

# Exhibit A

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

Bedrock Computer Technologies LLC,

Plaintiff,

v.

Softlayer Technologies, Inc.,  
CitiWare Technology Solutions, LLC,  
Google Inc.,  
Yahoo! Inc.,  
MySpace Inc.,  
Amazon.com Inc.,  
PayPal Inc.,  
Match.com LLC,  
AOL LLC, and  
CME Group Inc.,

Defendants.

Case No. 6:09-CV-269-LED

JURY TRIAL DEMANDED

**DEFENDANTS' JOINT INVALIDITY CONTENTIONS AND PRODUCTION OF  
DOCUMENTS PURSUANT TO PATENT RULES 3-3 AND 3-4(b)**

Pursuant to the Rules of Practice for Patent Cases for the Eastern District of Texas (“Patent Rules” or “P.R.”), Defendants Softlayer Technologies, Inc., Google Inc., Yahoo! Inc., MySpace Inc., Amazon.com Inc., PayPal Inc., Match.com LLC, AOL LLC, and CME Group Inc., (collectively, “Defendants”) hereby disclose their Invalidation Contentions. One or more Defendants contend that each of the claims asserted by Plaintiffs Bedrock Computer Technologies LLC (“Bedrock”) is invalid under at least 35 U.S.C. §§ 102, 103, and/or 112.

**I. GENERAL STATEMENTS AND OBJECTIONS**

**A. Asserted Claims**

Bedrock has served each Defendant with Infringement Contentions alleging infringement of U.S. Patent No. 5,893,120 (“the ‘120 patent”). Specifically, Bedrock has alleged that at least one Defendant infringes claims 1 – 8 of the ‘120 patent (collectively, the “Asserted Claims”). Because the Patent Rules require that a Defendant accused of infringement set forth invalidity contentions with regard to the claims asserted against it, *see* P.R. 3-3(a), each Defendant joins in these contentions for each Asserted Claim only to the extent that the particular claim is asserted against that Defendant.

**B. Invalidity Contentions**

The Patent Rules contemplate that Invalidity Contentions will be prepared and served in response to Infringement Contentions that comply with Rule 3-1 of the Patent Rules. Bedrock has not complied with 3-1 in multiple respects. Bedrock’s Infringement Contentions lacked proper and complete disclosure as to each party in violation of Patent Rule 3-1, and thus did not provide adequate information for Defendants to use in preparing this disclosure. These deficiencies were detailed in the Motion to Compel Plaintiff to Comply with Patent Rule 3-1 and to Extend the Time to Serve Invalidity Contentions filed on December 9, 2009 (D.I. 133). Due to Bedrock’s failure to provide proper and complete disclosure of Bedrock’s infringement contentions, Defendants reserve all rights to modify, amend, and/or supplement their Invalidity Contentions in accordance with P.R. 3-6 and 3-7 following the Court’s claim construction ruling or upon Bedrock’s alteration/clarification of its asserted claim construction to the extent permitted by this Court.

### **C. Claim Construction**

The Court has not yet construed the Asserted Claims. Defendants reserve the right to identify other art or to supplement their disclosures or contentions because the Defendants' position on the invalidity of particular claims will depend on how those claims are construed by the Court. Defendants' Invalidity Contentions are based, at least in part, on their present understanding of the Asserted Claims and/or their present understanding of the claim constructions Bedrock appears to be asserting—based on Bedrock's Infringement Contentions—whether or not Defendants agree with such claim constructions.

To the extent that these Invalidity Contentions reflect constructions of claim terms that may be consistent with or implicit in Bedrock's Infringement Contentions, no inference is intended or should be drawn that Defendants agree with such claim constructions. Defendants take no position on any matter of claim construction in these invalidity contentions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding the relevant prior art. Defendants expressly reserve the right to propose any claim construction they consider appropriate and/or to contest any claim construction they consider inappropriate.

In part because of the uncertainty of claim construction, Defendants' Invalidity Contentions are sometimes made in the alternative and are not necessarily intended to be consistent with each other, and should be viewed accordingly. Further, by including in this disclosure prior art that would be anticipatory or render a claim obvious based on a particular scope or construction of the claims, including that apparently applied by Bedrock in its Infringement Contentions, Defendants' Invalidity Contentions herein are not, and should in no way be seen as adoptions or admissions as to the accuracy of such scope or construction.

Defendants reserve all rights to further supplement or modify the positions and information in these Invalidity Contentions, including without limitation, the prior art and grounds of invalidity set forth herein, after the Court has construed the asserted claims in accordance with the Patent Rules and/or the Court's Orders.

**D. Ongoing Discovery and Disclosures**

Discovery in this case is in its early stages and Defendants' investigation, including Defendants' search for prior art, is ongoing. Defendants therefore reserve the right to further supplement or alter the positions taken and information disclosed in these Invalidity Contentions including, without limitation, the prior art and grounds of invalidity set forth herein, to take into account information or defenses that may come to light as a result of these continuing efforts. Defendants hereby incorporate by reference the testimony of any fact witnesses that are deposed, that provide declarations, or that otherwise testify in this lawsuit. Defendants also hereby incorporate by reference the reports and testimony of Defendants' expert witnesses regarding invalidity of the patent.

Defendants understand and are relying upon the fact that the date to which Bedrock may be entitled to as the earliest priority date is earliest filing date of the '120 patent. Defendants intend to diligently seek discovery to establish conception and reduction to practice dates, as appropriate, to demonstrate earlier invention by other parties under 35 U.S.C. § 102(g). Defendants further intend to take discovery on the issues of improper inventorship and/or derivation under 35 U.S.C. § 102(f), public use and/or the on-sale bar under 35 U.S.C. § 102(b), and/or applicants' failure to comply with 35 U.S.C. § 112. Defendants therefore reserve all rights to further supplement or amend these invalidity contentions if and when further information becomes available.

### **E. Prior Art Identification and Citation**

Pursuant to Patent Rule 3-3(a), Defendants identify specific portions of prior art references that disclose the elements of the Asserted Claims. Although Defendants have identified at least one citation per element for each reference, each and every disclosure of the same element in said reference is not necessarily identified. In an effort to focus the issues, Defendants identify only limited portions of the cited references. It should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would rely upon other information including other publications and general scientific or engineering knowledge. Defendants therefore reserve the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions. Defendants also reserve the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references. Defendants also reserve the right to rely upon any admissions relating to prior art in the Asserted Patent or their respective prosecution histories.

Where Defendants identify a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

## **F. Reservation of Rights**

Defendants reserve all rights to further supplement or modify these Invalidity Contentions, including the prior art disclosed and stated grounds of invalidity, pursuant to the District's Patent Rules. In addition, Defendants reserve the right to prove the invalidity of the asserted claims on bases other than those required to be disclosed in these disclosures and contentions pursuant to P.R. 3-3. For example, Defendants further contend that each of the claims of the '120 patent is drawn to subject matter that is not patentable under 35 U.S.C. § 101. Specifically, none of the Asserted Claims meet the "machine or transformation" test elucidated by the Federal Circuit in *In re Bilski* (Fed. Cir. 2008).

## **II. INVALIDITY CONTENTIONS PURSUANT TO P.R. 3-3**

### **A. Contentions Under P.R. 3-3(a)-(c)**

Each of the Asserted Claims is anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a) Defendants identify the prior art that anticipates or renders an Asserted Claim obvious in Exhibits A, B, C, and D which are hereby incorporated by reference as if fully set forth herein. On information and belief, each listed document or item became prior art at least as early as the dates given. Each of the foregoing prior art references identified in Exhibit A includes a chart in Exhibit B, C, and/or D specifically identifying where each element of each asserted claim is found in the prior art pursuant to P.R. 3-3(c) including, for claims governed by 35 U.S.C. §112(6), the identity of structure(s), act(s), or materials(s) in each item of prior art that performs the claimed function.

To the extent any limitation of any of the Asserted Claims is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), with any other claim limitation of any of the Asserted Claims, as apparently contended by Bedrock in its Infringement Contentions,

or later determined by the Court, and to the extent at least one claim chart in Exhibits B, C, and/or D identifies any prior art reference, or a portion thereof, as disclosing or teaching such similarly construed claim limitation, such identified prior art reference, or the portion thereof, and Defendants' contentions with respect to such claim limitation and such prior art reference as found in such claim chart, are incorporated by reference, and are part of, the Defendants' invalidity contention with respect to each of the Asserted Claims that includes such similarly construed claim limitation.

To the extent that they are prior art, Defendants reserve the right to rely upon foreign counterparts of the U.S. Patents identified in Defendants' Invalidity Contentions; U.S. counterparts of foreign patents and foreign patent applications identified in Defendants' Invalidity Contentions; U.S. and foreign patents and patent applications corresponding to articles and publications identified in Defendants' Invalidity Contentions; and any systems, products, or prior inventions that relate to any references identified in Defendants' Invalidity Contentions.

The claim charts in Exhibits B, C, and/or D provide example sections within the prior art references that teach or suggest each and every element of the asserted claims. Each reference or combination of references suggested by each chart indicates whether the prior art renders the claim obvious or anticipated pursuant to P.R. 3-3(b). In Exhibit B, C, and/or D for each Asserted Claim, Defendants set such obviousness combination, and the motivation to combine such items.

The U.S. Supreme Court decision in *KSR International Co. v. Teleflex Inc., et al.*, 127 S.Ct. 1727 at 1739 (2007) ("*KSR*") held that a claimed invention can be obvious even if there is no teaching, suggestion, or motivation for combining the prior art to produce that invention. In summary, *KSR* holds that patents that are based on new combinations of elements or components already known in a technical field may be found to be obvious. *See, generally, KSR*, 127 S.Ct.

1727. Specifically, the Court in *KSR* rejected a rigid application of the “teaching, suggestion, or motivation [to combine]” test. *Id.* at 1741. “In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim.” *Id.* at 1741-1742. “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 1742. In particular, in *KSR*, the Supreme Court emphasized the principle that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 1739. A key inquiry is whether the “improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740.

The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001). The Federal Circuit allowed two references to be combined as invalidating art under similar circumstances, namely “[the prior art] focus[es] on the same problem that the ... patent addresses: enhancing [the flexibility of stents]. Moreover, both [prior art references] come from the same field . . . . Finally, the solutions to the identified problems found in the two references correspond well.” *Id.* at 1364 (concerning patents and prior art relating to improving the magnetic and electrical properties of steel).

In view of the Supreme Court’s *KSR* decision, the PTO issued a set of new Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex, Inc.*, 72 Fed. Reg. 57526 (October 10, 2007). Those Guidelines summarized the *KSR* decision, and identified

various rationales for finding a claim obvious, including those based on other precedents. Those rationales include:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (E) “Obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

*Id.* at 57529. Defendants contend that one or more of these rationales apply in considering the obviousness of the claims of the '120 patent.

A person of ordinary skill at the time of the invention had reason to combine or modify one or more of the references listed and charted in Exhibits A - E in light of the knowledge of a person of ordinary skill in the art at the time of the invention and information in the prior art cited herein. Additional contentions regarding the combination and/or modification of and/or motivation to combine references for specific Asserted Claims are set forth in the claim charts of Exhibits B, C, and/or D.

**B. Contentions Under P.R. 3-3(d)**

Pursuant to Patent Local Rule 3-3(d), Defendants contend that certain claims of the Asserted Patent are invalid under 35 U.S.C. § 112 because: (1) the claims are indefinite; (2) the claims are not enabled; (3) the claims lack adequate written description; and/or (4) the specification fails to set forth the best mode contemplated by the inventor for practicing the invention. Defendants' contentions that the following claims are invalid under 35 U.S.C. § 112 are made in the alternative, and do not constitute, and should not be interpreted as, admissions regarding the construction or scope of the claims of the '120 patent, or that any of the claims of the '120 patent are not anticipated or rendered obvious by any prior art.

The asserted claims identified below are invalid under 35 U.S.C § 112 paragraph 2, which requires that the specification "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

Claims 1 and 5 require "a record search means utilizing a search key to access the linked list" and "a means for identifying and removing at least some of the expired ones of the records from the linked list when the linked list is accessed." Claim 1 further requires "a means, utilizing the record search means, for accessing the linked list and, at the same time, removing at least some of the expired ones of the records in the linked list." Claim 5 further requires "a means, utilizing the record search means, for inserting, retrieving, and deleting records from the system and, at the same time, removing at least some expired ones of the records in the accessed linked list of records." These limitations can be construed to cover only the corresponding specific algorithmic structure disclosed in the specification under 35 U.S.C. 112, paragraph 6. *See WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Because no

specific algorithm is disclosed in the specification for these limitations, Claims 1 and 5 are invalid as indefinite under 35 U.S.C. §112, paragraph 2.

Claim 2 requires “means for dynamically determining maximum number for the record search means to remove in the accessed linked list of records.” Claim 6 requires “means for dynamically determining maximum number for the record search means to remove in the accessed linked list of records.” These limitations can be construed to cover only the corresponding specific algorithmic structure disclosed in the specification under 35 U.S.C. 112, paragraph 6. *See WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Because no specific algorithm is disclosed in the specification for “means for dynamically determining maximum number” Claims 2 and 6 are invalid as indefinite under 35 U.S.C. §112, paragraph 2.

The asserted claims identified below are invalid under 35 U.S.C. § 112 paragraph 1, which requires that the specification “contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.”

Claims 2, 4, 6, and 8 each require “dynamically determining maximum number.” Neither the '120 patent nor its application describe “dynamically determining maximum number.” Thus, Claims 2, 4, 6, and 8 are invalid for lack of written description and/or enablement under 35 U.S.C. §112, paragraph 1.

### **III. ADDITIONAL PRIOR ART**

In addition to the prior art references charted, Defendants lists in Exhibit E, which is incorporated herein in its entirety, additional prior art references that are pertinent to the invalidity of the '120 patent. At this time, Defendants are not providing claim charts for each of these additional references either because these references:

- (1) have similar disclosure to the prior art references for which invalidity charts have been provided;
- (2) were discovered recently and Defendants have not had a fair opportunity to analyze them;
- (3) may be used to show state of the art; and/or
- (4) may be used as supporting references in an obviousness combination depending on how the claims are ultimately construed by the Court.

Defendants also incorporate, in full, all prior art references cited in the '120 patent and all prior art references cited in the prosecution histories of the '120 patent and any foreign counterparts.

Defendants reserve the right to revise these Contentions to rely on any of these references to prove the invalidity of the asserted claims of the '120 patent in a manner consistent with the Federal Rules of Civil Procedure, the Court's Local Rules, and the Local Patent Rules.

### **IV. ACCOMPANYING DOCUMENT PRODUCTION**

Pursuant to Patent Rule 3-4(a), Defendants will produce, make available for inspection, or identify publicly available information sufficient to show the operation of any specifically identified aspects or elements of an Accused Instrumentality identified by Bedrock in its P. R. 3-1(c) chart to the extent such information is in Defendants' possession, custody or control. If such

information comprises source code, Defendants will make such source code available for inspection after the entry of a suitable protective order in this action.

Pursuant to Patent Rule 3-4 (b), Defendants are producing or making available for inspection copies of each item of prior art identified pursuant to Patent Rule 3-3(a) which does not appear in the file history of the Asserted Patent. To the extent that such item is not in English, an English translation is produced where available. Translation of documents is ongoing and Defendants reserve the right to provide additional translations as they become available. Defendants reserve the right to identify and produce additional documents pursuant to the Patent Rules and the orders of the Court.

<b>Table of Exhibits</b>	
<b>Exhibit</b>	<b>Description</b>
A.	List of prior art references that have been charted
B.	Invalidity charts for prior art patent references listed in Exhibit A
C.	Invalidity charts for prior art literature references listed in Exhibit A
D.	Invalidity charts for prior art systems listed in Exhibit A
E.	Additional prior art

Dated: January 8, 2010

Respectfully submitted,

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**EXHIBIT A**

**IDENTIFICATION OF PRIOR ART**

Pursuant to P.R. 3-3(a) and 3-3(b), Defendants identify prior art references and combinations of prior art on which Defendants intend to rely for their contentions that one or more asserted claims of U.S. Patent Number 5,893,120 (“the ’120 patent”) are invalid. The Defendants provide the following chart to help summarize the Defendants’ Invalidation Contentions. To the extent that a claim chart in Exhibit B, C, and/or D identifies that a reference anticipates and/or presents obviousness combinations that are not represented in the following charts, the claim chart satisfies the Defendants’ disclosure under P.R. 3-3(b).

**I. ANTICIPATING PRIOR ART**

At least the following prior art references anticipate one or more of the asserted claims of the ’120 patent.

**A. Prior Art Patents that Anticipate the ’120 Patent under 35 U.S.C. §§ 102(a), (b), (e), and/or (g)**

Defendants identify the following United States patents as prior art references that anticipate the Asserted Claims of the ’120 patent.

Country of Origin, Patent No., Inventor, Date of Issue	Anticipates at Least Claims:	Exhibit
U.S. Patent No. 4,695,949, Thatte et al., September 22, 1987 (“Thatte”).	1 - 8	B-1
U.S. Patent No. 6,119,214, Dirks, September 12, 2000 (“Dirks”).	1 - 8	B-2
U.S. Patent No. 4,989,132, Mellender et al., January 29, 1991 (“Mellender”).	1 - 8	B-3
U.S. Patent No. 5,043,885, Robinson, August 27, 1991 (“Robinson”).	1, 3, 5, 7	B-4
U.S. Patent No. 5,778,430, Ish et al., July 7, 1998 (“Ish”).	1 - 8	B-5

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U.S. Patent No. 5,991,775, Beardsley et al., November 23, 1999 (“Beardsley”).	1 - 8	B-6
U.S. Patent No. 5,765,174, Bishop, June 9, 1998 (“Bishop”).	1 - 8	B-7
U.S. Patent No. 6,243,667, Kerr et al., June 5, 2001 (“Kerr”).	1, 3, 5, 7	B-10
U.S. Patent No. 5,881,241, Corbin, March 9, 1999 (“Corbin”).	1, 3	B-11
U.S. Patent No. 4,996,663, Nemes, February 26, 1991 (“the ‘663 patent”).	1 - 8	B-13

**B. Prior Art Publications that Anticipate the ’120 Patent Under 35 U.S.C. §§ 102(a) and/or (b)**

Defendants identify the following publications as prior art references that anticipate the Asserted Claims of the ’120 patent.

Author, Title, Publisher, Publication Information, Date of Publication	Anticipates at Least Claims:	Exhibit
Christopher J. Van Wyk and Jeffrey Scott Vitter, <i>The Complexity of Hashing with Lazy Deletion</i> , Springer-Verlag New York, Algorithmica 1:17-29, 1986 (“Van Wyk”).	1, 3, 5, 7	C-1
John A. Morrison, Larry A. Shepp, and Christopher J. Van Wyk, <i>A Queueing Analysis of Hashing with Lazy Deletion</i> , Society for Industrial and Applied Mathematics, Vol. 16, No. 6:1155-1164, December 1987 (“Morrison”).	1, 3, 5, 7	C-2
Claire M. Matheiu and Jeffrey Scott Vitter, <i>Maximum Queue Size and Hashing with Lazy Deletion</i> , Unite de Recherche Inria-Rocquencort Institut National de recherche en Informatique, June 1988 (“Matheiu”).	1, 3, 5, 7	C-3
Claire M. Kenyon-Matheiu and Jeffrey Scott Vitter, <i>General Methods for the Analysis of the Maximum Size of Dynamic Data Structures</i> , Springer Berlin/Heidelberg, Automata, Languages and Programming, 473-487, Vol. 372, 1989 (“Kenyon-Matheiu”).	1, 3, 5, 7	C-4
David Aldous, Micha Hofri, and Wojciech Szpankowski,	1, 3, 5, 7	C-5

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<i>Maximum Size of a Dynamic Data Structure: Hashing with Lazy Deletion Revisited</i> , Society for Industrial and Applied Mathematics, Vol. 21, No. 4:713-732, August 1992 ("Aldous").		
Martin Dietzfelbinger, Anna Karlin, Kurt Mehlhorn, Friedhelm Meyer auf der Heide, Hans Rohnert, and Robert E. Tarjan, <i>Dynamic Perfect Hashing: Upper and Lower Bounds</i> , Revised Version January 7, 1990 ("Dietzfelbinger").	1 - 8	C-6
Roger Sessions, <i>Reusable Data Structures for C</i> Prentice-Hall, Inc. 1989 ("Sessions").	1 - 4	C-9
Christopher J. Van Wyk, <i>Data Structures and C Programs</i> , Addison-Wesley Publ'g Co. & Bell Telephone Laboratories, Inc. 1988 ("Van Wyk 2").	1 - 8	C-10
Mark Allen Weiss, <i>Data Structures &amp; Algorithm Analysis in C</i> , The Benjamin/Cummings Publ'g Co. 1993 ("Weiss").	1 - 8	C-11
William B. Frakes & Ricardo Baeza-Yates, <i>Information Retrieval: Data Structures &amp; Algorithms</i> , Prentice-Hall, Inc. 1992 ("Frakes").	1, 3, 5, 7	C-12
Eric W. Brown, <i>Execution Performance Issues in Full Text Information Retrieval</i> , University of Massachusetts Amherst, October 1995 ("Brown").	1, 3, 5, 7	C-13
Costello, Adam, et al., <i>Redesigning the BSD - Callout and Time Facilities</i> , WUSC 95-23, November 2, 1995 ("Costello").	1 - 8	C-14
J.M. Foster, <i>List Processing</i> , Macdonald & Co., 1967 ("Foster").	1, 3, 5, 7	C-15
Sirinivasan Keshav, <i>On the Efficient Implementation of Fair Queueing</i> , Journal of Internetworking: Research and Experience, 1991 ("Keshav").	1 - 8	C-16
George Varghese and Tony Lauck, <i>Hashed and Hierarchical Timing Wheels: Data Structures for the Efficient Implementation of a Timer Facility</i> , ACM SIGOPS Operating Systems Review, Vol. 21, Issue 5, p. 25-38 (November 1987) ("Varghese and Lauck").	1 - 8	C-17

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Robert L. Kruse, <i>Data Structures and Program Design</i> Prentice-Hall, Inc. 1984 and 1987 ("Kruse").	1, 3, 5, 7	C-18
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**C. Software that Anticipate the '120 Patent Under 35 U.S.C. §§ 102(a), (b), and/or (g)**

Defendants identify the following software as prior art references that anticipate the claims of the '120 patents. Each piece of software was at least (1) known or used in this country and/or described in a printed publication in this or a foreign country, before the alleged invention of the claimed subject matter of the patent-in-suit, and/or (2) the invention was described in a printed publication in this or a foreign country and/or in public use and/or on sale in this country, more than one year before the filing date of the application for the patent-in-suit, and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the patent-in-suit. Thus, each piece of software identified here qualifies at least as prior art both as a publication and as a prior art system or apparatus.

Software, Date Invented / Made / Used / Sold by	Anticipates at Least Claims:	Exhibit
Linux 1.3.52 - route.c, released on December 29, 1995 to the public.	1, 3, 5, 7	D-1
BSD 4.2 - if_ether.c, released to the public as part of the BSD 4.2 open source operating system in September 1983.	1 - 8	D-2
FreeBSD - vfs_cache.c, developed as part of the FreeBSD operating system, made public on Dec. 14, 1995 at <a href="http://www.freebsd.org/cgi/cvsweb.cgi/src/sys/kern/vfs_cache.c">http://www.freebsd.org/cgi/cvsweb.cgi/src/sys/kern/vfs_cache.c</a>	1 - 8	D-3
FreeBSD - arp.c, 1994.	1, 3, 5, 7	D-4
FreeBSD - wavelan_cs.c, 1995.	1, 3, 5, 7	D-5
LISP, September 1981.	1 - 4	D-6

## EXHIBIT A

### II. OBVIOUSNESS BASED ON COMBINATIONS OF PRIOR ART

The following list identifies combinations of prior art that Defendants presently intend to rely on for their contentions that one or more of the asserted claims of the '120 patent are obvious.

Prior Art Reference	Prior Art Reference	Renders Obvious at Least Claims:	Exhibit
Dirks	U.S. Patent No. 5,724,538, Morris et al., March 3, 1998 ("Morris").	1 - 8	B-2
Robinson	U.S. Patent No. 4,530,054, Hamstra et al., July 16, 1985 ("Hamstra").	2, 4, 6, 8	B-4
Ish at al.	Hamstra	2, 4, 6, 8	B-5
Bishop	U.S. Patent No. 5,991,775, Beardsley et al., November 23, 1999 ("Beardsley").	1 - 8	B-7
U.S. Patent No. 5,918,249, Cox et al., June 29, 1999.	Beardsley	1 - 8	B-8
U.S. Patent No. 6,424,992, Devarakonda et al., July 23, 2002.	Dirks; Thatte; the '663 Patent; <i>The Art of Computer Programming</i> , Sorting and Searching, D.E. Knuth, Addison-Wesley Series in Computer Science and Information Processing, pp. 513, 518, 1973 ("Knuth"); Weiss; and/or Robert L. Kruse, <i>Data Structures and Program Design</i> (Prentice-Hall, Inc. 1984) ("Kruse").	1 - 8	B-9
Kerr	Dirks; Thatte; the '663 Patent; Knuth; and/or Kruse	1 - 8	B-10
Corbin	Dirks; Thatte; the '663 Patent; Morrison; and/or Knuth	1 - 8	B-11
U.S. Patent No. 5,121,495 Nemes, June 9, 1992 ("the '495 Patent").	Dirks; Thatte; the '663 Patent; Knuth; and/or Weiss	1 - 8	B-12

**EXHIBIT A**

Van Wyk	Kruse; Knuth; Dirks; Thatte; U.S. Patent No. 4,996,663, Nemes, February 26, 1991 (“the ’663 Patent”); and/or Paul R. Wilson and Thomas G. Moher, <i>Design of the Opportunistic Garbage Collector</i> , OOPSLA ’89 Proceedings, October 1-6, 1989, and Paul R. Wilson, <i>Opportunistic Garbage Collection</i> , ACM SIGPLAN Notices, Vol. 23, No. 12, December 1988 (collectively, “Opportunistic Garbage Collection”).	1 - 8	C-1
Morrison	Kruse; Knuth; Van Wyk; Driks; Thatte; the ’663 Patent; and/or Opportunistic Garbage Collection	1 - 8	C-2
Matheiu	Kruse; Knuth; Van Wyk; Driks; Thatte; the ’663 Patent; and/or Opportunistic Garbage Collection	1 - 8	C-3
Kenyon-Matheiu	Kruse; Knuth; Van Wyk; Driks; Thatte; the ’663 Patent; and/or Opportunistic Garbage Collection	1 - 8	C-4
Aldous	Kruse; Knuth; Van Wyk; Driks; Thatte; the ’663 Patent; and/or Opportunistic Garbage Collection	1 - 8	C-5
James Nelson Griffioen, <i>Remote Memory Backing Storage for Distributed Virtual Memory Operating Systems</i> , Purdue University Thesis, August 1991.	Driks; Thatte; the ’663 Patent; Knuth; and/or Weiss	1 - 8	C-7
Douglas Comer and James Griffioen, <i>A New Design for Distributed Systems: The Remote Memory Model</i> , in Proceedings of the USENIX Summer Conference, June 1990.	Driks; Thatte; the ’663 Patent; Knuth; and/or Weiss	1 - 8	C-8
Sessions	Kit Lester, <i>A Practical Approach to Data Structures: Related Algorithms in Pascal with Applications</i> (Ellis Horwood Ltd.	2, 4, 5 - 8	C-9

**EXHIBIT A**

	1990) (“Lester”); Dirks; Thatte; and/or the '663 Patent		
Van Wyk 2	Dirks; Thatte; and/or the '663 Patent	2, 4, 6, 8	C-10
Weiss	Kruse; Dirks; Thatte; and/or the '663 Patent	1 - 8	C-11
Frakes	Dirks; Thatte; and/or the '663 Patent	2, 4, 6, 8	C-12
Brown	Dirks; Thatte; and/or the '663 Patent	1 - 8	C-13
Foster	Dirks; Thatte; and/or the '663 Patent	1 - 8	C-15
Keshav	Dirks; Thatte; and/or the '663 Patent	1 - 8	C-16
Kruse	Dirks; Thatte; and/or the '663 Patent	2, 4, 6, 8	C-18
Linux 1.3.52 - route.c	Dirks; Thatte; and/or the '663 Patent	1 - 8	D-1
BSD 4.2 - if_ether.c	Dirks; Thatte; the '663 Patent; Knuth; Kruse; and/or Weiss	1 - 8	D-2
FreeBSD - vfs_cache.c	Dirks; Thatte; the '663 Patent; Knuth; and/or Kruse	1 - 8	D-3
FreeBSD - arp.c	Dirks; Thatte; and/or the '663 Patent	1 - 8	D-4
FreeBSD -wavelan_cs.c	Dirks; Thatte; and/or the '663 Patent	1 - 8	D-5
Lisp	Dirks; Thatte; and/or the '663 Patent	5 - 8	D-6