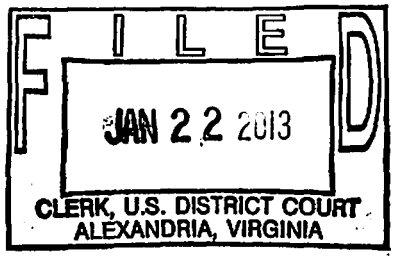
IN THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF VIRGINIA
Alexandria Division



AMDOCS (ISRAEL) LIMITED, an Israeli Corporation,	)	
Plaintiff	)	
v.	)	1:10cv910 (LMB/TRJ)
OPENET TELECOM, INC., a Delaware Corporation, et al.,	)	
Defendants.	)	

MEMORANDUM OPINION

Before the Court are defendants Openet Telecom, Inc. and Openet Telecom Ltd.'s Motion for Summary Judgment of Non-Infringement and Invalidity [Dkt. No. 95] and plaintiff Amdocs (Israel) Limited's Motion for Proposed Claim Constructions and Partial Summary Judgment of No Invalidity and No Inequitable Conduct [Dkt. No. 98]. The Court has issued an Order [Dkt. No. 248] that granted both motions in part. This Memorandum Opinion provides the reasoning supporting that decision and supporting the entry of summary judgment in favor of defendants on all claims asserted in plaintiff's First Amended Complaint for Patent Infringement [Dkt. No. 50] and in favor of plaintiff on Openet Telecom, Inc.'s counterclaims for inequitable conduct.

Although there remain disputed issues of material fact as to whether the patents-in-suit are invalid, the Court has determined upon further reflection that in light of its ruling

that the defendants' accused products do not infringe those patents, it would be an unnecessary use of limited judicial resources to proceed with the invalidity issues. Accordingly, the part of the Order issued on September 27, 2012, that gave defendants the option to pursue their invalidity claims will be vacated and the invalidity claims will be dismissed without prejudice.

I. BACKGROUND

A. The Parties

The plaintiff, Amdocs (Israel) Limited ("Amdocs"), is an Israeli corporation and a subsidiary of Amdocs Limited. Amdocs sells telecommunications providers a software portfolio that enables such providers to track their customers' usage of various network services, including web browsing, e-mail, and SMS messaging, and to account for and bill for that usage. See Mem. in Supp. of Amdocs (Israel) Limited's Mot. for Proposed Claim Constructions and Partial Summ. J. ("Pl.'s Mot. for Partial Summ. J.") at 2. Included in Amdocs' portfolio is "mediation" software, which the parties describe as software that collects and processes the data records documenting customers' network usage. See id. This software was originally developed by XaCCT Technologies, Inc. ("XaCCT"), which Amdocs acquired in 2004. See id. Through that acquisition, Amdocs also obtained ownership of the patents-in-suit, which "stem from

development of mediation products at XaCCT in the 1997 time-frame." Id. at 3.

The defendants, Openet Telecom, Inc., a Delaware Corporation, and Openet Telecom, Ltd., an Irish Corporation (collectively, "Openet"), form a "small Irish company with U.S. headquarters in Reston, Virginia" that develops and sells the FusionWorks brand of mediation software to telecommunications companies. Defs.' Mem. in Supp. of Openet's Proposed Claim Constructions and Mot. for Summ. J. of Non-Infringement and Invalidity ("Defs.' Mot. for Summ. J.") at 2. Openet offers many products under the FusionWorks brand, including Convergent Mediation, Convergent Charging, Network-Edge Rating, Balance Manager, Profile Manager, and Policy Manager, all of which are built on an underlying platform called the "FusionWorks Framework." See Pl.'s Mot. for Partial Summ. J. at 2; Decl. of Joseph Hogan [Dkt. No. 97] ¶¶ 4-14.

B. The Patents-in-Suit

At issue in this litigation are four related patents owned by Amdocs, specifically U.S. Patent Nos. 6,836,797 ("the '797 patent"); 6,947,984 ("the '984 patent"); 7,412,510 ("the '510 patent"); and 7,631,065 ("the '065 patent"). Amdocs accuses Openet of infringing:

- Independent claims 1, 7, and 19, and dependent claims 2 and 8 of the '797 patent;

- Independent claims 1, 7, and 13, and dependent claims 4 and 17 of the '065 patent;
- Independent claim 16 and dependent claims 17 and 19 of the '510 patent; and
- Independent claims 1 and 13, and dependent claims 2, 6, and 8 of the '984 patent.

See Am. Compl. [Dkt. No. 50] ¶¶ 19-29; Joint Statement of Stipulated Undisputed Facts [Dkt. No. 80] ¶¶ 5, 7, 9, 11.

On November 18, 1999, inventors Limor Schweitzer, Eran Wagner, and Tal Givoly filed Application Number 09/442,876 with the Patent and Trademark Office (PTO). The application claimed priority from two earlier provisional applications, one filed on November 20, 1997, and the other on November 19, 1998, as well as from a Patent Cooperation Treaty application filed on November 20, 1998. The application was granted and U.S. Patent No. 6,418,467 ("the '467 patent") was issued on July 9, 2002. That patent, titled "NETWORK ACCOUNTING AND BILLING SYSTEM AND METHOD," is comprised of a single claim for "[a] method for billing and charging for network usage" through a lengthy series of steps and substeps. Although the '467 patent is not one of the patents-in-suit, each of the four patents-in-suit was filed as a continuation or a continuation-in-part[1] of the application

[1] A continuation application "is a second application for the same invention claimed in a prior nonprovisional application and filed before the original application becomes abandoned or patented." Manual of Patent Examining Procedure § 201.07 (8th ed., rev. 9, 2012). Moreover, "[t]he disclosure presented in the continuation must be the same as that of the original

that became the '467 patent; specifically, the '797 patent was filed as a continuation-in-part, the '065 and '984 patents were filed as continuations, and the '510 patent was filed as a continuation of the '984 patent.

All of these patents claim parts of a system that is designed to solve an accounting and billing problem faced by network service providers.[2] See Defs.' Ex. A ('797 patent) at 1:50-52; Defs.' Ex. B ('984 patent) at 1:57-2:17; Defs.' Ex. C ('510 patent) at 1:57-2:25; Defs.' Ex. D ('065 patent) at 1:54-

---

application; i.e., the continuation should not include anything which would constitute new matter if inserted in the original application." Id.

A continuation-in-part application "is an application filed during the lifetime of an earlier nonprovisional application, repeating some substantial portion or all of the earlier nonprovisional application and adding matter not disclosed in the said earlier nonprovisional application." Id. § 201.08 (emphasis in original).

The benefit these continuing applications provide the patentee is that claims in such applications containing "matter disclosed in the parent application [are] entitled to the benefit of the filing date of the parent application." Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc., 98 F.3d 1563, 1580 (Fed. Cir. 1996) (quoting Waldemar Link, GmbH & Co. v. Osteonics Corp., 32 F.3d 556, 558 (Fed. Cir. 1994)); see also 35 U.S.C. § 120.

[2] Although the parties provide mediation software to telecommunications providers, the patents-in-suit address billing problems faced by the broader set of network service providers. This distinction does not have any significance for this opinion.

2:21.[3] Customers of network service providers often use several distinct services, such as e-mail, voice over Internet Protocol, or streaming audio or video, on the same computer network. See Defs.' Ex. A ('797 patent) at 1:20-37; Defs.' Ex. B ('984 patent) at 1:37-48; Defs.' Ex. C ('510 patent) at 1:46-57; Defs.' Ex. D ('065 patent) at 1:42-53. Because some services require more bandwidth than others, network service providers "would like to price their available bandwidth according to a user's needs," for example by billing business customers "according to their used bandwidth at particular qualities of service." Defs.' Ex. B ('984 patent) at 1:43-48; Defs.' Ex. C ('510 patent) at 1:52-57; Defs.' Ex. D ('065 patent) at 1:48-53. The raw usage logs for these services, however, are generated by several different network devices that may exist in different network levels. See Defs.' Ex. A ('797 patent) at 1:38-53; Defs.' Ex. B ('984 patent) at 1:62-2:21; Defs.' Ex. C ('510 patent) at 1:66-2:25; Defs.' Ex. D ('065 patent) at 1:62-2:21. The patented system collects these raw usage data records from their diffuse locations throughout the network and through appropriate filtering, aggregation, correlation, and enhancement transforms them into a format suitable for accounting, called "detail records" ("DRs"). See Defs.' Ex. A ('797 patent) at

[3] Both parties attached the patents-in-suit as exhibits to their motions. For consistency and because the defendants filed their motion first, the patents will be cited as defendants' exhibits.

5:23-26; Defs.' Ex. B ('984 patent) at 3:12-15; Defs.' Ex. C ('510 patent) at 3:43-46; Defs.' Ex. D ('065 patent) at 3:40-43. These DRs can then be stored in a central repository for generating "auditing, accounting and billing reports" or "can be sent directly to other systems," including billing systems. Defs.' Ex. D ('065 patent) at 2:29-33; Defs.' Ex. C ('510 patent) at 2:33-37; see also Defs.' Ex. A ('797 patent) at 12:31-33; Defs.' Ex. B ('984 patent) at 2:33-34.

1. The '065 Patent

The '065 patent describes the invention's primary function, which is the collection and transformation of network accounting records. Amdocs accuses Openet's products of infringing the following claims of the '065 patent:

> 1. A computer program product embodied on a computer readable storage medium for processing network accounting information comprising:
>
> computer code for receiving from a first source a first network accounting record;
>
> computer code for correlating the first network accounting record with accounting information available from a second source; and
>
> computer code for using the accounting information with which the first network accounting record is correlated to enhance the first network accounting record.
>
> 4. The computer program product embodied on a computer readable storage medium of claim **3**,[4] wherein the

[4] Although Amdocs is not asserting claims 2 and 3, these claims are incorporated by reference because Amdocs is asserting claim 4, which is dependent on claim 3, which is in turn dependent on claim 2. Claims 2 and 3 provide:

accounting information is in the form of a second network accounting record.

7. A method of processing network accounting information comprising:
receiving from a first source a first network accounting record;
correlating the first network accounting record with accounting information available from a second source; and
using the accounting information with which the first network accounting record is correlated to enhance the first network accounting record.

13. A system for collecting data from network entities for a data consuming application, comprising:
a plurality of data collectors to receive information from the network entities and to produce records based on the information, each data collector in the plurality of data collectors being associated with and coupled to a different one of the network entities; and
an enhancement component that augments data in one of the records produced by one of the plurality of data collectors with data from a different one of the records produced by another of the plurality of data collectors.

17. The system of claim **13**, further comprising:
a module coupled to the plurality of data collectors, the module receives the records produced by the plurality of data collectors for

---

2. The computer program product embodied on a computer readable storage medium of claim **1**, wherein the enhancement is based on a policy.

3. The computer program product embodied on a computer readable storage medium of claim **2**, wherein the accounting information includes parameters and wherein the using comprises adding at least one parameter from the accounting information to the first network accounting record.

Defs.' Ex. D ('065 patent) at 16:15-22.

> aggregation purposes, and wherein the enhancement component resides in the module.

Defs.' Ex. D ('065 patent) at 16:4-14, 16:37-46, 16:63-17:6, 17:18-22.

2. The '984 and '510 Patents

The '984 patent and the '510 patent, which is a continuation of the '984 patent, describe methods and computer program products for creating reports based on the generated DRs, and for sending alerts based on those reports. The asserted claims also include limitations that describe in detail the core collection and conversion of network usage records. Specifically, the claims of the '984 patent at issue provide:

> 1. A method for reporting on the collection of network usage information from a plurality of network devices, comprising:
>
> (a) collecting network communications usage information in real-time from a plurality of network devices at a plurality of layers utilizing multiple gatherers each including a plurality of information source modules each interfacing with one of the network devices and capable of communicating using a protocol specific to the network device coupled thereto, the network devices selected from the group consisting of routers, switches, firewalls, authentication servers, web hosts, proxy servers, netflow servers, databases, mail servers, RADIUS servers, and domain name servers, the gatherers being positioned on a segment of the network on which the network devices coupled thereto are positioned for minimizing an impact of the gatherers on the network;
>
> (b) filtering and aggregating the network communications usage information;

(c) completing a plurality of data records from the filtered and aggregated network communications usage information, the plurality of data records corresponding to network usage by a plurality of users;
(d) storing the plurality of data records in a database;
(e) allowing the selection of one of a plurality of reports for reporting purposes;
(f) submitting queries to the database utilizing the selected reports for retrieving information on the collection of the network usage information from the network devices; and
(g) outputting a report based on the queries.

2. A method as recited in claim **1**, and further comprising submitting network activity queries to the database utilizing the selected reports for retrieving information on activity of the network.

6. A method as recited in claim **2**, and further comprising generating an alert upon the occurrence of an event.

8. A method as recited in claim **6**, wherein the alert indicates that services should be ceased.

13. A computer program product embedded into computer readable medium for reporting on the collection of network usage information from a plurality of network devices, comprising:

(a) computer code for collecting network communications usage information in real-time from a plurality of network devices at a plurality of layers utilizing multiple gatherers each including a plurality of information source modules each interfacing with one of the network devices and capable of communicating using a protocol specific to the network device coupled thereto, the network devices selected from the group consisting of routers, switches, firewalls, authentication servers, web hosts, proxy servers, netflow servers, databases, mail servers, RADIUS servers, and domain name servers, the gatherers being positioned on a segment of the network on which the network

devices coupled thereto are positioned for minimizing an impact of the gatherers on the network;

(b) computer code for filtering and aggregating the network communications usage information;

(c) computer code for completing a plurality of data records from the filtered and aggregated network communications usage information, the plurality of data records corresponding to network usage by a plurality of users;

(d) computer code for storing the plurality of data records in a database;

(e) computer code for allowing the selection of one of a plurality of reports for reporting purposes;

(f) computer code for submitting queries to the database utilizing the selected reports for retrieving information on the collection of the network usage information from the network devices; and

(g) computer code for outputting a report based on the queries.

Defs.' Ex. B ('984 patent) at 15:31-67, 16:11-12, 16:15-16, 16:25-61. The following three claims of the '510 patent are at issue in this litigation:

16. A computer program product stored in a computer readable medium for reporting on a collection of network usage information from a plurality of network devices, comprising:

computer code for collecting network communications usage information in real-time from a plurality of network devices at a plurality of layers;

computer code for filtering and aggregating the network communications usage information;

computer code for completing a plurality of data records from the filtered and aggregated network communications usage information, the plurality of data records corresponding to network usage by a plurality of users;

computer code for storing the plurality of data records in a database;

computer code for submitting queries to the database utilizing predetermined reports for retrieving information on the collection of the network usage information from the network devices; and
computer code for outputting a report based on the queries;
wherein resource consumption queries are submitted to the database utilizing the reports for retrieving information on resource consumption in a network; and
wherein a resource consumption report is outputted based on the resource consumption queries.

17. A computer program product as recited in claim **16**, and further comprising computer code for submitting network activity queries to the database utilizing the reports for retrieving information on the activity of the network.

19. A computer program product as recited in claim **16**, and further comprising computer code for generating an alert upon occurrence of an event.

Defs.' Ex. C ('510 patent) at 17:3-33, 18:4-6.

3. The '797 Patent

The '797 patent has a different focus than the other three patents-in-suit, by concentrating on the structure of the DRs. Specifically, the asserted claims are:

1. A method for generating a single record reflecting multiple services for accounting purposes, comprising:
(a) identifying a plurality of services carried out over a network;
(b) collecting data describing the plurality of services; and
(c) generating a single record including the collected data, wherein the single record represents each of the plurality of services.

2. The method as recited in claim **1**, and further comprising sending the single record to a Business Support System.

7. A computer program product embedded into computer readable medium for generating a single record reflecting multiple services for accounting purposes, comprising:

(a) computer code for identifying a plurality of services carried out over a network;

(b) computer code for collecting data describing the plurality of services; and

(c) computer code for generating a single record including the collected data, wherein the single record represents each of the plurality of services;

wherein the services include at least two services selected from a group consisting of a hypertext transfer protocol (HTTP) session, an electronic mail session, a multimedia streaming session, a voice over Internet Protocol (IP) session, a data communication session, a data communication session, an instant messaging session, a peer-to-peer network application session, a file transfer protocol (FTP) session, and a telnet session;

wherein the data is collected utilizing an enhancement procedure defined utilizing a graphic user interface by listing a plurality of available functions to be applied in real-time prior to end-user reporting,

allowing a user to choose at least one of a plurality of fields, and

allowing the user to choose at least one of the listed functions to be applied to the chosen field in real-time prior to the end-user reporting.

8. The computer program product as recited in claim 7, and further comprising computer code for sending the single record to a Business Support System.

19. A method for generating a single record reflecting multiple services, comprising:

(a) collecting data with different formats describing a plurality of services, wherein the services are selected from the group consisting of an hypertext transfer protocol (HTTP) session, electronic mail session, a multimedia

streaming session, and voice over Internet Protocol (IP) session;
(b) collecting data with different formats describing users of the services;
(c) generating a single record including the collected data representing each of the services and the users;
(d) collecting a plurality of the single records;
(e) generating a distinct record including the collected data of each of the single records, wherein the distinct record represents each of the plurality of single records; and
(f) sending the distinct record to a Business Support System.

Defs.' Ex. A ('797 patent) at 16:30-39, 16:52-17:15, 18:26-46.

C. Procedural History

On August 16, 2010, Amdocs instituted this civil action, alleging that Openet's products, including the FusionWorks mediation software, infringed the '797 and '065 patents. See Compl. ¶¶ 16, 21. After Openet responded with defenses and counterclaims, including allegations of invalidity and non-infringement, see Dkt. Nos. 9, 10, both parties requested and were granted leave to file amended pleadings. See Dkt. Nos. 43, 57, 58.

The First Amended Complaint for Patent Infringement, filed on February 3, 2011, added claims that the '984 and '510 patents are also being infringed by Openet's products, including the FusionWorks mediation software. Am. Compl. ¶¶ 24-29 (Counts III and IV). Among other forms of relief, Amdocs seeks damages, including treble damages for willful infringement, a permanent

injunction prohibiting future infringement, pre-judgment and post-judgment interest, and expenses, costs, and attorneys' fees. See id. at 6-7.

Openet's amended response added the defense and counterclaim of unenforceability for inequitable conduct; these defenses and counterclaims were subsequently included in Openet's final responsive pleading, filed in response to Amdocs' amended complaint on February 22, 2011. See Openet Telecom, Inc.'s First Am. Answer to Pl. Amdocs (Israel) Limited's Compl. for Patent Infringement [Dkt. No. 51] ¶¶ 32-33, 49-75 (Countercls. V & VI); Openet Telecom Ltd.'s First Am. Answer to Pl. Amdocs (Israel) Limited's Compl. for Patent Infringement [Dkt. No. 52] ¶¶ 32-56; Openet Telecom, Inc.'s Answer and Countercls. to Pl.'s First Am. Compl. for Patent Infringement ("Openet Inc.'s Answer") [Dkt. No. 55] ¶¶ 42-45; id. ¶¶ 69-99 (Countercls. IX and X); Openet Telecom, Ltd.'s Answer to Pl.'s First Am. Compl. for Patent Infringement ("Openet Ltd.'s Answer") [Dkt. No. 56] ¶¶ 42-70.[5]

In its Motion for Summary Judgment of Non-Infringement and Invalidity [Dkt. No. 95], Openet seeks summary judgment in its

[5] The allegations of inequitable conduct in Openet Inc.'s counterclaims and in Openet Ltd.'s affirmative defenses are identical. Compare Openet Inc.'s Answer ¶¶ 70-81, 83-99; with Openet Ltd.'s Answer ¶¶ 42-53, 54-70. For concision, the rest of this opinion will cite only to Openet Inc.'s counterclaims.

favor on all counts in plaintiff's Amended Complaint, arguing that (1) Amdocs has not come forward with sufficient evidence to establish a genuine dispute of material fact regarding alleged infringement of any of the four patents at issue, and that (2) the '065 patent is invalid because it is anticipated by an earlier patent. Defs.' Mot. for Summ. J. at 1. In its Motion for Proposed Claim Constructions and Partial Summary Judgment of No Invalidity and No Inequitable Conduct [Dkt. No. 98], Amdocs seeks partial summary judgment in its favor on the issues of the validity of the patents-in-suit and the absence of inequitable conduct by Amdocs.[6] Pl.'s Mot. for Partial Summ. J. at 1-2.

The Court has (1) granted Amdocs' Motion for Proposed Claim Constructions and Partial Summary Judgment of No Invalidity and No Inequitable Conduct in part, by finding no inequitable conduct and agreeing to construe certain claims of the patents-in-suit, but denied the motion in all other respects; (2) granted Openet's Proposed Claim Constructions and Motion for Summary Judgment in part, finding that Openet did not infringe any of the asserted claims and agreeing to construe certain terms in the patents-in-suit, but denying it as to invalidity; and (3) withheld judgment under Fed. R. Civ. P. 58 until the

[6] The parties also filed several motions in limine [Dkt. Nos. 115, 117, 119, 121, 124, 126, 128, 130, 132, 134, 136, 139, 141, 143, 145, 147, 151], some of which were granted [Dkt. Nos. 246, 247], and the remainder of which were denied as moot with leave to refile [Dkt. No. 248].

Memorandum Opinion providing the reasoning for the Order issued. Dkt. No. 248.

II. DISCUSSION

A. Standard of Review

Summary judgment is appropriate when the record shows that "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). Although the Court must view the record "in the light most favorable to the nonmoving party," Dulaney v. Packaging Corp. of Am., 673 F.3d 323, 324 (4th Cir. 2012), the "mere existence of a scintilla of evidence in support of the [nonmovant's] position will be insufficient." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 252 (1986); see also Am. Arms Int'l v. Herbert, 563 F.3d 78, 82 (4th Cir. 2009). Rather, when "the record taken as a whole could not lead a rational trier of fact to find for the nonmoving party, there is no genuine issue for trial." Ricci v. DeStefano, 557 U.S. 557, 586 (2009) (quoting Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986)) (internal quotation mark omitted).

When the nonmoving party bears the burden of proof at trial, the party moving for summary judgment may prevail by showing "an absence of evidence to support" any essential element of the cause of action. Celotex Corp. v. Catrett, 477 U.S. 317, 322-25 (1986); see also Rhodes v. E.I. du Pont de

Nemours & Co., 636 F.3d 88, 94 (4th Cir. 2011). Once the moving party has met its burden of demonstrating that absence, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts," and must "come forward with specific facts showing that there is a genuine issue for trial." Matsushita, 475 U.S. at 586-87 (internal quotation marks and emphasis omitted). The nonmoving party may present "any of the kinds of evidentiary materials listed in Rule 56(c), except the mere pleadings themselves" and need not "produce evidence in a form that would be admissible at trial." Celotex, 477 U.S. at 324. Nonetheless, evidence submitted in an inadmissible format must be otherwise admissible at trial. See Evans v. Techs. Applications & Serv. Co., 80 F.3d 954, 962 (4th Cir. 1996); Fed. R. Civ. P. 56(c)(1)(B).

B. Claim Construction and Infringement

Courts examine a claim of patent infringement in two steps. First, the court "determin[es] the meaning and scope of the patent claims asserted to be infringed." Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc) (citations omitted), aff'd, 517 U.S. 370 (1996). Then, the court "compar[es] the properly construed claims to the device accused of infringing." Id.

In the parties' cross-motions for summary judgment, they dispute the proper construction of a number of terms in each of

the patents-in-suit. The Court will construe only those terms that are necessary to the resolution of the parties' motions. Specifically, the Court will construe the following terms:

- "Enhance" and "enhancement" ('065 patent, claims 1, 7, and 13; '797 patent, claim 7);
- "Completing" ('510 patent, claim 16; '984 patent, claims 1 and 13); and
- "Single record represent[ing] each of the plurality of services" ('797 patent, claims 1, 7, and 19).

Although these terms explicitly appear in only eight of the eighteen asserted claims, the ten remaining claims are dependent on claims in which the terms do appear. The construction of these terms, therefore, determines the interpretation of all of the claims at issue.

Using the proper construction of these terms, the Court concludes for the reasons given below that despite extensive discovery, Amdocs has failed to identify any actual instance of infringement by Openet. Mere speculation is insufficient to allow a civil action to proceed to trial; accordingly, Amdocs' claims of infringement cannot survive summary judgment.

1. Legal Standards

a. Claim Construction

The district court has the "power and obligation to construe as a matter of law the meaning of language used in the patent claim." Markman, 52 F.3d 967 at 979. The "starting point for any claim construction must be the claims themselves."

Ecolab, Inc. v. Paraclipse, Inc., 285 F.3d 1362, 1374 (Fed. Cir. 2002) (quoting Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999)). The inquiry does not end there, however, as "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc); see also Schriber-Schroth Co. v. Cleveland Trust Co., 311 U.S. 211, 217 (1940) (noting that "[t]he claims of a patent are always to be read or interpreted in the light of its specifications"). Indeed, the Federal Circuit has emphasized that the specification "is the single best guide to the meaning of a disputed term." Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc., 554 F.3d 1010, 1018-19 (Fed. Cir. 2009) (quoting Phillips, 415 F.3d at 1315) (internal quotation marks omitted). Courts may also properly consider the patent's prosecution history, if in evidence. Netcraft Corp. v. eBay, Inc., 549 F.3d 1394, 1397 (Fed. Cir. 2008). Finally, the court may consider extrinsic sources, such as expert testimony or technical dictionaries, only in "the rare circumstance that the court is unable to determine the meaning of the asserted claims" after looking to the three sources of "intrinsic evidence," namely the claim language, the specification, and the prosecution history.

Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc., 262 F.3d 1258, 1269 (Fed. Cir. 2001).

A claim term generally must be given the "ordinary and customary meaning" it would have had to "a person of ordinary skill in the art in question at the time of the invention." Phillips, 415 F.3d 1303 at 1312-13. This meaning enjoys a "heavy presumption," but can be overcome "where a claim term deprives the claim of clarity such that there is no means by which the scope of the claim may be ascertained from the language used" or "where the patentee has chosen to be his own lexicographer." Bell Atl., 262 F.3d at 1268 (quoting Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989-90 (Fed. Cir. 1999)) (internal quotation marks omitted). In particular, "[t]he specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996); see also SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1344 (Fed. Cir. 2001) ("[T]he written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format."). Consistently using terms in a specialized manner throughout the specification is one method for defining terms by implication.

See Bell Atl., 262 F.3d at 1273 (holding that the consistent use of the non-technical term "mode" in the specification implicitly defined it more narrowly than the broader ordinary meaning). In short, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Phillips, 415 F.3d at 1316 (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

b. Infringement

It is well established that "[a] patentee claiming infringement must present proof that the accused product[s] meet[] each and every claim limitation." Forest Labs., Inc. v. Abbott Labs., 239 F.3d 1305, 1310 (Fed. Cir. 2001). The patentee must also prove that the accused infringer either directly infringed the patent under 35 U.S.C. § 271(a), by "mak[ing], us[ing], offer[ing] to sell, . . . sell[ing], . . . or import[ing]" the patented invention, or indirectly infringed the patent under 35 U.S.C. § 271(b) or § 271(c), by "actively induc[ing]" infringement or by contributing to infringement. Failure to provide the evidence necessary to establish a genuine issue of material fact on these points warrants summary judgment of no infringement. Cf. Celotex, 477 U.S. at 325.[7]

[7] Amdocs has not clearly articulated its theory of infringement in its pleadings. Because Amdocs has presented no evidence of a

Because infringement is a question of fact, the Court must view the facts and reasonable inferences in the light most favorable to the nonmoving party; summary judgment is appropriate "only if no reasonable jury could return a verdict for the nonmoving party." Bell Atl., 262 F.3d at 1267 (quoting Anderson, 477 U.S. at 255) (internal quotation marks omitted).

2. The '065, '510, and '984 patents

Careful scrutiny of the claims and specifications of the '065, '510, and '984 patents reveals that inherent in the invention is a distributed architecture. In this context, "distributed" means that network usage records are processed close to their sources before being transmitted to a centralized manager. This architecture can be analogized to a hub and spoke structure, in which the processing at the spokes reduces the amount of information that must be sent to the hub, thereby decreasing the necessary bandwidth and increasing the efficiency of the system.[8]

---

third party infringer as required for indirect theories of infringement, it is limited to direct infringement. Moreover, because Amdocs agrees that it must prove that the accused products meet each and every claim limitation, Pl.'s Opp'n at 18, it is limited to literal infringement. Accordingly, the Court has considered only a direct and literal infringement theory for purposes of deciding Openet's motion for summary judgment of no infringement.

[8] In other contexts, the term "distributed" has a broader technical meaning. For example, the verb "distribute" can be defined as "[t]o allocate among locations or facilities, as in a

The evidence that Amdocs argues creates a genuine issue of material fact regarding infringement is very sparse, and primarily consists of proposals made by Openet to telecommunications companies operating outside of the United States. Moreover, that evidence indicates that Openet's accused products do not have the distributed architecture required by the '065, '510, and '984 patents, but instead function as a pipeline, in which all of the output from one phase of processing is passed to another phase of processing until the final results are transmitted to the network service provider's billing and invoicing system. Accordingly, there is no evidence that Openet's products infringe the '065, '510, or '984 patents.

a. The Claimed System

The purpose of the system claimed by the '065, '510, and '984 patents is to "give[] Network Service Providers (NSPs), including Internet Services Providers (ISPs) and enterprise network(Intranet) [sic] operators, the information needed to set the right-price for IP (Internet Protocol) services." Defs.' Ex. D ('065 patent) at 3:28-31; Defs.' Ex. C ('510 patent) at

---

data-processing function that is performed by a collection of computers and other devices linked together by a network." Microsoft Computer Dictionary 167 (5th ed. 2002). Alternatively, "distributed processing" can be defined as "[a] form of information processing in which work is performed by separate computers linked through a communications network." Id. at 168. The "distributed" architecture described in the patents-in-suit is therefore a specific instantiation of a broader computing principle.

3:31-34; Defs.' Ex. B ('984 patent) at 2:67-3:3. Specifically, "[t]he system provides a clear picture of user-level network service use," and thereby "enable[s] NSPs to deploy new services based on documented usage trends, plan network resource provisioning, and audit service usage," as well as enabling NSPs to "generate accurate usage-based billing and implement usage-based charge-back models" based on their customers' use of their networks. Defs.' Ex. D ('065 patent) at 3:49-55, 3:31-39; Defs.' Ex. C ('510 patent) at 3:52-59, 3:34-42; Defs.' Ex. B ('984 patent) at 3:21-27, 3:3-11. Because the system is designed to run on NSPs' networks, see Defs.' Ex. D ('065 patent) at 3:33-42; Defs.' Ex. C ('510 patent) at 3:36-45; Defs.' Ex. B ('984 patent) at 3:5-14, it is important that the system operate efficiently and "minimize[] network impact," Defs.' Ex. D ('065 patent) at 3:61; Defs.' Ex. C ('510 patent) at 3:64; Defs.' Ex. B ('984 patent) at 3:33; see also Defs.' Ex. D ('065 patent) at 3:58-60 ("Data collection and management is designed for efficiency to minimize impact on the network and system resources."); accord Defs.' Ex. C ('510 patent) at 3:62-63; Defs.' Ex. B ('984 patent) at 3:30-32. The system accomplishes this minimization through its distributed "hub and spoke" architecture.

At the hub of the system is the Central Event Manager (CEM), which "acts as the central nervous system of the system."

Defs.' Ex. D ('065 patent) at 8:13-14; Defs.' Ex. C ('510 patent) at 8:11-12; Defs.' Ex. B ('984 patent) at 7:52-53. The CEM configures the rest of the system based on the NSP's preferred "collection scheme," which defines the information that must be collected as well as the "set of operations the system must perform to obtain the desired information." Defs.' Ex. D ('065 patent) at 8:27-30; Defs.' Ex. C ('510 patent) at 8:24-27; Defs.' Ex. B ('984 patent) at 7:66-8:2. Thus, all of the operations performed by the rest of the system are determined by the collection scheme and controlled by the CEM. See Defs.' Ex. D ('065 patent) at 8:30-33; Defs.' Ex. C ('510 patent) at 8:27-30; Defs.' Ex. B ('984 patent) at 8:2-5.

The CEM can optionally be connected to a centralized database or other form of data repository; this repository stores the system's configuration information and may also include a table for storing the network accounting data collected by the rest of the system. Defs.' Ex. D ('065 patent) at 8:33-35, 9:2-11; Defs.' Ex. C ('510 patent) at 8:30-32, 8:65-9:7; Defs.' Ex. B ('984 patent) at 8:5-7, 8:41-50. The table for storing the collected network accounting data is made up of "pre-defined fields that are configured by the CEM on installation." Defs.' Ex. D ('065 patent) at 9:15-16; Defs.' Ex. C ('510 patent) at 9:11-12; Defs.' Ex. B ('984 patent) at 8:54-56. Each of these fields "represents a network session

parameter" and each record stored in the table "describes a network session." Defs.' Ex. D ('065 patent) at 9:13-15; Defs.' Ex. C ('510 patent) at 9:9-11; Defs.' Ex. B ('984 patent) at 8:52-54. Thus, by defining "what data will be stored in each field in the central database and how that data is collected," the NSP can define precisely which network usage information the rest of the system must collect. Defs.' Ex. D ('065 patent) at 9:8-11; Defs.' Ex. C ('510 patent) at 9:4-7; Defs.' Ex. B ('984 patent) at 8:48-50.

If the CEM is the hub of the system, then so-called "network devices" or, more generically, "network information sources" are its outermost spokes. Network devices are the means by which NSPs provide their customers with services, which may include e-mail, voice over Internet Protocol, or streaming audio and video. Defs.' Ex. D ('065 patent) at 1:42-45; Defs.' Ex. C ('510 patent) at 1:46-49; Defs.' Ex. B ('984 patent) at 1:37-40. Examples of network devices include a firewall, an LDAP server, a DNS server, a proxy server, a RADIUS router, and a Cisco Netflow router. See '065 patent fig. 1; '510 patent fig. 1; '984 patent fig. 1. Network devices typically also "keep logging and statistical information about their activity." Defs.' Ex. D ('065 patent) at 5:18-20; Defs.' Ex. C ('510 patent) at 5:20-22; Defs.' Ex. B ('984 patent) at 4:58-59.

Because network devices generally keep such information, they are "representative of the types of sources of information that could be accessed." Defs.' Ex. D ('065 patent) at 5:15-16; Defs.' Ex. C ('510 patent) at 5:17-18; Defs.' Ex. B ('984 patent) at 4:54-55. Although the patents-in-suit do not require network devices specifically, the system must be able to access some form of "network information source" that provides information about customers' use of the network for which the NSP wants to account and bill. See Defs.' Ex. D ('065 patent) at 5:13-14, 21-26; Defs.' Ex. C ('510 patent) at 5:15-16; Defs.' Ex. B ('984 patent) at 4:52-53. Examples of such information sources include "the log file of a mail server, the logging facility of a firewall, a traffic statistics table available on a router and accessible through SNMP [Simple Network Management Protocol], a database entry accessible through the Internet, [and] an authentication server's query interface." Defs.' Ex. D ('065 patent) at 5:20-24; Defs.' Ex. C ('510 patent) at 5:22-26; '984 patent 4:59-64.

The methods for obtaining network usage information from such network information sources are highly variable, however, and often turn on the specific make and model of the network devices. See Defs.' Ex. D ('065 patent) at 5:27-30 ("Each type of network device can be accessing [sic] using a different method or protocols."); accord Defs.' Ex. C ('510 patent) at

5:29-32; Defs.' Ex. B ('984 patent) at 4:66-5:2. The system therefore includes Information Source Modules (ISMs), which act as translators between network information sources and the rest of the system. See Defs.' Ex. D ('065 patent) at 5:33-35 ("The information source modules act as interfaces or 'translators,' sending IP usage data, in real time, from the network devices to the gatherers."); accord Defs.' Ex. C ('510 patent) at 5:38-40; Defs.' Ex. B ('984 patent) at 5:7-9. Each ISM is "designed for a specific type of network data source," Defs.' Ex. D ('065 patent) at 5:39-40; Defs.' Ex. C ('510 patent) at 5:40-41; Defs.' Ex. B ('984 patent) at 5:9-10, meaning that each ISM is programmed to use the appropriate method to access the network information generated by a particular network information source, to retrieve that network information, and to translate the retrieved data into a generalized, "platform-neutral" format. See Defs.' Ex. D ('065 patent) at 5:33-40; Defs.' Ex. C ('510 patent) at 5:34-41; Defs.' Ex. B ('984 patent) at 5:4-11.

ISMs exist in one of three forms: asynchronous, synchronous, or pipe. Defs.' Ex. D ('065 patent) at 6:9; Defs.' Ex. C ('510 patent) at 6:11; Defs.' Ex. B ('984 patent) at 5:48. Asynchronous ISMs are triggered when the associated network device stores information about its usage; they "react[] to the information . . . without prompting from other information sources in the system." Defs.' Ex. D ('065 patent) at 6:10-13;

Defs.' Ex. C ('510 patent) at 6:12-15; Defs.' Ex. B ('984 patent) at 5:49-52. Synchronous ISMs are triggered only when another part of the system requests information from them.[9] Defs.' Ex. D ('065 patent) at 6:19-26; Defs.' Ex. C ('510 patent) at 6:21-28; Defs.' Ex. B ('984 patent) at 5:58-65. Finally, pipe ISMs process "record flows (batches of records)" when they arrive from the network information source; this processing can include filtering or aggregating the records, sending alarms based on the records, initiating new batches of records, or "provision[ing] network elements to provide or stop services." Defs.' Ex. D ('065 patent) at 6:26-41; Defs.' Ex. C ('510 patent) at 6:29-43; Defs.' Ex. B ('984 patent) at 5:66-6:13.

After the ISMs have performed the translation, a "gatherer" collects the platform-neutral records from one or more ISMs. Defs.' Ex. D ('065 patent) at 6:54, 6:65-66; Defs.' Ex. C ('510

[9] An example of a synchronous ISM is one associated with a Domain Name System (DNS) server. Defs.' Ex. D ('065 patent) at 6:20-21; Defs.' Ex. C ('510 patent) at 6:22-23; Defs.' Ex. B ('984 patent) at 5:59-60. DNS servers "maintain[] information matching the IP addresses of host computers to their domain addresses." Defs.' Ex. D ('065 patent) at 6:21-23; Defs.' Ex. C ('510 patent) at 6:23-25; Defs.' Ex. B ('984 patent) at 5:60-62. An ISM attached to a DNS server will remain dormant until another part of the system sends to it a request for the domain address of a particular IP address; upon receiving that request, the ISM will query the DNS server using the appropriate method for retrieving network information, and will relay the retrieved information back to the requestor. Defs.' Ex. D ('065 patent) at 6:23-26; Defs.' Ex. C ('510 patent) at 6:25-28; Defs.' Ex. B ('984 patent) at 5:62-65.

patent) at 6:55, 6:66-67; Defs.' Ex. B ('984 patent) at 6:25, 6:36-37. Gatherers' primary functions are to perform "flexible, policy-based data aggregation" and to "extract[] the fields needed by the CEM and fill[] in any fields that may be missing." Defs.' Ex. D ('065 patent) at 7:3-7; Defs.' Ex. C ('510 patent) at 7:4-8; Defs.' Ex. B ('984 patent) at 6:41-46. Because "[t]ypically, data collected from a single source does not contain all the information needed for billing and accounting," the gatherers "enhance" that data by "combining IP session data from multiple sources." Defs.' Ex. D ('065 patent) at 7:51-57; Defs.' Ex. C ('510 patent) at 7:51-57; Defs.' Ex. B ('984 patent) at 7:24-30. For example, a data record describing a particular network usage session can be "enhanced" with the user name and the name of the user's organization.

The specification labels this function of the gatherers "data enhancement." See Defs.' Ex. D ('065 patent) at 10:46-48; Defs.' Ex. C ('510 patent) at 10:45-11:1; Defs.' Ex. B ('984 patent) at 10:14-16. Data enhancement "comprises a number of field enhancements." Defs.' Ex. D ('065 patent) at 11:1-2; Defs.' Ex. C ('510 patent) at 11:4-5; Defs.' Ex. B ('984 patent) at 10:19-20. A field enhancement "specifies how the data obtained from the trigger of the enhancement procedure is processed before it is placed in a single field in the central database." Defs.' Ex. D ('065 patent) at 11:2-4; Defs.' Ex. C

('510 patent) at 11:5-8; Defs.' Ex. B ('984 patent) at 10:20-23. That is, each field of desired network usage information is configured by the CEM to have an associated "field enhancement." Defs.' Ex. D ('065 patent) at 7:63-8:2, 11:26-29; Defs.' Ex. C ('510 patent) at 7:63-8:2; 11:29-32; Defs.' Ex. B ('984 patent) at 7:37-43; 10:57-60; see also Defs.' Ex. D ('065 patent) at 12:45-49 ("The NSP defines field enhancements for each field in which NSP wants to collect data from the trigger. If no field enhancements are defined, no data from the trigger will be collected in the fields."); accord Defs.' Ex. C ('510 patent) at 12:47-51; Defs.' Ex. B ('984 patent) at 12:6-9. The DR ("detail record") is the receptacle into which all of the enhanced fields are written. Defs.' Ex. D ('065 patent) at 11:12-14; Defs.' Ex. C ('510 patent) at 11:15-17; Defs.' Ex. B ('984 patent) at 10:43-45.

One possible "field enhancement," called a "One-step Field Enhancement," involves directly placing the gathered datum into the appropriate DR field; for example, when a gatherer populates a DR field with information that it received from its associated asynchronous ISM. See Defs.' Ex. D ('065 patent) at 11:35-38; Defs.' Ex. C ('510 patent) at 11:38-41; Defs.' Ex. B ('984 patent) at 10:66-11:2. In a "Two-step Field Enhancement," the gatherer "appl[ies] a Synchronous ISM function" to a network usage datum retrieved from the associated asynchronous ISM and

places the result of that function into the appropriate DR field. See Defs.' Ex. D ('065 patent) at 11:40-44; Defs.' Ex. C ('510 patent) at 11:43-47; Defs.' Ex. B ('984 patent) at 11:3-7. There is no limit to the number of steps or functions that can be applied in a field enhancement. Defs.' Ex. D ('065 patent) at 11:10-11; Defs.' Ex. C ('510 patent) at 11:13-14; Defs.' Ex. B ('984 patent) at 10:41-42.

At any point during a data enhancement, the gatherers may also "aggregate" or "filter" the records.[10] Defs.' Ex. D ('065 patent) at 7:21-24; Defs.' Ex. C ('510 patent) at 7:22-25; Defs.' Ex. B ('984 patent) at 6:60-63. Aggregation entails "accumulating groups of data record flows, [and] generating a single record for each group," which "includes the aggregated information." Defs.' Ex. D ('065 patent) at 7:13-15; Defs.' Ex. C ('510 patent) at 7:14-16; Defs.' Ex. B ('984 patent) at 6:51-53. Filtering is defined as discarding data records that "are known to be collected elsewhere." Defs.' Ex. D ('065 patent) at 7:17-19; Defs.' Ex. C ('510 patent) at 7:18-20; Defs.' Ex. B ('984 patent) at 6:55-57. A situation that requires filtering occurs when a single session of network use by a customer generates network records in two distinct network information

[10] As noted above, some ISMs can also perform the aggregation and filtering functions. See Defs.' Ex. D ('065 patent) at 6:35; Defs.' Ex. C ('510 patent) at 6:37; Defs.' Ex. B ('984 patent) at 6:7-8.

sources; for example, if a single web browsing session causes both the router and the firewall to generate logs of that activity. The system allows the NSP to configure which data records to collect and which to discard when multiple network information sources generate the same network usage data. Defs.' Ex. D ('065 patent) at 7:19-20; Defs.' Ex. C ('510 patent) at 7:20-21; Defs.' Ex. B ('984 patent) at 6:57-59.

The gatherers then transmit the aggregated, filtered, and enhanced DRs to the CEM. Defs.' Ex. D ('065 patent) at 8:33-35; Defs.' Ex. C ('510 patent) at 8:30-32; Defs.' Ex. B ('984 patent) at 8:5-6. The CEM can be configured to "merge duplicate records before storing them in the central database." Defs.' Ex. D ('065 patent) at 8:35-37; Defs.' Ex. C ('510 patent) at 8:32-34; Defs.' Ex. B ('984 patent) at 8:7-9. According to the specification, "[a] merge is achieved by matching some of the fields in a data record and then merging the matching records from at least two record flows, transforming them into one record before updating the central database." Defs.' Ex. D ('065 patent) at 9:34-38; Defs.' Ex. C ('510 patent) at 9:30-34; Defs.' Ex. B ('984 patent) at 9:8-11. This process is desirable because "each IP session may generate multiple transaction records," and removing duplicates will "enhanc[e] the efficiency of the data repository." Defs.' Ex. D ('065 patent) at 9:25-27; Defs.' Ex. C ('510 patent) at 9:21-24; Defs.' Ex. B ('984

patent) at 8:65-9:1. After any configured merging is finished, the enhanced and merged records are either stored in the optional data repository or sent directly to an external application, for example, the NSP's billing system. See Defs.' Ex. D ('065 patent) at 10:38-40; Defs.' Ex. C ('510 patent) at 10:36-38; Defs.' Ex. B ('984 patent) at 10:6-8.

In summary, the patented system includes a Centralized Event Manager (CEM) that defines the fields to be populated, prescribes for each field the functions that must be applied to populate it, and configures the rest of the system to execute that processing. The system is designed to execute specific pieces of this processing at specific stages. First, the Information Source Modules (ISMs) gather network information from their associated network information sources. The ISMs pass that network information to the gatherers, which generate detail records (DRs) by "perform[ing] data enhancement to complete the data from the ISMs." Defs.' Ex. D ('065 patent) at 10:34-36; Defs.' Ex. C ('510 patent) at 10:32-34; Defs.' Ex. B ('984 patent) at 10:2-4. Filtering and aggregation may occur either at the ISM or at the gatherer stage. The DRs are passed to the CEM, which may remove redundant data through data merges. Finally, the results of the merge are stored in a central data repository or are sent to an external system. See Defs.' Ex. D ('065 patent) at 10:26-44 ("Data Distillation"); accord Defs.'

Ex. C ('510 patent) at 10:25-43; Defs.' Ex. B ('984 patent) at 9:62-10:12.

The specific description of what processing occurs at each stage is important for distinguishing the invention from earlier systems. In earlier systems, "all the network information flows to one location, making it very difficult to keep up with the massive record flows from the network devices and requiring huge databases." Defs.' Ex. B ('984 patent) at 4:9-13; Defs.' Ex. C ('510 patent) at 4:41-44; Defs.' Ex. D ('065 patent) at 4:39-42. These previous systems stored all network usage information "in a database and then database operations [were] performed in order to create bills or reports." Defs.' Ex. B ('984 patent) at 7:17-19; Defs.' Ex. C ('510 patent) at 7:44-47; Defs.' Ex. D ('065 patent) at 7:45-47. These systems thus processed all of the network usage information at a single, central location.

In contrast, the patented system "minimizes network impact by collecting and processing data close to its source." Defs.' Ex. B ('984 patent) at 3:33-34; Defs.' Ex. C ('510 patent) at 3:64-65; Defs.' Ex. D ('065 patent) at 3:62-63. Specifically, collecting and processing data close to its source "reduc[es] the volume of data sent on the network to the CEM," thereby "eliminat[ing] capacity bottlenecks [and] improving the scalability and efficiency of the system." Defs.' Ex. D ('065 patent) at 7:9-12; Defs.' Ex. C ('510 patent) at 7:9-12; Defs.'

Ex. B ('984 patent) at 6:47-50. The system thus functions efficiently because aggregation, filtering, and enhancement are performed by the gatherers rather than by the CEM. This design gives the system its "distributed architecture," Defs.' Ex. D ('065 patent) at 15:66; Defs.' Ex. C ('510 patent) at 15:66; Defs.' Ex. B ('984 patent) at 15:26, because the processing is not consolidated in a "hub," the CEM or the central database, but is instead distributed across "spokes," the several gatherers in the network.

The distributed architecture and associated efficiency gains are inherent properties of the patented system itself and are not limited to some embodiments of the system. The specifications of the '065, '510, and '984 patents carefully differentiate between "the system" they describe and "some embodiments" of that system. See, e.g., Defs.' Ex. D ('065 patent) at 15:60-64 ("A network accounting and billing system and method has been described. In some embodiments, the system can access any network related information sources such as traffic statistics provided by routers and switching hubs as well as application server access logs." (emphases added)); accord Defs.' Ex. C ('510 patent) at 15:60-64; Defs.' Ex. B ('984 patent) at 5:20-24. The improved efficiency is expressly described as a property of the system. See Defs.' Ex. D ('065 patent) at 15:66-16:2 ("Because of the distributed architecture,

filtering and enhancements, the system efficiently and accurately collects the network usage information for storage in a form that is useful for billing and accounting."); accord Defs.' Ex. C ('510 patent) at 15:66-16:2; Defs.' Ex. B ('984 patent) at 15:26-29. Notably, the provided examples of "additional embodiments" retain the distributed architecture described in the primary system description. See, e.g., Defs.' Ex. D ('065 patent) at 15:34-36 ("In other embodiments, the general ideas described herein can be applied to other distributed data enhancement problems."); Defs.' Ex. C ('510 patent) at 15:34-36; Defs.' Ex. B ('984 patent) at 14:61-63. Particularly because it is the feature that distinguishes the patented system from preexisting technology, the distributed processing of network records is a key component of the '065, '510, and '984 patents.

b. Construction of "enhance" and "enhancement" ('065 patent)

The construction of "enhance" in the asserted independent claims of the '065 patent is problematic. The parties agree that the term has no ordinary and customary technical meaning. Using the term's ordinary English meaning, however, renders the asserted claims extremely broad and amorphous, and untethers them from the invention described in the specification. If the claim language is to have any particularized meaning, therefore,

it must be found in the specification, which describes the processes of "data enhancement" and "field enhancement" in great detail. Recognizing that defining a term through reference to itself is not ideal, the Court nonetheless concludes that the best construction of the term "enhance" in the asserted independent claims of the '065 patent is "to apply a number of field enhancements in a distributed fashion," and that a field enhancement is "the application of zero or more functions to a piece of network usage information."

The starting point for claim construction is the specific language of the claim to be construed. See Ecolab, 285 F.3d at 1374. Each of the three asserted independent claims of the '065 patent uses the term "enhance" or "enhancement."[11] Claim 7 is illustrative and provides as follows:

> 7. A method of processing network accounting information comprising:
>
> receiving from a first source a first network accounting record;
>
> correlating the first network accounting record with accounting information available from a second source; and

[11] Claim 7 of the '797 patent also uses the term "enhancement procedure." See Defs.' Ex. A ('797 patent) at 17:4-5. That term is used in only one of the three asserted independent '797 patent claims, however, whereas all three of the asserted independent '065 patent claims use the term "enhance" or a variation thereof. Because the term "enhance" is a primary focus of the asserted '065 patent claims but not of the asserted '797 patent claims, the construction of the term centers on the '065 patent.

> using the accounting information with which the first network accounting record is correlated to **enhance** the first network accounting record.

Defs.' Ex. D ('065 patent) at 16:37-46 (emphasis added).[12] Openet argues that the term "enhance" is indefinite and does not have an ordinary and customary meaning to one skilled in the art. Defs.' Mot. for Summ. J. at 15. Amdocs responds that the term is "clear in everyday English" and in this context means "[t]o add information to or modify information in a record." Amdocs' Opp'n to Openet's Proposed Claim Constructions and Mot. for Summ. J. of Non-Infringement and Invalidity ("Pl.'s Opp'n") at 11.

In "everyday English," to "enhance" means "[t]o increase or make greater, as in value, beauty, or reputation: augment." Webster's II: New Riverside University Dictionary (1984) 433; accord The American Heritage Collection Dictionary (3d ed. 2000) 456. If this definition applied, claim 7 quoted above would claim a method for taking network accounting records from two sources, correlating them, and then augmenting the first record

[12] Claim 1 is much the same except it describes a computer program product embodied in a computer readable storage medium for processing network accounting information, and each step is not part of a method, but the computer code for performing that step. Defs.' Ex. D ('065 patent) at 16:4-14. Claim 13 is similar except it describes a system and instead of using "enhance" as a verb, it describes a part of the system as "an enhancement component that augments data in one of the records produced by one of the plurality of data collectors with data from a different one of the records produced by another of the plurality of data collectors." Id. at 17:3-6.

with information from the second, thereby "enhancing" it. Such a method is so broad that it encompasses almost any conceivable operation on network accounting records.

When the "ordinary meaning of [a] non-technical term" is "sufficiently broad and amorphous," reference to the written description can define the scope of the claim language. See Bell Atl., 262 F.3d at 1269-70. Accordingly, the next step is to examine the specification. Openet argues that if "enhance" is not indefinite, its construction should be limited to the "field enhancement procedures described in the '797 patent, where the user selects specific functions to be applied to specific fields of a record." Defs.' Mot. for Summ. J. at 15. Openet's proposed construction misses the purpose of field enhancements by focusing on the Graphical User Interface (GUI) described in claim 7 of the '797 patent, which includes the limitation that:

> [T]he data is collected utilizing an enhancement procedure defined utilizing a graphic user interface by: listing a plurality of available functions to be applied in real-time prior to end-user reporting, allowing a user to choose at least one of a plurality of fields, and allowing the user to choose at least one of the listed functions to be applied to the chosen field in real-time prior to the end-user reporting.

Defs.' Ex. A ('797 patent) at 17:4-12. But no reference is made in the asserted '065 patent claims to a GUI, despite use of the term "enhance" in all of the asserted independent claims.

Moreover, the term "enhance" does not appear in two of the three asserted independent '797 patent claims. Looking primarily to the '797 claims to construe the term "enhance" in the '065 patent is therefore inappropriate.

In the asserted '065 patent claims, independent claims 1 and 7 both use "enhance" as a verb, while independent claim 13 describes an "enhancement component," essentially using the term as an adjective. Although none of the three independent claims use "enhancement" as a noun, most uses of the term "enhancement" in the specification are as a noun in two well-defined contexts: "data enhancement" and "field enhancement." See, e.g., Defs.' Ex. D ('065 patent) at 10:5 ("D. Data Enhancement"); id. at 11:2-49 (discussing the many forms of "field enhancements").

Importantly, "enhance" is used as a verb in the section of the specification that describes gatherers, in which the specification provides:

> Typically, data collected from a single source does not contain all the information needed for billing and accounting, such as user name and organization. In such cases, the data is enhanced.

Defs.' Ex. D ('065 patent) at 7:51-54; accord Defs.' Ex. C ('510 patent) at 7:51-54; Defs.' Ex. B ('984 patent) at 7:24-27; Defs.' Ex. A ('797 patent) at 9:41-44.[13] The specification's use

[13] "Enhance" is also used as a verb in the section describing the "Central Database." Two of those usages clearly intend the term's ordinary meaning, as they discuss "enhancing the

of the verb "enhance" to describe an action applied to "data" strongly supports a claim construction that construes "enhance" to mean "data enhancement," not "field enhancement."

As the '065 patent makes clear, data enhancement is a procedure applied to records, whereas field enhancement is a procedure applied to fields within those records. See Defs.' Ex. D ('065 patent) at 11:1-14. Similarly, in the text of the disputed claims, the verb "enhance" is applied to network accounting records, not to fields within them. See, e.g., Defs.' Ex. D ('065 patent), cl. 1, at 16:12-14 ("[U]sing the accounting information with which the first network accounting record is correlated to enhance the first network accounting record."). Accordingly, the Court concludes that the terms "enhance" and "enhancement" as used in the asserted independent

---

efficiency of the data repository." Defs.' Ex. D ('065 patent) at 9:26-28 ("[D]uring the merge process the CEM identifies and discards duplications, enhancing the efficiency of the data repository."); id. at 9:33-34 ("The database tables that contain the record flows can be indexed, enhancing the efficiency of the data repository."). The remaining use of "enhance" as a verb is:

> Generally, data records are passed through the merger program, in the CEM, into the central database. However, the data records are also cached so that if matching records appear at some point, the already stored records can be replaced or enhanced with the new records.

Defs.' Ex. D ('065 patent) at 9:28-32. In this context, it is apparent that "enhance" is being used imprecisely as short-hand for the "merging" process, and is therefore not relevant to the construction of "enhance" in the '065 claims.

'065 patent claims refer to "data enhancement" as defined in the specification.

The specification provides that "[d]ata enhancement comprises a number of field enhancements." Id. at 11:1-2. This definition is unsurprising because data enhancement operates on records, which are essentially sets of fields. See id. at 11:11-14 ("The data record starts with fields obtained from an asynchronous ISM. The fields in the DR are then enhanced using the field enhancements. The enhanced fields result in the DR."). The specification goes on to define "field enhancement" both explicitly and through examples, giving the following description:

> A field enhancement specifies how the data obtained from the trigger of the enhancement procedure is processed before it is placed in a single field in the central database. The data can be placed in the field directly, or new information may be added to the record by applying a Synchronous ISM function. . . . Field enhancements may involve one or multiple steps. There is no limit to the number of steps in a Field Enhancement.

Id. at 11:2-11; see also id. at 11:31-12:6 (providing examples).

Amdocs cites two sections of the '065 patent specification[14] and argues that they provide two examples of "enhancement other than field enhancement." Pl.'s Opp'n at 11. Amdocs is correct

[14] Amdocs also cites two sections of the '797 patent specification. These sections of the '797 patent are identical to the cited sections of the '065 patent. Compare Defs.' Ex. D ('065 patent) at 11:50-67, 12:1-6; with Defs.' Ex. A ('797 patent) at 13:24-41, 13:42-47.

insofar as these citations are expressly defined to be examples of "data enhancement," not field enhancement. Properly understood, however, they establish that data enhancement is the application of a number of field enhancements.

The first section, from the '065 patent, provides:

> The following illustrates an example [sic] data enhancement. Suppose the data obtained from a proxy server contains the source IP address of a given session, such as 199.203.132.2, but not the complete domain address of the host computer (its Fully Qualified Domain Name), such as www.xacct.com. The name of the host can be obtained by another network device -- the Domain Name System (DNS) server. The DNS-server contains information that matches IP addresses of host computers to their Fully Qualified Domain Names (FQDNs). Through an enhancement procedure the information collected from the proxy server can be supplemented by the information from the DNS. Therefore, the name of the host is added to the data (the data record) collected from the proxy server. The process of adding new data to the data record from different network devices can be repeated several times until all required data is collected and the data record is placed in the central database.

Defs.' Ex. D ('065 patent) at 11:50-67. This example illustrates the application of a data enhancement to a network record obtained from a proxy server. The illustration assumes that the proxy server logs "contain[] the source IP address of a given session, such as 199.203.132.2, but not the complete domain address of the host computer . . ., such as www.xacct.com." Id. at 11:51-55. Presumably, the complete domain address is a piece of "required data" as defined by the NSP. See id. at 11:62-66 (observing that the host name can be

added to the data record and the process can be repeated until "all required data is collected"). The illustration further explains that another network device, the Domain Name Server (DNS), contains the mapping between IP addresses and domain names.[15] Id. at 11:55-58. After observing that an enhancement procedure allows the system to retrieve the host name from the DNS, the illustration concludes by explaining that the new datum, the host name, can thereafter be added to the original data record collected from the proxy server; this process can be repeated as often as necessary for as many fields as required by the NSP. See id. at 11:59-67. Thus, despite Amdocs' contention to the contrary, this illustration demonstrates the application of a field enhancement, as defined by the specification, as one portion of the application of a data enhancement.

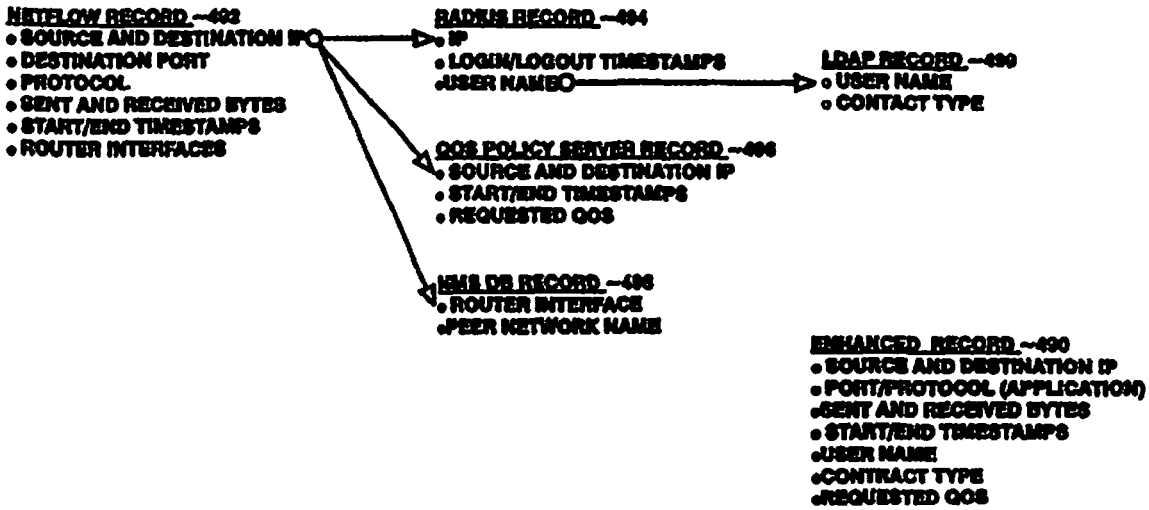
The second section describes figure 4B of the patent, and is another illustration of a data enhancement:

> FIG. 4B illustrates another example [sic] data enhancement where an enhanced record **490** is created from an initial netflow record **492**. Fields in the enhanced record **490** are enhanced from the radius record **494**, the QoS policy server record **496**, the NMS DB record **498**, and the LDAP record **499**.

Defs.' Ex. D ('065 patent) at 12:1-6.

---

[15] Recall that the ISM attached to the DNS is a Synchronous ISM, see id. at 6:20-21, and that the specification's description of "field enhancement," quoted above, explicitly contemplated adding new information to a data record by "applying a Synchronous ISM function," id. at 11:6-7.



'065 patent fig. 4B. In this figure, the arrows show correlations between network records that have been collected from various network devices. This example describes the process for using these correlations to create an "enhanced record" from "an initial netflow record," and like the first example cited by Amdocs it demonstrates that a data enhancement is the application of a number of field enhancements. Id. at 12:2-3. Specifically, it shows that the Source and Destination IP field from the initial netflow network record (492)[16] can be correlated to the IP fields in network records collected by gatherers attached to other network devices, specifically RADIUS (494), QoS policy server (496), and NMS DB (498) devices. This correlation enables the system to create an "enhanced record"

[16] The numbers in parentheses refer to the associated diagram in figure 4B.

(490) that includes not only the Source and Destination IP field, as well as other fields from the initial netflow record, but also the user name and requested QoS fields. See id. at 12:3-6 & fig. 4B. The direct placement of the Source and Destination IP field into the enhanced record is a "One-step Field Enhancement" and the placements of the user name and requested QoS into the enhanced record are each a "Two-step Field Enhancement." Cf. id. at 11:35-44.

Additionally, once the corresponding RADIUS record has been located, the user name field from the RADIUS record can be correlated to the user name field in the record collected by the gatherer attached to the LDAP server, allowing the contract type field to be added to the enhanced record. See id. at 12:3-6 & Fig. 4B. This process is an example of a "Three-step Field Enhancement." Cf. id. at 11:45-49. Thus, Amdocs' argument that its broad construction is mandated by these illustrations is without merit, as the cited sections of the specification are examples of the application of a number of field enhancements to accomplish a data enhancement.

Finally and most importantly, the specification emphasizes that enhancement occurs close to the source of the network usage information. See, e.g., Defs.' Ex. D ('065 patent) at 4:33-35 ("Importantly, the distributed data gathering, filtering and enhancements performed in the system enables load distribution."

(emphases added)); id. at 15:26-29 ("Because of the distributed architecture, filtering and enhancements, the system efficiently and accurately collects the network usage information for storage in a form that is useful for billing and accounting." (emphases added)). In fact, as discussed above, the specification explicitly distinguishes between the patented invention and earlier systems on the basis of its distributed architecture, and such distinctions are properly considered in claim construction. See, e.g., Hearing Components, Inc. v. Shure, Inc., 600 F.3d 1357, 1367 (Fed. Cir. 2010) (observing that the specification disparages certain prior art and reasoning about proper claim construction based on that disparagement). Accordingly, a proper construction of the term "enhance" must include the distributed nature of the process.

For all these reasons, the Court concludes that the proper construction of the term "enhance" as used in the asserted '065 independent claims is: "to apply a number of field enhancements in a distributed fashion." The term "field enhancement" should be construed as defined by the '065 patent specification, specifically as "the application of zero or more functions to a piece of network usage information."

c. No evidence of '065 patent infringement

Openet argues that there is no evidence that Openet has provided infringing software to any customer in the United

States. According to Openet, the allegedly infringing product, the Correlation and Transaction Engine (CTE) in the FusionWorks Framework, does not perform any functions without the addition of code written in the DataStream Decoder (DSD) language. See Defs.' Mot. for Summ. J. at 27. Openet argues that there is no evidence of such DSD code being provided to customers in the United States. In response, Amdocs argues that it can produce evidence to show that the underlying FusionWorks framework, and in particular the CTE, is capable of infringing the '065 patent, which is sufficient as a matter of law. See Pl.'s Opp'n at 27. It also claims to have "demonstrated actual infringing implementations at various of [Openet's] customers," id.; however, the evidence relied upon by Amdocs does not support its arguments. Specifically, Amdocs relies on four pieces of evidence:

- A proposal made by Openet for Videotron Itée, a Canadian company. See Pl.'s Opp'n at 25, Ex. 26.
- A proposal made by Openet for PTC Era, a Polish company. See Pl.'s Opp'n at 26, Ex. 33.
- Citations to files containing source code. See Pl.'s Opp'n at 25 n.8, 26, Exs. 29, 47-62.
- A PowerPoint presentation describing the CTE. Pl.'s Opp'n at 25, Ex. 27.

This evidence does not create a genuine issue of material fact as to infringement.

Direct infringement must occur within the United States to be actionable. See Zoltek Corp. v. United States, 672 F.3d 1309, 1332 (Fed. Cir. 2012) ("[I]nfringement can only be premised on activity within the United States . . . ."); NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1313 (Fed. Cir. 2005); see also 35 U.S.C. § 271(a). Videotron Itée and PTC Era, however, are respectively Canadian and Polish companies, and nothing in the record suggests that any products Openet may have sold to them would have operated within the United States. Cf. Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 527 ("[I]t is not an infringement to make or use a patented product outside of the United States. Thus, in order to secure the injunction it seeks, [patentee] must show a § 271(a) direct infringement by [accused infringer] in the United States, that is, that [accused infringer] 'makes,' 'uses,' or 'sells' the patented product within the bounds of this country." (citations omitted)). Accordingly, neither of the first two pieces of evidence upon which Amdocs relies constitute evidence of actionable infringement because they involve proposals made to foreign entities outside the United States.

The third category of evidence Amdocs provides, citations to source code without corresponding expert testimony explaining how that source code operates and relates to each claim of the patents at issue, does not give rise to a disputed issue of

material fact because all of the testimonial evidence in the record shows that the cited source code is inoperable without DSD scripts. See Hogan Decl. [Dkt. No. 97] ¶ 8; see also Defs.' Reply Brief in Support of Openet's Proposed Claim Constructions and Mot. for Summ. J. of Non-Infringement and Invalidity ("Defs.' Reply), Ex. 1 (Zegura Dep.) at 25:23-26:11. Amdocs provides a lengthy citation to DSD scripts that it claims infringe the '065 patent, but fails to provide expert testimony explaining how that code infringes each claim of the patent. See Pl.'s Opp'n at 27 & n.10. Openet has countered Amdocs' bare allegation about the DSD scripts with sworn expert testimony that those scripts do not in fact correlate or enhance records. See Wang Decl. [Dkt. No. 163] ¶¶ 4-14.

Amdocs' only remaining basis for claiming infringement of the '065 patent is an Openet PowerPoint presentation of unclear origin. Part of that presentation states that "Openet is designed to collect from multiple sources, and generate an output record . . . correlating with appropriate information from a database, to give a fully enriched IPDR output . . . ." Pl.'s Ex. 27, at OPENET00001590. Amdocs argues that this "enrichment" is equivalent to "enhancement" as used in the '065 patent; this argument fails, however, because the "enrichment" described in the presentation does not constitute "enhancement" as properly construed. Specifically, "enrichment" does not

occur close to the collection source and therefore is not "distributed," whereas the Court's construction of "enhancement" requires that it be accomplished "in a distributed fashion." The presentation shows that Openet's products do not have the requisite "hub and spoke" architecture; instead, all events are passed to the Correlation and Transaction Engine (CTE), a separate processing system. When a "trigger event specifying the start of a session is received, the CTE stores the collected data and waits for further trigger events before aggregating and correlating the data." Id. Later events related to the initial trigger event are similarly passed to the CTE and stored in the database. Id. ("All of the information collected that is relevant to a session or activity can be stored for correlation."). Based on these stored events from multiple sources, Openet can "generate an output record" that "give[s] a fully enriched . . . output." Id. This generation, however, does not occur "close to the source" of the networking account information, but in the CTE, a separate phase of processing.

Moreover, because in the Openet framework all of the events are being stored in a data repository, the generation of the "enriched record" must be completed by performing operations on that data repository. Such an architecture is explicitly disparaged in the '065 specification. See Defs.' Ex. D ('065 patent) at 4:39-42; id. at 7:43-46 (distinguishing the patented

invention from the "previous system where the information is stored in a database and then database operations are performed in order to create bills or reports."). Accordingly, the PowerPoint presentation does not create a genuine issue of material fact as to whether the CTE infringes the '065 patent.

In fact, the other evidence cited by Amdocs further supports this understanding of the Openet architecture. The proposals to the Canadian and Polish Companies similarly document that all network records are transmitted to the CTE, which stores them in a data repository, and that only after all events relating to a particular session have been stored are they correlated and combined into a single "enriched" record for the billing system. See Pl.'s Ex. 26, at OPENET01175368 ("[I]t can be seen that regardless of how the events come in from the network whether in real-time or via batch, the various related pieces are temporarily stored until all pieces of the puzzle are available for aggregating and correlating them together in real-time and producing the resultant consolidated output record."); Pl.'s Ex. 33, at OPENET00599273 ("All of the information collected relevant to a content/usage session can be stored either in Oracle or in FusionWorks high-speed internal persistent store for correlation."). Moreover, the DSD scripts that Amdocs cites would not be performed in a "distributed architecture" even if they did execute the functions that Amdocs

attributes to them. The DSD scripts allegedly "handle[] Yahoo instant messenger events," create a database table, write a set of WAP records to that table, and correlate and join events from two other database tables. See Pl.'s Opp'n at 27 n.10. Correlating rows from two database tables does not infringe the '065 patent; in fact, performing such database operations to generate records for accounting and billing was explicitly disparaged by the '065 patent's specification.

Openet is therefore entitled to summary judgment of non-infringement of the '065 patent.

d. Construction of "Completing" ('510 and '984 patents)

The term "completing" appears in each of the independent claims at issue in the '984 and '510 patents, and is used in the context of a set of limitations that combine to comprehensively describe the system explained in section II.B.2.a. Specifically, "completing" is used as follows:

> (c) [C]ompleting a plurality of data records from the filtered and aggregated network communications usage information, the plurality of data records corresponding to network usage by a plurality of users . . . .

Defs.' Ex. B ('984 patent), cl. 1, at 15:51-54 (describing a method); see also id., cl. 13, at 16:46-50 (describing a computer program product); Defs.' Ex. C ('510 patent), cl. 16, at 17:13-17 (describing a computer program product).

Openet argues that the term "completing" is indefinite, and offers no alternative construction. Defs.' Mot. for Summ. J. at 15. In support of its argument, Openet contends that "the notion of completing a record is purely subjective, as more information can always be added to a record." Id. Amdocs counters that "completing" should be construed to mean "enhancing to generate a complete record." Pl.'s Opp'n at 12.

Openet's argument is without merit. Although in the abstract more information can always be added to a record, in the context of the patent specification, "completing" has a readily available meaning. The specifications of both the '510 and '984 patents use "complete" as a verb applied to records twice[17] and these uses imply that the purpose of applying data enhancements is to "complete" the DRs. See Defs.' Ex. B ('984 patent) at 10:3-4 ("The gatherers perform data enhancement to complete the data from the ISMs."); id. at 10:14-16 ("[T]he gatherers provide data enhancement features to complete

[17] The '984 patent also describes the CEM as having been "adapted for completing a plurality of data records from the filtered and aggregated network communications usage information." Defs.' Ex. B ('984 patent) at abstract; accord id. at 2:29-31. This description is not present in the '510 patent, a later continuation of the '984 patent. Moreover, the description of the CEM is limited to "merging" records and does not describe "completing" them. See id. at 7:51-8:39. The CEM does configure what information is required for a record to be "complete." See id. at 7:67-8:2. In the context of the overall system, the CEM's "adaption" should be understood as referring to this configuration function.

information received from the ISMs."); accord Defs.' Ex. C ('510 patent) at 10:32-34, 10:45-11:1. The system allows the NSP to define what information about its customers' network usage will be stored in the data repository by defining the fields in which that information will be stored in the data repository. See id. at 8:47-50 ("[I]n configuring the system, the NSP defines what data will be stored in each field in the central database and how that data is collected from the ISMs."); id. at 8:54-57 ("The system has a set of pre-defined fields that are configured by the CEM on installation. The NSP can modify the central database structure by adding, deleting, or modifying fields."). Because data enhancement "comprises a number of field enhancements," each of which "specifies how the data obtained from the trigger of the enhancement procedure is processed before it is placed in a single field in the central database," id. at 10:19-23, a data enhancement "completes" a record when it applies all of the field enhancements necessary to fully populate each of the fields defined in the central repository and required by the NSP. This understanding is reinforced by the '984 and '510 patents, which unlike the '065 patent explicitly limit the system to one in which the completed DRs are stored in a database. See id. at 15:55, 16:51-52; Defs.' Ex. C ('510 patent) at 17:17-18.

For the reasons given above, the Court finds that to "complete" a record means to "enhance a record until all required fields have been populated." Openet argues that "defining completion in terms of enhancement violates the doctrine of claim differentiation, as enhancement appears in the claims of the related '065 and '797 patents." Defs.' Mot. for Summ. J. at 16. The doctrine of claim differentiation provides no obstacle to defining "complete" in terms of enhancement because there is a clear distinction between the two terms; enhancing a record will not necessarily complete a record. As used in the patents, to "enhance" a record means to "apply a number of field enhancements in a distributed fashion." Only when this process is repeated as necessary until all of the required fields have been populated has the record been "completed."

e. No evidence of infringement of the '510 and '984 patents

The parties vigorously contest whether Openet infringes the '510 and '984 patents by collecting network communications usage information in real-time from a plurality of network devices at a plurality of layers or by generating reports on the collection of network usage information from the network devices. See Defs.' Mot. for Summ. J. at 25-27; Pl.'s Opp'n at 22-24. These arguments need not be addressed, however, because as used in the

'984 and '510 patents, a record is "completed" when it has been "enhanced until all required fields have been populated." Completion thus requires enhancement; that is, if the accused products do not "enhance" network records, they cannot "complete" network records.

In section II.B.2.c., the Court concluded that Amdocs has presented insufficient evidence that the Openet products "enhance" network records. Accordingly, those products also cannot "complete" records as required by each of the independent claims at issue in the '984 and '510 patents. See Defs.' Ex. B ('984 patent), cl. 1, at 15:51-54; id., cl. 13, at 16:46-50; Defs.' Ex. C ('510 patent), cl. 16, at 17:13-16. Openet is therefore also entitled to summary judgment of non-infringement of the '984 and '510 patents.

3. The '797 patent

Unlike the three other patents-in-suit, the '797 patent does not claim the system and its distributed architecture. The '797 patent instead claims a means of structuring the generated DRs that "permits improved versatility and performance." Defs.' Ex. A ('797 patent) at 2:6-8. Specifically, the invention is a method or a computer program for creating "[a] single consolidated record that rolls up information related to services, e-business transactions, content accesses, and information inquiries, etc." Id. at 4:60-63; see also id. fig.

6. This "unique manner" of organizing usage data for a plurality of services into a single record increases the efficiency of the overall system claimed by the other three patents-in-suit, by "allow[ing] usage data to be processed close to a collection point." Id. at 4:66-5:2.

a. Construction of a "single record represent[ing] each of the plurality of services"

The term "single record" is an important focus of all of the asserted independent claims in the '797 patent. Claim 1 is representative of the other independent claims and provides:

> A method for generating a single record reflecting multiple services for accounting purposes, comprising:
> (a) identifying a plurality of services carried out over a network;
> (b) collecting data describing the plurality of services; and
> (c) generating a single record including the collected data, wherein the single record represents each of the plurality of services.

Defs.' Ex. A ('797 patent), cl. 1, at 16:30-37; see also id., cl. 7, at 16:52-62 (computer program product); id., cl. 19, at 18:26-45.

Amdocs proposes that "single record" be interpreted simply as "one record." Pl.'s Opp'n at 4. Openet counters that the proper definition based on the specification is "[a] rolled up record reflecting all collected data fields," pointing out that the specification describes a particular single record to be generated by the system. Defs.' Mot. for Summ. J. at 9.

The '797 patent explains that many services can be offered over a network such as the Internet. Defs.' Ex. A ('797 patent) at 1:29-30. These services can include web browsing, e-mail, or voice over Internet Protocol. Id. at 1:31-32. Records of customers' usage of these services can be collected from network devices or aggregators, then grouped by service. Id. at 4:3-5, 4:14-17. That is, each group of records represents all usage of a particular service: one group contains all collected records of all customers' web browsing, another contains the records for e-mail usage, and a third contains the records for voice over Internet Protocol usage. The records in these groups are then correlated with information mapping particular IP addresses to particular customers. Based on the correlation, new records are generated that include customer information and the customer's usage data for one particular service. Id. at 4:25-32. For example, one record could include a customer's username and that customer's e-mail usage data while another record could contain that same customer's username with that customer's voice over Internet Protocol usage data. These records can then be "rolled up" into a single record that includes the customer's identifying information and the data representing the customer's use of all applicable services; in this example a single record would contain the customer's username, the customer's usage data for e-mail, and the customer's usage data for voice over

Internet Protocol. Id. at 4:33-35. The benefit of this "rolled up record" is that it "allows usage data to be processed close to a collection point by organizing it in a unique manner, namely a single record"; that is, it facilitates the important distributed architecture of the system. Id. at 4:65-5:2.

Importing all of this context into the term "single record," however, is inappropriate; the term standing alone is better construed simply as "one record." The proper use of the description in the specification is for interpreting the rest of the limitation: a "single record represent[ing] each of the plurality of services." Id. at 16:35-37.[18] Accordingly, the Court finds that a "single record represent[ing] each of the plurality of services" should be construed to mean "one record that includes customer usage data for each of the plurality of services used by the customer on the network."

Openet's construction, "a rolled up record reflecting all collected data fields," is inappropriate because nothing in the specification requires that the record reflect all collected data fields. In particular, if the records are collected directly from the network devices, see Defs.' Ex. A ('797 patent) at 4:3-5, they may include superfluous data. Although the specification does not expressly state that unnecessary data

[18] Openet apparently concedes this point by using the heading "Single record represent[ing] each of the plurality of services." Defs.' Mot. for Summ. J. at 21.

will be filtered when the records are "rolled up," neither does it support the argument that unnecessary data cannot be filtered. The specification, like the claim language, is focused on explaining that the generated single record will "include data of all the services associated with each of the particular companies [customers]." Id. at 4:33-35. The proper construction is therefore likewise focused on the inclusion of the applicable services rather than on the fields of data that were collected.

b. No evidence of '797 patent infringement

Openet argues that FusionWorks does not generate a single record representing each of the plurality of services. Amdocs responds with the following evidence:

- Two quotes from the deposition testimony of Dr. Michael Shamos, Openet's technical expert. Pl.'s Opp'n at 22 (quoting Pl.'s Ex. 13 (Shamos Dep. Tr.) at 264:3-5, 273:7-15).
- A diagram that purportedly "correlates data reflecting multiple services - i.e., Instant Messaging, and Multi-Media Messaging - into a single record for downstream billing purposes." Id. (citing Pl.'s Ex. 34, at OPENET00179758).
- A proposal to PTC Era stating that "the accused products can correlate 'multiple and seemingly disparate usage data streams into a singular granular usage record . . . for transmission to downstream applications." Id. at 21 (quoting Pl.'s Ex. 33, at OPENET00599273).

Specifically, Amdocs contends that Dr. Michael Shamos "admitted that Openet products contain code for generating a single record

for multiple services." Id. at 22. There are two snippets of relevant deposition testimony. The first is:

> Q: The Openet system can generate a single record for voice and data, right, for the use of voice and data, correct?
> A: I don't know that.
> Q: You know that it can generate a single record representing multiple services, right?
> A: Yes, mm-hmm.
> Q: And so you don't know whether those multiple services can include voice?
> A: Wait. The single record has to contain information about each of the services. My understanding is that it doesn't break them up that way. It just gives a bit count.
> Q: It gives a bit count that is a -- that reflects multiple services. Fair?
> A: A single bit count that reflects. It's the total of them, yes.
> Q: It's the total of multiple services, correct?
> A: Yes.

Pl.'s Ex. 13 (Shamos Dep.) at 263:21-264:11. The second snippet sounds the same themes:

> Q: Do the Openet accused products generate records that contain information for multiple services?
> A: Here's my understanding: That they generate records that contain total bit counts for more than one service.
> Q: All right.
> A: Let's say a total bit count for more than one service. Not total bit counts. One count.

Id. at 273:7-15.

The particular quoted passage in which Dr. Shamos appears to agree that Openet's products generate a single record representing multiple services, id. at 264:3-5, is taken out of context. His testimony is consistent: Openet's products

aggregate the volume of data that is used by multiple services and create a single record including that total volume, or "bit count." As an example, a mobile phone user could use the data network for instant messaging (IM) and for multimedia messaging (MMS). Using each of those services generates distinct sets of data records documenting that usage. These records would also document the volume of data used for each service; for example, a customer's IM session used 10 megabytes and that same customer's MMS session used 100 megabytes. If Openet's products work as Dr. Shamos testified, in this example they would generate a single record documenting that the customer had used 110 megabytes of data; that single record would not, however, break down that total volume into 100 megabytes for MMS and 10 megabytes for IM.

Such a record is not the single record described in the '797 patent, which requires that a single record "represents each of the plurality of services." Defs.' Ex. A ('797 patent) at 16:35-37 (claim 1) (emphasis added); see also id. at 16:60-62 (claim 7); id. at 18:37-38 (claim 19). Instead, as Dr. Shamos clearly testified, the Openet record "represents the totality" of a customer's usage of a plurality of services. Pl.'s Ex. 13 (Shamos Dep.) at 266:11-12. Indeed, Openet's records are well-described in the prior art distinguished by the '797 patent. The '797 patent provides that one example of prior art is "a

generic single service data block [that] may be used to account for common information, i.e. an account identifier, start time, duration, service identifier, etc." Defs.' Ex. A ('797 patent) at 1:61-63. Another piece of information that could be included in such a generic data record is the volume of data used during that session. Aggregating two such records, which may happen to be from different services, and creating a single record of the sum of the data volume fields is not the invention claimed by the patent. The patent takes a different approach, which is to organize the data "in a unique manner." Id. at 5:1-2. Specifically, the data are organized such that each of the services is represented in the single record. See, e.g., id. fig. 6 (showing a table with columns labeled "AccountD," "StartTime," "Duration," "HTTP Bytes," "HTTP Duration, "MailBytes," and "MailBytes"); id. fig. 706 (showing a table with columns labeled "VOIP Packets," "VOIP Time," "SMTP Traffic," and "Corp Balance"). Accordingly, Dr. Shamos' testimony does not create a genuine dispute of material fact as to whether Openet's products infringe the '797 patent.

The diagram Amdocs claims creates a genuine issue of material fact as to infringement is from a document titled "Instant Messaging: Technical Specification" that Openet states was created as a "proposal Openet made to Cingular in 2003." Defs.' Reply at 14. Regardless of whether the document is a

mere proposal or a description of current functionality, nothing in the diagram or the included excerpt of the document establishes that Openet's products generate a single record representing each of a plurality of services. The text does state, and the diagram illustrates, that the data collected from four usage streams, including MMS Content Server and Instant Messaging, are entered into separate database tables. See Pl.'s Ex. 34, at OPENET00179758. The data within each of these tables are then correlated. Id. The correlation of these data, however, does not support a reasonable inference that they are thereafter combined into a single record representing each of the plurality of services. The explanation on the next page, though not a model of clarity, suggests instead that the purpose of the correlation is to create a record of the total data volume as explained in Dr. Shamos' testimony; it does not suggest that the system creates a record representing both IM and MMS usage. See id. at OPENET00179759 ("All data from this stream is aggregated on IP address, charging ID, IMSI and timestamp to form a single record, which contains the total data volume used to deliver the MMS."). This exhibit thus also fails to demonstrate a genuine issue of material fact.

Finally, Amdocs points to a proposal Openet made to a Polish company. Because as discussed above infringement must occur within the United States to be actionable, this proposal

cannot create a genuine issue of material fact for trial. Additionally, even if the document described systems operating within the United States, it would not create a genuine issue of material fact as to infringement of the '797 patent. The quoted text provides that the accused product "is ideal for correlating the multiple and seemingly disparate usage streams into a singular granular usage record or IPDR for transmission to downstream applications . . . ." Pl.'s Ex. 33, at OPENET00599273. But in context, the "usage streams" do not come from different services, but from different network information sources. The sentence immediately preceding explains that "it is often required to correlate data from very different sources such as Radius servers, Media/Content Gateways, IP Routers, firewalls, AAA servers, Content servers and other transport network elements." Id. These listed "sources" are the network devices that form the network and provide connectivity, not "services" used by customers such as instant messaging, web browsing, e-mail, or voice over Internet Protocol. Nothing in the proposal suggests that the output of the system includes usage data for each service used by a customer, as required by the '797 patent.

Accordingly, Amdocs has not presented even a scintilla of evidence that creates a genuine issue of material fact as to whether the accused products generate a "single record

represent[ing] each of the plurality of services." Because this limitation is included in each of the asserted independent claims of the '797 patent, summary judgment of non-infringement is appropriate. Resolving the parties' dispute over whether Openet's Graphical User Interface infringe other claims in the '797 patent, see Defs.' Mot. for Summ. J. at 24; Pl.'s Opp'n at 18-21; Defs.' Reply at 12-13, is therefore unnecessary.

C. Inequitable Conduct

Openet has filed counterclaims alleging that all four patents are unenforceable due to Amdocs' purported inequitable conduct before the PTO.

An inequitable conduct defense requires the defendant to "establish both the materiality of the withheld reference and the applicant's intent to deceive the PTO." Aventis Pharma S.A. v. Hospira, Inc., 675 F.3d 1324, 1334 (Fed. Cir. 2012). On the day before opening summary judgment motions were due in this action, the Federal Circuit, sitting en banc, "tighten[ed] the standards for finding both intent and materiality," observing that the more lenient standards it had previously "embraced . . . to foster full disclosure to the PTO," had "inadvertently led to many unintended consequences, among them, increased adjudication cost and complexity, reduced likelihood of settlement, burdened courts, strained PTO resources, increased PTO backlog, and impaired patent quality."

Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1290, 1288 (Fed. Cir. 2011) (en banc).

Accordingly, for the materiality element, the court imposed a "but-for" standard except in cases of "affirmative egregious misconduct." Id. at 1291-92. "But-for" materiality is met only when "the PTO would not have allowed a claim had it been aware of the undisclosed prior art." Id. at 1291. As to specific intent, the Therasense court reiterated that "the accused infringer must prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it." Id. at 1290. The court also heightened the evidentiary showing needed to make that proof, stating that "when there are multiple reasonable inferences that may be drawn, intent to deceive cannot be found." Id. at 1290-91. Rather, intent to deceive must be "the single most reasonable inference to be drawn from the evidence," and the evidence "must be sufficient to require a finding of deceitful intent in the light of all the circumstances." Id. at 1290 (quoting Star Scientific Inc. v. R.J. Reynolds Tobacco Co., 537 F.3d 1357, 1366 (Fed. Cir. 2008); Kingsdown Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 873 (Fed. Cir. 1988)) (internal quotation marks omitted) (emphasis in original). Finally, the court rejected the "sliding scale" approach, "where a weak showing of intent may be found

sufficient based on a strong showing of materiality, and vice versa." Id. Instead, "a court must weigh the evidence of intent to deceive independent of its analysis of materiality." Id.

Openet Inc.'s first inequitable conduct counterclaim alleges that during the prosecution of the '065 patent, the patentees deliberately withheld U.S. Patent No. 5,784,443 ("the '443 patent") from the PTO with the intent to deceive the patent examiner. Id. ¶¶ 45, 48-50. The counterclaim further alleges that the '443 patent anticipated the '065 patent and was therefore material prior art, id. ¶ 47, and concludes that the '065 patent is unenforceable for inequitable conduct, id. ¶ 53. The second such counterclaim alleges that all four patents-in-suit are unenforceable due to inequitable conduct because the patentees, intending to deceive the PTO, withheld information about earlier, publicly available versions of the patented XaCCT system that anticipated or made obvious the patented claims. Id. ¶¶ 83-99.

Amdocs argues that "Openet lacks any evidence that could create a legitimate dispute of material fact as to the intent element of inequitable conduct." Pl.'s Mot. for Partial Summ. J. at 30. Openet responds that the intent inquiry is "fact-intensive" and claims to have "sufficient evidence to create a

triable issue of fact as to whether the patentee specifically intended to deceive the PTO." Defs.' Opp'n at 19.

Openet's argument is without merit. Although intent is an "inherently factual" inquiry, Digital Control, Inc. v. Charles Mach. Works, 437 F.3d 1309, 1317 (Fed. Cir. 2006), summary judgment is nonetheless appropriate when "the record taken as a whole could not lead a rational trier of fact to find for the nonmoving party." Matsushita, 475 U.S. at 587. Moreover, "the inquiry involved in a ruling on a motion for summary judgment . . . necessarily implicates the substantive evidentiary standard of proof that would apply at the trial on the merits." Liberty Lobby, 477 U.S. at 252. Especially considering the heightened Therasense requirements and the clear and convincing evidence standard of proof, Openet has not presented sufficient evidence to create a triable issue of fact as to specific intent to deceive the PTO, even drawing all inferences in its favor.

Beginning with the patentees' withholding of the '443 patent during the prosecution of the '065 patent, Openet has no evidence that the '443 patent was withheld with the specific intent to deceive the PTO. Openet argues that deceptive intent can be inferred because (1) the '443 patent is material prior art, (2) it was known to at least the prosecuting attorney, (3) the prosecuting attorney submitted other references cited by

the patent examiner in the same PTO office action as the '443 patent, and (4) the prosecuting attorney had no explanation for why he withheld the '443 patent. Defs.' Opp'n at 24-25. Even assuming the truth of each of these contentions, this argument fails because it precisely mirrors what Therasense indicated does not prove specific intent to deceive, namely "that the applicant knew of a reference, should have known of its materiality, and decided not to submit it to the PTO." 649 F.3d at 1290. Further, the prosecuting attorney owes no explanation about why the '443 patent was withheld because Openet has failed to prove even a threshold level of intent to deceive. See id. at 1291 ("Because the party alleging inequitable conduct bears the burden of proof, the patentee need not offer any good faith explanation unless the accused infringer first . . . prove[s] a threshold level of intent to deceive by clear and convincing evidence." (quoting Star, 537 F.3d at 1368) (omission and alteration in original)).

Turning to the withheld earlier versions of the XaCCT software, Openet similarly relies on an argument that those earlier versions were material and on the absence of an explanation from Amdocs about why they were withheld. Defs.' Opp'n at 21-23. Openet's only additional piece of evidence for this argument is the loss or destruction, sometime between 2007 and 2010, of the box containing documents describing those

previous versions. Id. at 24; id. Ex. M at 60:3-17. Although this loss or destruction might be consistent with bad faith, it is also reasonable to infer that the documents were simply lost through ordinary negligence. Because "multiple reasonable inferences [] may be drawn" from this evidence, "intent to deceive cannot be inferred." Therasense, 649 F.3d at 1290-91. Credibility determinations are not necessary because the evidence is barely relevant to patentees' specific intent to deceive the PTO. Openet's offering on intent to deceive is therefore insufficient to defeat Amdocs' motion for summary judgment of no inequitable conduct, as the evidence presented could only charitably be described as a "scintilla." See Liberty Lobby, 477 U.S. at 252.

Finally, the change in policy that Therasense effectuated would be eroded if the heightened burden of proof applied only at trial, as the court expressly sought to limit the extent to which inequitable conduct allegations are raised in the first instance. See 649 F.3d at 1289 ("Inequitable conduct has been overplayed, is appearing in nearly every patent suit, and is cluttering up the patent system. The habit of charging inequitable conduct in almost every major patent case has become an absolute plague." (quoting Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1454 (Fed. Cir. 1984); Burlington Indus., Inc. v. Dayco Corp., 849 F.2d 1418, 1422 (Fed. Cir.

1988)) (internal quotation marks omitted)). Summary judgment of no inequitable conduct in this case is therefore eminently appropriate.

III. CONCLUSION

For all these reasons, final judgment will now be entered in favor of Openet as to Amdocs' infringement claims, final judgment will be entered in favor of Amdocs as to Openet's inequitable conduct counterclaims, and Openet's invalidity counterclaims will be dismissed without prejudice by an appropriate Order to be issued with this Memorandum Opinion.

Entered this 22ND day of January, 2013.

Alexandria, Virginia

/s/
Leonie M. Brinkema
United States District Judge