed. Cir. 1992).

To-date, Google has failed to disclose to Red Bend any prior art reference relevant to the ‘552 Patent. Red Bend’s priority date for the ‘552 Patent is very early, at least as early as August 19, 1998, thus it is unlikely that Google will uncover prior patents more relevant than those already considered and rejected by the PTO.

Further, Google’s public Internet postings reveal that it believed the techniques of the ‘552 Patent (as implemented in Courgette) were inventive and notable even as late as July of this year – over eleven years after they were first discovered by Red Bend. For example, Google publicly noted that it searched the prior art for the best techniques for generating small software updates; but did not find one that was good enough:

We tried several binary diff algorithms and have been using bsdiff up until now. We are big fans of bsdiff - it is small and worked better than anything else we tried. But bsdiff was still producing diffs that were bigger than we felt were necessary.

(Exh. 2). Thus, Google decided to develop its own “**new** differential compression algorithm” which it called “Courgette.” (*Id.*). Google’s new algorithm was based on its purported discovery of this problem:

The problem with compiled applications is that even a small source code change causes a disproportional number of byte level changes. When you add a few lines of code . . . all the subsequent code gets moved to make room for the new instructions. The compiled code is full of internal references where some instruction . . . contains the address . . . of another instruction . . . . It only takes a few source changes before almost all of these internal pointers have a different value, and there are a lot of them.

(Exh. 3). Google’s solution to this problem was to give Courgette the ability to “transform[ ] the input into an alternate form where binary diffing is more effective, do[ ] the differential

compression in the transformed space, and invert[ ] the transform to get the patched output in the original format.” (*Id.*). Google explains that this technique can be used to “generate a better diff.” (*Id.*). Google is so proud of this solution, it has posted two separate entries on the Internet describing it, and has promised to publish a third, “more detailed paper on Courgette.” (*Id.*).

But the “problem” that Google supposedly recently identified, and its solution to that problem as embodied in Courgette, are *exactly the insights provided by the inventor of the ‘552 Patent over eleven years ago*. As described in the ‘552 Patent:

The present invention is based on the observation that the relatively large size of the difference result stems from the alterations of reference in reference entries as a result of other newly inserted entries (and/or entries that were deleted).

(Exh. 1 at 3:31-36; *see also id.* at 3:37-46 (describing the invention as involving generation of a “modified” old program (*i.e.* transformed into an alternate form) so that the difference in references in corresponding entries between new and old programs are reflected as invariant entries that will not appear in the difference result, thereby reducing its size as compared to prior art techniques)). Thus, Google’s own words and actions confirm that the techniques of the ‘552 Patent are inventive and that the patent is valid. Google’s development of Courgette, its detailed description of it in two separate Internet publications, and its promise of a third “more detailed” description of Courgette all evidence that, at least to the skilled engineers at Google, the techniques and insights in the ‘552 Patent are important and inventive, even today. In view of this, it is extremely unlikely that Google will now be able to raise a substantial question concerning the validity of the patent by proving that those insights were actually old and well-known *over eleven years ago*, when the ‘552 patent was first filed.

**B. Red Bend Will Be Irreparably Harmed by Google's Continued Infringement**

Regarding irreparable harm, some courts have applied a presumption of irreparable harm upon a clear showing of likelihood of success. *See, e.g., Purdue Pharma*, 237 F.3d at 1363.<sup>6</sup> “One of the fundamental and valuable aspects of a patent is the right to exclude others from using one’s invention. In light of Plaintiff’s likelihood of success on the merits, its inability to control the use of its invention will constitute irreparable injury.” *Concrete Washout Sys., Inc. v. Washout Sys., LLC*, No. 08-2214, 2008 WL 5411965, \*3 (E.D. Cal. Dec. 24, 2008) (citations omitted) (granting patentee’s motion for a preliminary injunction against defendant’s use, sale or giving away of infringing concrete washout systems and noting “chilling effect” on patentee’s potential licensees as a factor in finding irreparable harm). Thus, the Court should apply a presumption of irreparable harm in view of Red Bend’s showing of a high likelihood of success on the merits.

Even if no presumption is applied, the irreparable harm to Red Bend caused by Google’s use and open source distribution of Courgette is readily apparent. Google itself recognizes that open source distribution of software can be harmful to *its* business. For example, when an open source developer attempted to release an open source version of some of Google’s own proprietary software, it protested, stating:

Either way, *these apps aren't open source*, and that’s why they aren’t included in the Android source code repository. *Unauthorized distribution of this software harms us just like it would any other business*, even if it’s done with the best of intentions.

(Exh. 7) (emphasis supplied). The same is true here, and Google’s unauthorized use and/or distribution of Courgette irreparably harms Red Bend’s business.

Irreparable harm is demonstrated here by the high likelihood that Google’s continued infringement will result in at least: (1) an unquantifiable loss of market share for Red Bend’s

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<sup>6</sup> “It remains an open question ‘whether there remains a rebuttable presumption of irreparable harm . . . .’” *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 702 (Fed. Cir. 2008) (quoting *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1359 n. 1 (Fed. Cir. 2008)).

patented software update technology; (2) lost revenue and market opportunities; and (3) an unrecoverable loss of goodwill. *See, e.g., Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1361-62 (Fed. Cir. 2008) (irreparable harm may be shown by a variety of factors, including a patentee's likely loss of market share, revenue, goodwill or market opportunities).

**1. Red Bend Will Suffer an Unquantifiable Loss of Market Share**

Because it is not readily ascertainable how many Internet users, such as software developers, will use the source code posted by Google in an infringing manner, Red Bend will not have a mechanism to calculate its loss of market share. (Salinger Decl. ¶ 23). The infringement will likely be widespread and unquantifiable. An Internet user that works in the area of software development can readily use the source code posted by Google in an infringing manner to update various software programs. Indeed, by posting on the Internet working source code and the instructions on using that code, Google has made it possible for persons having even less than the ordinary skill in the art to infringe the patent. (Edwards Decl. ¶ 23). Accordingly, if Google is permitted to continue publishing the code, Red Bend will have no way to detect or police the resulting infringing activity, irreparably harming Red Bend. *See, e.g., Everett Labs, Inc. v. Breckenridge Pharm., Inc.*, 573 F. Supp. 2d 855, 868-69 (D.N.J. 2008) (finding irreparable harm where there was a likely loss of market share that “is difficult to quantify”).

**2. Continued Posting of the Source Code Will Result in Red Bend's Loss of Revenue and Market Opportunities**

If Google is permitted to proceed with its directly infringing acts, as well as with the continued publication of the source code that contributes to and induces infringement by others, Red Bend's licensees will likely object to paying fees for software that is substantially similar to that which is being used for free by Google and others. (Salinger Decl. ¶ 22). Further, Red Bend may be unable to enter into new customer relationships if Google continues to provide instructions on how to infringe (for no payment under the guise that the technology is not subject to Red Bend's patent rights), because those potential customers will be unwilling to pay for what

is perceived to be in the public domain as a result of Google open and notorious infringement. (*Id.*). *Finjan Software, Ltd. v. Secure Computing Corp.*, No. 06-369, 2009 WL 2524495, at \*10 (D. Del. Aug. 18, 2009) (finding irreparable harm where the parties are competitors and the patentee suffered a loss of market share and potential customers).

### 3. **Google's Continued Infringement Will Result in a Loss of Goodwill**

Finally, Red Bend will likely lose goodwill if Google is permitted to continue infringement through use and/or posting of the source code. Red Bend has invested many years and considerable funds to further the growth of the company through research and development and the formation of customer relationships. (Salinger Decl. ¶¶ 4-5). Google's use and/or publication of the source code with the implication that there is no restriction on its use will largely eviscerate Red Bend's extensive research and development and marketing efforts over the last ten years. *See, e.g., Everett Labs*, 573 F. Supp. 2d at 868-69 (finding loss of goodwill and reputation where there was infringement in the face of the patentee's expenditure of "considerable sums in researching, developing, marketing, and ensuring the success of" its patented product). Thus, Red Bend will likely suffer irreparable harm.

#### C. **The Balance of the Hardships Favors Issuance of an Injunction**

The balance of the hardships weighs in favor of Red Bend, particularly in view of the narrowly tailored relief requested herein. Red Bend seeks that Google: (1) take down the Internet site(s) that posts the code and instructs others how to infringe the '552 Patent; (2) cease implementation of the infringing Courgette updates; and (3) publish an announcement that its previously published Courgette code is not "open" and free for all to use. As stated above, Red Bend will suffer irreparable harm to its name, irretrievable loss of market share, and potentially the loss of its business. These effects clearly devalue Red Bend's patent rights, which are granted to permit Red Bend to exclude infringers from the marketplace. *See, e.g., Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383 (Fed. Cir. 2006). This tips the balance of hardships in favor of Red Bend. *Everett Labs*, 573 F. Supp. 2d at 870 ("In instances where the

patent owner will suffer diminution in the value of its patent, the balance of hardships weighs in the owner's favor.”).

On the other hand, issuance of an injunction would cause Google little or no harm, and taking the offending sites down could be completed easily with minimal costs, and within days. Google would still be able to use non-infringing prior art techniques to generate software updates as it did prior to the launch of Courgette.

**D. The Public Interest Would Be Served by an Injunction Against Google's Infringing Activities**

Application of the fourth preliminary injunction factor, the public interest, requires that “[t]he Court must balance the public’s interest in protecting patent rights” and typically “[t]he public interest favors enforcing a valid patent against an infringer.” *Id.* “Indeed, the ‘encouragement of investment-based risk is the fundamental purpose of the patent grant, and is based directly on the right to exclude.’” *Sanofi-Synthelabo*, 470 F.3d at 1383 (quoting *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985)). In finding that the public interest weighs in favor of injunctive relief, the Federal Circuit has noted that “a preliminary injunction that enforces a valid patent against an infringer ‘does no more than further public policy inherent in the patent laws designed to encourage useful inventions by rewarding the inventor with a limited period of market exclusivity.’” *Pfizer, Inc. v. Teva Pharms., USA, Inc.*, 429 F.3d 1364, 1382 (Fed. Cir. 2005) (citation omitted).

Here, the core of Red Bend’s business is its updating technology that is covered by the ‘552 Patent. In forming this business, Red Bend spent considerable funds and manpower on research and development and its marketing efforts. (Salinger Decl. ¶¶ 4-5). In so doing, Red Bend was relying on its future ability to protect its investment and its accompanying and resulting intellectual property rights via injunctive relief. Without the ability to protect its investment, it is unlikely that Red Bend would ever have been incentivized to invent and create the new and efficient software update technologies at the heart of this dispute. The public benefits when patentees, such as Red Bend, are allowed to enforce their patent rights, which



would only serve to encourage more inventors to invent, advancing and promoting the progress of the “useful arts.” U.S. Const. Art. I, § 8.

Thus, the fourth and final factor also weighs in favor of Red Bend. As such, a preliminary injunction should issue.

**V. CONCLUSION**

Based on the foregoing, Red Bend respectfully requests that the Court grant its motion for a preliminary injunction and Order that Google:

(1) immediately cease implementation of Google Courgette updates or any colorable imitation thereof that likely infringes the ‘522 Patent;

(2) immediately cease publication of Courgette source code on the Internet at <http://src.chromium.org/viewvc/chrome/trunk/src/courgette/> and accompanying instructions or any colorable imitations thereof that likely indirectly infringe the ‘522 Patent; and

(3) publish an announcement that its previously published Courgette code is not “open” and free for all to use, but instead is alleged to be protected by the ‘522 Patent.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that this document filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on November 17, 2009.

/s/ Daniel J. Cloherty