

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

<p>RED BEND LTD. and RED BEND SOFTWARE INC.,</p> <p style="text-align: right;">Plaintiffs,</p> <p style="text-align: center;">v.</p> <p>GOOGLE INC.,</p> <p style="text-align: right;">Defendant.</p>	<p>CIVIL ACTION NO. 09-cv-11813</p>
<p>GOOGLE INC.,</p> <p style="text-align: right;">Counterclaim-Plaintiff,</p> <p style="text-align: center;">v.</p> <p>RED BEND LTD. and RED BEND SOFTWARE INC.,</p> <p style="text-align: right;">Counterclaim-Defendants.</p>	

GOOGLE INC.’S SUPPLEMENTAL PRELIMINARY INVALIDITY CONTENTIONS

Pursuant to the Court’s May 10, 2010 scheduling order and Local Rule 16.6, Google, Inc. (“Google”) hereby serves its Supplemental Preliminary Invalidity Disclosures for U.S. Patent Number 6,546,552 (“the ‘552 patent”) on Plaintiffs Red Bend Ltd. and Red Bend Software Inc. (collectively, “Red Bend”).

**PRELIMINARY STATEMENT, RESERVATION OF RIGHTS,
AND GENERAL OBJECTIONS**

1. This disclosure is directed to invalidity issues only and does not address non-infringement, unenforceability, or claim construction issues. Google reserves all rights with respect to such issues.

2. These Supplemental Preliminary Invalidity Contentions are preliminary and are based on Google's current knowledge, understanding, and belief as to the facts and information available as of the date of these contentions. Discovery in this action is ongoing, Red Bend has not completed its document production, and Google has not completed its investigation, discovery, or analysis of information related to this action. While Google has made a good-faith effort to provide a comprehensive list of prior art relevant to this case, Google reserves the right to amend, supplement, or materially modify its prior art list and invalidity contentions as discovery progresses. This reservation of rights includes the right to supplement prior art under 35 U.S.C. §§ 102(a), (b), (c), (d), (e), (f), and (g) based on information Google may learn during discovery in this case.

3. Google provides these Supplemental Preliminary Invalidity Contentions prior to any claim construction ruling by the Court with respect to the claims of the '552 patent asserted by Red Bend in its Infringement Contentions. Any invalidity analysis depends, ultimately, upon claim construction, which is a question of law reserved for the Court. Google reserves the right to amend, supplement, or materially modify its prior art list and invalidity contentions after the claims have been construed by the Court. Google also reserves the right to amend, supplement, or materially modify its prior art list and invalidity contentions based on any claim construction positions that Red Bend may take in this case. Google also reserves the right to assert that a claim is indefinite, not enabled, or fails to meet the written description requirement based on any claim construction position Red Bend may take or based on any claim construction the Court may adopt in this case.

SUPPLEMENTAL PRELIMINARY INVALIDITY CONTENTIONS

I. Identification of Prior Art

Red Bend accuses Google's Courgette of infringing 34 claims of U.S. Patent No. 6,546,552: claims 8-12, 21-25, 28-34, 42-46, 55-60, and 62-67 (collectively, the "Asserted Claims"). *See* Plaintiffs Red Bend Ltd. and Red Bend Software Inc.'s Preliminary Infringement Disclosures at 1. The Asserted Claims of the '552 patent are invalid for at least the reasons discussed herein and in Google's Jan. 22, 2010 Request for Reexamination, Google's Opposition to Red Bend's Motion for Preliminary Injunction, its Surreply thereto, the declaration and testimony of Dr. Martin G. Walker, Google's presentation at the April 14, 2010 preliminary injunction hearing, and Google's Preliminary Invalidity Contentions (each of which Google incorporates herein by this reference).

On January 22, 2010 Google filed and served a Request for Reexamination at the U.S. Patent and Trademark Office. In its Request for Reexamination, Google demonstrated that the '552 patent was invalid under 35 U.S.C. §§ 102 and 103 in light of five prior art references: (1) U.S. Patent No. 5,481,713 to Wetmore, *et al.*; (2) G.D. Batalden, *et al.* "Maintainable ROS Code Through the Combination of ROM and EEPROM," 32 IBM Technical Disclosure Bulletin, No. 9A, 273-76 (1990); (3) Kris Coppieters, "A Cross Platform Binary Diff," *Dr. Dobb's Journal*, May 1995, at 32; (4) U.S. Patent No. 4,111,853 to Dummermuth; and (5) U.S. Patent No. 5,790,796 to Sadowsky. On March 23, 2010, the U.S. Patent and Trademark office instituted a reexamination of the patent-in-suit based upon Google's Request, finding that there is a "substantial new question of patentability" affecting all claims of the '552 patent.

In addition to the prior art identified in the '552 patent and prosecution history, at least the following prior art references are relevant to the validity of the '552 patent. These references can alone, or in combination, render the asserted claims of the '552 patent invalid under §§ 102 or 103:

Prior Art Reference	Filing/Priority Date	Issue/Publication Date	Applicability
1. U.S. Patent No. 5,481,713 to Wetmore, <i>et al.</i>	May 6, 1993	Jan. 2, 1996	§§ 102(b) & (e)
2. G.D. Batalden, <i>et al.</i> "Maintainable ROS Code Through the Combination of ROM and EEPROM," 32 IBM Technical Disclosure Bulletin, No. 9A, 273-76 (1990).		Feb. 1990	§ 102(b)
3. Kris Coppieters, "A Cross Platform Binary Diff," Dr. Dobbs's Journal, May 1995, at 32.		May 1995	§ 102(b)
4. U.S. Patent No. 4,111,853 to Dummermuth	Dec. 21, 1976	Sept. 19, 1978	§§ 102(b) & (e)
5. U.S. Patent No. 5,790,796 to Sadowsky	June 14, 1996	Aug. 4, 1998	§§ 102(b) & (e)
6. U.S. Patent No. 5,465,258 to Adams	Nov. 13, 1989	Nov. 7, 1995	§§ 102(b) & (e)
7. U.S. Patent No. 5,966,541 to Agarwal	Dec. 4, 1997	Oct. 16, 2001	§§ 102(b) & (e)
8. U.S. Patent No. 6,282,698 to Baker	Dec. 4, 1998	Aug. 28, 2001	§ 102(a)
9. Brenda S. Baker, <i>et al.</i> , "Compressing Differences of Executable Code," (1999).		April 22, 1999	§ 102(a)
10. U.S. Patent No. 5,699,275 to Beasley <i>et al.</i>	Apr. 12, 1995	Dec. 16, 1997	§§ 102(b) & (e)
11. U.S. Patent No. 5,307,492 to Benson	March 7, 1991	April 26, 1994	§§ 102(b) & (e)
12. U.S. Patent No. 5,502,439 to Berlin	May 16, 1994	March 26, 1996	§§ 102(b) & (e)
13. Randal Burns, "Differential Compression: A Generalized Solution for Binary Files," University of California, Santa Cruz, Dec. 1996.		1996	§ 102(b)
14. Randal C. Burns, <i>et al.</i> , "In-Place Reconstruction of Delta Compressed Files," In Proceedings of the 1998 Conference on the Principles of Distributed Computing, ACM, 1998.		1998	§ 102(b)
15. U.S. Patent No. 6,018,747 to Burns <i>et al.</i>	Nov. 26, 1997	Jan 25, 2000	§ 102 (a)
16. WO 97/12508 to Cahill, <i>et al.</i>	Oct. 4, 1995	April 10, 1997	§ 102(b)
17. Cristina Cifuentes, "Reverse Compilation Techniques," (July 1994) (Ph.D. thesis, Queensland University of Technology).		July 1994	§ 102(b)

Prior Art Reference	Filing/Priority Date	Issue/Publication Date	Applicability
18. Cristina Cifuentes, <i>et al.</i> , "Decompilation of Binary Programs," <i>Software-Practice and Experience</i> , 25(7) <i>Software - Practice and Experience</i> 811-829 (July 1995).		July 1995	§ 102(b)
19. U.S. Patent No. 5,764,994 to Craft	Sept. 16, 1996	June 9, 1998	§§ 102(b) & (e)
20. European Pat. App. EP665496A1 to Gramlich, <i>et al.</i>		Jan. 4, 1995	§ 102(b)
21. Robert M. Gray, "Fundamentals of Data Compression," In <i>International Conference on Information, Communications and Signal Processing</i> , Singapore, 1997.		Sept. 9, 1997	§ 102(b)
22. U.S. Patent No. 5,835,701 to Hastings	June 21, 1991	Nov. 10, 1998	§ 102(e)
23. U.S. Patent No. 5,260,693 to Horsley	Oct. 11, 1991	Nov. 9, 1993	§§ 102(b) & (e)
24. U.S. Patent No. 5,974,254 to Hsu	June 6, 1997	Oct. 26, 1999	§ 102(e)
25. J.W. Hunt, "An Algorithm for Differential File Comparison," <i>Computer Science Technical Report 41</i> , July 1976.		July 1976	§ 102(b)
26. James Hunt, "Delta Algorithms: An Empirical Analysis," <i>ACM Transactions on Software Engineering and Methodology</i> , vol. 7. No. 2, April 1998, pp. 192-214.		April 1998	§ 102(b)
27. U.S. Patent No. 6,330,712 to Iwaya	Nov. 9, 1998	Dec. 11, 2001	§ 102(a)
28. U.S. Patent No. 6,526,574 to Jones	July 15, 1997	Feb. 25, 2003	§ 102(e)
29. U.S. Patent No. 3,969,723 to Kennicott	July 3, 1974	July 13, 1976	§§ 102(b) & (e)
30. U.S. Patent No. 5, 155,847 to Kirouac	Aug. 3, 1988	Oct. 13, 1992	§§ 102(b) & (e)
31. U.S. Patent No. 6,289,509 to Kryloff	Sept. 1, 1998	Sept. 11, 2001	§ 102(a)
32. U.S. Patent No. 6,952,823 to Kryloff	Sept. 1, 1998	Oct. 4, 2005	§ 102(a)
33. James R. Larus, <i>et al.</i> "Rewriting Executable Files to Measure Program Behavior," <i>University of Wisconsin Computer Sciences Technical Report 1083</i> (March 1992).		March 1992	§ 102(b)
34. James R. Larus, <i>et al.</i> "Rewriting Executable Files to Measure Program Behavior," <i>24 Software - Practice & Experience</i> Iss. 2, 197-218 (1994).		Oct. 24, 1994	§ 102(b)
35. U.S. Patent No. 5,790,856 to Lillich	May 8, 1995	Aug. 4, 1998	§§ 102(b) & (e)

Prior Art Reference	Filing/Priority Date	Issue/Publication Date	Applicability
36. Webb Miller, <i>et al.</i> “A File Comparison Program” 15(11) Software - Practices and Experience 1025-1040 (Nov. 1985).		Nov. 1985	§ 102(b)
37. Jeffrey Mogul, <i>et al.</i> “Potential benefits of delta encoding and data compression for HTTP,” Digital Equipment Corporation Western Research Laboratory, 1997.		Sept. 17, 1997	§ 102(b)
38. U.S. Patent No. 6,360,363 to Moser	Dec. 30, 1998	Mar. 19, 2002	§ 102(a)
39. Raju Pandey, “Providing Fine-Grained Access Control for Mobile Programs Through Binary Editing,” Computer Science Department, University of California, Davis - Technical Report TR-98-08.		1998	§ 102(b)
40. James J. Hunt <i>et al.</i> “Distributed Configuration Management via Java and the World Wide Web.” Proceedings of the Seventh International Workshop on Software Configuration Management (SCM-7). Boston, MA, pp. 161—174, May 18, 1997.		1997	§ 102(b)
41. U.S. Patent No. 6,466,999 to Sliger	Mar. 31, 1999	Oct. 15, 2002	§ 102(a)
42. U.S. Patent No. 6,216,175 to Sliger <i>et al.</i>	June 8, 1998	April 10, 2001	§ 102(a)
43. U.S. Patent No. 6,243,766 to Sliger <i>et al.</i>	June 8, 1998	June 5, 2001	§ 102(a)
44. U.S. Patent No. 6,496,974 to Sliger <i>et al.</i>	June 8, 1998	Dec. 17, 2002	§ 102(a)
45. U.S. Patent No. 5,479,654 to Squibb	April 26, 1990	Dec. 26, 1995	§§ 102(b) & (e)
46. U.S. Patent No. 5,745,906 to Squibb	Nov. 14, 1995	April 28, 1998	§ 102(e)
47. U.S. Patent No. 5,752,039 to Tanimura	Mar. 22, 1993	May 12, 1998	§§ 102(b) & (e)
48. U.S. Patent No. 5,546,586 to Wetmore, <i>et al.</i>	May 6, 1993	Aug. 13, 1996	§§ 102(b) & (e)

Red Bend’s United States application claimed priority to Israeli Application PCT/IL 99/00446, filed with the Israeli Patent Office on August 19, 1998. The U.S. application, App. No. 09/376,512, was filed on August 18, 1999. The Israeli application is directed entirely to

“programs.” The term “data table” does not appear anywhere in the specification or claims of the Israeli application, and first appears in the United States application. Therefore, to the extent “data table” is construed not to be synonymous with “program” in the context of the ‘552 patent, claims 42-46, 55-60, and 62-67 are entitled to a priority date no earlier than August 18, 1999.

II. Anticipation

At least independent claims 8, 21, 42, and 55, and asserted dependent claims 11, 24, 28, 45, 58, and 62 are anticipated by the Wetmore ‘713 patent, and therefore invalid under 35 U.S.C. § 102. Attached hereto at Appendices A and B are charts detailing the correspondence between the asserted claim elements and the Wetmore ‘713 patent.

The Wetmore ‘713 patent discloses all of the steps required by the asserted independent claims of the ‘552 patent, namely: (a) generating a modified old program (a vectorized program that replaces references with invariant values); (b) generating a modified new program (a vectorized program where the invariant references are the replaced, vectorized addresses); and (c) generating a difference result between the modified old and modified new programs (generating a difference result between the vectorized programs) to generate a difference result. Wetmore thus anticipates all of the asserted claims, rendering them invalid under 35 U.S.C. §§ 102 and/or 103. Specifically, Wetmore discloses methods and apparatus for patching or updating an executable program that would normally reside in read-only memory (“ROM”). To allow patching, the ROM code is first modified—or “vectorized” in the language of Wetmore—to replace references with labels that are jumps to modifiable code residing in random access memory (“RAM”). Program patches or updates are then created by generating the difference results between the “vectorized” versions of the old and new executable programs. The difference result is provided to the user’s computer to update or patch the executable program,

and the user's computer generates the updated executable program based upon the difference results and executable program already present at the user's computer.

In addition, the Sliger '766 patent and the Agarwal '541 patent qualify as prior art as set forth above and render the '552 patent invalid under 35 U.S.C. § 102.

III. Obviousness

All asserted claims of the '552 patent are rendered obvious, and therefore invalid under 35 U.S.C. § 103, by at least the following references: the Wetmore '713 patent, the Batalden reference, the Dummermuth '853 patent, the Sadowsky '796 patent, and the Coppieters reference. It would have been well within the grasp of a person of ordinary skill in the art at the time of the alleged invention to combine these references.

As described above, the Wetmore '713 patent discloses a pre-processing step whereby the old and new programs are modified before being compared to generate the difference result, and also discloses the updating of executable programs. The Batalden reference is likewise directed to executable programs and requires pre-processing of the old and new programs before being loaded into memory. The Dummermuth '853 patent expressly discloses the problem of line shifting that occurs with deletions and insertions into executable program code and provides the same solution to the problem that the '552 patent relies upon, namely that the internal references in the program code are replaced by invariant references. The Sadowsky '796 patent and the Coppieters reference both disclose the well known step of transmitting difference results over a communications network, with the Sadowsky '796 patent disclosing updating software using a host server, a conventional Web page, or a file server, and that the communications channel may be the Internet. The Sadowsky '796 patent also discloses that programs can be

updated either by new disks (as is disclosed in the Wetmore '713 patent), via a BBS, an Internet service provider, or the Internet.

Attached hereto at Appendix B are charts detailing the correspondence between the asserted claim elements and, respectively, the Wetmore '713 patent, the Batalden reference, the Dummermuth '853 patent, the Sadowsky '796 patent, and the Coppieters reference. Each of these references renders the claims obvious alone or in combination with other prior art identified herein.

In addition, the Larus reference, the Benson '492 patent, the Craft '994 patent, the Hastings '701 patent, the Tanimura '039 patent (which is cited on the face of the '552 patent), the Agarwal '541 patent, the Baker "Compressing Differences of Executable Code" reference, the Jones '574 patent, the Beasley '275 patent, the Burns '747 patent, the Kirouac '847 patent, the Hunt "Distributed Configuration Management via Java and the World Wide Web" reference, the Sliger '175 patent, the Sliger '766 patent, and the Sliger '974 patent, for example, qualify as prior art as set forth above and render the '552 patent invalid under 35 U.S.C. § 103 alone or in combination with other prior art identified herein.

The validity of the Asserted Claims is not supported by secondary evidence of non-obviousness such as industry acquiescence in the form of patent licenses, unexpected results, the prior failure of others, skepticism, long-felt need, commercial success, or copying. Red Bend has not licensed the '552 patent to any third party. Although Red Bend has licensed its proprietary software, those software licenses make no mention of the '552 patent and are not evidence of industry acquiescence as to its validity. Red Bend has never provided a claim chart identifying what elements of its software products practice the claimed invention, and has thus failed to present cognizable evidence that its product(s) practice the '552 patent. Even if one or

more Red Bend products has been shown to practice the ‘552 patent, there is no evidence that any purported commercial success of those product(s) is attributable to the invention of the ‘552 patent.

IV. Additional Bases for Invalidity

A. The ‘552 patent is not enabled.

Independent claims 8, 12, 21, 25, 42, 46, 55, and 59 are not enabled under 35 U.S.C. § 112 because the specification does not teach a person having ordinary skill in the art how to make and use the full scope of the claimed invention without undue experimentation. For example, the method described for computing the desired invariant references, and in particular determining the position and size of deleted or inserted program fragments and applying the equivalent changes, cannot be implemented as described without undue experimentation.

B. Independent claims 8, 12, 21, 25, 42, 46, 55, and 59 are indefinite.

Independent claims 8, 12, 21, 25, 42, 46, 55, and 59 are invalid under 35 U.S.C. § 112, ¶ 2 because they fail to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the terms “directly or indirectly,” “substantially each reference,” and “compact difference result” are indefinite within the meaning of § 112, ¶ 2, because one skilled in the art would not understand the bounds of the claims in which they appear when read in light of the specification. Because independent claims 8, 12, 21, 25, 42, 46, 55, and 59 are indefinite and therefore invalid, all claims depending from them are also indefinite and invalid.

Google reserves its right to supplement or amend its contentions based upon further investigation, discovery, the Court’s claim construction rulings, or as otherwise warranted.

Respectfully Submitted,

GOOGLE, INC.

By its attorneys,

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/s/ David M. Magee_____
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