IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

CYBERFONE SYSTEMS, LLC, Plaintiff, v. ZTE (USA), INC., Defendant.	)	Civ. No. 11-827-SLR
CYBERFONE SYSTEMS, LLC, Plaintiff, v. ALCATEL-LUCENT, USA, INC., et al., Defendants.	)	Civ. No. 11-830-SLR
CYBERFONE SYSTEMS, LLC, Plaintiff, v. VIZIO, INC., et al., Defendants.	)	Civ. No. 11-833-SLR
CYBERFONE SYSTEMS, LLC, Plaintiff, v. UNITED PARCEL SERVICE, et al., Defendants.	)	Civ. No. 11-834-SLR

Richard D. Kirk, Esquire, Stephen B. Brauerman, Esquire and Vanessa Ribeiro Tiradentes, Esquire of Bayard, P.A., Wilmington, Delaware. Counsel for Plaintiffs. Of Counsel: Daniel Hipskind, Esquire, Eric J. Carsten, Esquire, Fredricka Ung, Esquire, Jacob R. Buczko, Esquire and Marc A. Fenster, Esquire of Russ, August & Kabat.

Steven J. Balick, Esquire, John G. Day, Esquire, Lauren E. Maguire, Esquire and Andrew C. Mayo, Esquire of Ashby & Geddes, Wilmington, Delaware. Counsel for Defendant ZTE (USA) Inc. Of Counsel: Barry W. Graham, Esquire and Yanbin Xu, Esquire of Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.

John W. Shaw, Esquire and Andrew E. Russell, Esquire of Shaw Keller LLP, Wilmington, Delaware. Counsel for Defendant Alcatel-Lucent USA, Inc.

Frederick L. Cottrell, III, Esquire and Katharine Crawford Lester, Esquire of Richards, Layton & Finger, PA, Wilmington, Delaware. Counsel for Defendant Toshiba America Information Systems Inc. Of Counsel: Douglas F. Stewart, Esquire of Bracewell & Giuliani LLP.

Adam Wyatt Poff, Esquire and Pilar G. Kraman, Esquire of Young Conaway Stargatt & Taylor LLP, Wilmington, Delaware. Counsel for Defendant VIZIO, Inc. Of Counsel: Adrian M. Pruetz, Esquire, Avraham Schwartz, Esquire and Charles C. Koole, Esquire of Glaser Weil Fink Jacobs Howard Avchen & Shapiro LLP. Steven R. Hansen, Esquire and Edward S. Quon, Esquire of Lee Tran & Liang APLC.

Gregory B. Williams, Esquire of Fox Rothschild LLP of Wilmington, Delaware. Counsel for Defendant Mitsubishi Electric Visual Solutions America, Inc. Of Counsel: Laura L. Chapman, Esquire of Sheppard, Mullin, Richter & Hampton LLP and Victor de Gyarfas, Esquire of Foley & Lardner LLP.

Jack B. Blumenfeld, Esquire, Karen Jacobs Louden, Esquire, and Stephen Kraftschik, Esquire of Morris, Nichols, Arsht & Tunnell LLP, Wilmington, Delaware. Counsel for Defendants Ingenico Corp., Ingenico Inc. and United Parcel Service, Inc. Of Counsel: John Fry, Esquire of Morris, Manning & Martin, LLP.

MEMORANDUM OPINION

Dated: February 4, 2014
Wilmington, Delaware

ROBINSON, District Judge

I. INTRODUCTION

Plaintiff CyberFone Systems, LLC ("plaintiff"), previously named LVL Patent Group, LLC, is the assignee of U.S. Patent Nos. 6,044,382 ("the '382 patent"), 5,805,676 ("the '676 patent"), 5,987,103 ("the '103 patent"), 8,019,060 ("the '060 patent") and 7,334,024 ("the '024 patent"), relating to telecommunications technologies. Plaintiff initially asserted infringement of combinations of these patents against a total of 175 defendants and 970 accused products across a span of 21 related cases. The court has since granted defendants' motion for summary judgment of invalidity as to the '060 patent. Presently before the court is the issue of claim construction of three disputed limitations of the remaining patents ("the patents-in-suit").

II. STANDARD OF REVIEW

Claim construction is a matter of law. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1330 (Fed. Cir. 2005) (en banc). Claim construction focuses on intrinsic evidence – the claims, specification and prosecution history – because intrinsic evidence is "the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Claims must be interpreted from the perspective of one of ordinary skill in the relevant art at the time of the invention. *Phillips*, 415 F.3d at 1313.

Claim construction starts with the claims, *id.* at 1312, and remains centered on the words of the claims throughout. *Interactive Gift Express, Inc. v. Compuserve, Inc.*,

256 F.3d 1323, 1331 (Fed. Cir. 2001). In the absence of an express intent to impart different meaning to claim terms, the terms are presumed to have their ordinary meaning. *Id.* Claims, however, must be read in view of the specification and prosecution history. Indeed, the specification is often "the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315.

III. DISCUSSION

A. The Patents-In-Suit

All four patents-in-suit claim priority to the same application, filed on May 19, 1995, which issued as the '676 patent on September 8, 1998. The '103 patent was filed on August 11, 1997 as a continuation of the '676 patent and issued on November 16, 1999. The '382 patent was filed on June 20, 1997 as a continuation-in-part of the '676 patent and issued on March 28, 2000. The '024 patent was filed on February 10, 2005 and claims priority to the '676 patent through a series of continuation and continuation-in-part applications. It issued on February 19, 2008. The patents-in-suit are directed to "[a] data transaction processing system including a transaction entry device" in which "menus are used to navigate the user to forms which facilitate the entry of data." (*See, e.g.*, '676 patent, 1:10-16) As the patents-in-suit share a nearly identical specification with respect to the limitations currently at issue, the court will refer to the specification of the '676 patent in its claim construction analysis.

The specification of the '676 patent explains that the present invention was designed to meet the needs associated with the telephone/computer systems of the prior art which are "typically quite complicated and expensive and are limited by the

types of operating software" used. (*Id.* at 1:48-51, 2:19-20) As such, "[e]limination of the requirement of a conventional operating system and the associated application programs for the microcomputer of a data entry device would greatly decrease the cost of such a device." (*Id.* at 1:61-64) It explains that "to date, this has not been possible because the operating system is needed to run the application programs which control the data communications . . . ." (*Id.* at 1:64-67) "[A] data entry system is desired which does not have the inherent limitations of conventional point-of-entry systems such as the requirement of a standard operating system . . . ." (*Id.* at 2:6-10) An associated device would preferably "provide a wide range of functionality without requiring a local operating system program and a plurality of applications programs for implementing each function." (*Id.* at 2:16-20) Claims 1 and 4 of the '676 patent are reproduced below:

> 1. A system for entering transaction data into a remote database, comprising:
>
> a data input device;
>
> a display;
>
> a data transaction terminal including a microprocessor, a form memory which stores a plurality of menus and forms for presentation to a user, and a form driven operating system which controls a process implemented by said microprocessor to present to said display for each process at least one form stored in said form memory as data streams, said at least one form being selected by said user from one of said menus using said data input device, said one menu providing said user with an option of selecting at least one of said at least one form, another menu, and an updating process, each form eliciting data input of a desired transaction type into said data input device by said user and including at least one prompt customized to said desired transaction type, wherein said process implemented by said microprocessor is changed by changing said at least one form, and wherein when said user selects said updating

process from said menu, data streams are downloaded to said form memory to update said menus and forms in accordance with said desired transaction type, said data transaction terminal further including means for formatting at least said data input by said user in response to said at least one prompt into a data transaction for transmission to said remote database; and

a database server associated with said remote database which receives said data transaction, creates from said data transaction, depending on said desired transaction type, at least one additional data transaction containing data for a particular record in said remote database, and stores said at least one additional data transaction in said particular record.

(*Id.* at 24:49-25:18)

4. A system as in claim 1, wherein said form driven operating system comprises a transaction assembly server (TAS) which presents said data streams to said microprocessor for display on said display, and said formatting means comprises a transaction buffer which stores said data input into said data input device by said user in response to said at least one prompt until said data transaction is completed for transmission to said remote database.

(*Id.* at 25:35-42) Claim 28 of the '024 patent is representative of a claim containing the disputed limitation "client module" and recites:

28. A two-way communication device for communicating with a network across a communication line, said two-way communication device comprising:

a display to display information;

a network interface to communicate across said communication line; and

a client module running on a processor, said client module generating and sending a data transaction to a remote processing capability on the network across the communication line, said client module receiving a response from said remote processing capability and displaying information on said display based on said response, and

said client module generating and sending a voice signal across said communication line.

('024 patent, 27:32-45)

B. Limitations of the Patents-In-Suit

1. "Form driven operating system"[1]

The court construes this limitation as "firmware - a set of instructions programmed on a hardware device - that, together with forms, operates to control a microprocessor without the need for a conventional operating system (such as DOS or Windows)." This construction is consistent with the specification and prosecution history of the patents-in-suit.

The specification of the '676 patent, e.g., defines a form driven operating system in two locations.[2] First,

> [t]he microcode of the TAS PROM 95 and the parameter streams from the form/menu memory 96 thus operate together as a simple form driven operating system for microprocessor 94 for all applications and is the sole code

---

[1] The limitation appears in claims 1, 13, and 39 of the '676 patent; claims 1, 15, 18, and 45 of the '103 patent; and claims 1, 13, 19, 22, 30, 34, and 36 of the '382 patent.

[2] The '382 patent mentions "form driven operating system" in additional locations (*see* '382 patent, 16:55-62, 19:44-49), but is consistent with the definitions contained in the original specification of the '676 patent. The '382 patent specification at columns 16:55-62 provides:

> The microcode of the TAS PROM 95 and the parameter streams from the form/menu memory 96 thus operate together as a simple form driven operating system for microprocessor 94 for all applications and is the sole code used to control microprocessor 94 for any and all applications (i.e., no conventional application programs and no full-scale operating system such as DOS™ or Windows™ needs to be provided).

> used to control microprocessor 94 (i.e., no conventional operating system or application programs are provided).

(*Id.* at 13:50-56) In a preferred embodiment, the form driven operating system is described as follows:

> [T]he transaction assembly (application) server (TAS) is a data stream stored in TAS PROM 95 which together with the forms from form/menu memory 96 create a simple form driven operating system which provides the necessary control data (firmware) to microprocessor 94 so that no conventional operating system is necessary.

(*Id.* at 16:11-16)[3] The specification further explains that "the TAS firmware from TAS PROM 95 and menus and forms from form/menu memory 96 of the invention together replace a conventional operating system and individual application programs." (*Id.* at 14:13-16; *see also* '382 patent, 17:24-27) Additionally, "since the data transactions are created without the use of an operating system or application programs, the transaction entry device is quite simple and inexpensive . . . ." ('676 patent, 2:37-40)[4]

The prosecution histories of the '676 and '103 patents also support this construction, as applicant repeatedly argued that "[t]he microcode of the TAS PROM 95 and the parameter streams from the form/menu memory 96 instead operate together as a simple form driven operating system for microprocessor 94 for all applications and is

---

[3] The parties do not dispute that a form driven operating system consists of a transaction assembly server (TAS) working in connection with forms. (D.I. 351 at 3)

[4] The present invention is unique in that it "provides a simple, user friendly way to enter transaction data without requiring a local operating system to run various application programs." ('676 patent, 4:17-22) The specification also states that the microprocessor is "driven by an operating system independent transaction assembly (or application) server (TAS) comprised of data streams stored in a flash PROM." (*Id.* at 2:52-55)

the sole code used to control microprocessor 94." (*See* D.I. 343,[5] ex. E at Jan. 3, 1997 Response at 16, March 18, 1997 Response at 22; *id.*, ex. K at Feb. 18, 1998 Response at 24) Additionally, applicant amended the claims of the '676 patent to add the "form driven operating system" limitation to adequately distinguish the claims from prior art that contained operating systems running application programs.[6] (*See id.*, ex. E at March 18, 1997 Response at 18-19) Applicant's March 18, 1997 response is further indicative as to what the inventor believed his invention to be as he argued that the prior art did not "teach a system which uses one or more low cost terminal devices using form driven operating systems instead of conventional application programs running on a standard operating system to facilitate the entry of data into one or more remote databases . . . ." (*Id.* at 33)

2. "Client module"

In offering a construction for the limitation "form driven operating system" above, the court was cognizant of the "client module" limitation at issue in the '024 patent, a limitation not found in the specification but only in certain claims of the '024 patent.[7]

---

[5] D.I. 343 in 11-827; D.I. 156 in 11-830; D.I. 186 in 11-833; and D.I. 305 in 11-834.

[6] "[T]he Examiners expressed their collective belief that each of the independent claims would read on a general purpose computer having a microprocessor running a conventional operating system (such as DOS or Windows™) and an application program of the type disclosed by [the prior art] for presenting forms to the user for completion." Applicant's representative "agreed to reconsider the claims in view of the cited prior art and to consider amending the claim language to specify that the invention uses a simple form driven operating system in place of the conventional operating system and application programs . . . ." (*See* D.I. 343, ex. E at March 18, 1997 Response at 18-19)

[7] *See e.g.*, '024 patent, 24:63-25:22, 27:32-45.

Plaintiff argued that the "form driven operating system" limitation should be construed as "computer code" that, together with forms, functions by "defining a table of menu options and/or database interfaces" to "control the behavior of [a] microprocessor." Plaintiff proposes that "client module" be construed consistent with its plain and ordinary meaning, to wit, "discrete computer code that runs on a computer that receives services from another computer."[8]

Defendants argue that these limitations - "form driven operating system" and "client module" - should be construed the same, based on the specification. Plaintiff disagrees, but does contend that both these limitations involve "computer code" without being limited to firmware.

The court concludes that the only invention described in the specification involves the use of "firmware," as opposed to the generic concept of "computer code." Indeed, plaintiff's proposed constructions are so broad - use of computer code to perform certain functions on a non-conventional operating system - that such constructions do not serve the public notice function of claims and their scope. In sum, because the phrase "form driven operating system" has no ordinary meaning in the art, the court looked to the specification (which is replete with references to firmware in describing the inventive aspects of the limitation) for its construction. Although the limitation "client module" has an ordinary meaning, its breadth of scope is inconsistent

---

[8] A "module" is defined as "a program unit that is discrete and identifiable" or "a logically separable part of a program" (D.I. 343, ex. D), whereas a "client" is defined as "a computer that receives services from another computer . . . ." Douglas A. Downing et al., *Dictionary of Computer Terms* (4th ed., 1995). Plaintiff also articulated the meaning of client as "a piece of software on the client side as opposed to the server side." (D.I. 359 at 70:11-13)

with both the specification and the public notice function of the claims at issue and shall be construed consistently with "form driven operating system."

This construction is consistent with the language of the claims of the '024 patent. For example, claim 1 of the '024 patent recites, "creating, in a client module executing on a processor in said wireless mobile device, a data transaction . . . ." ('024 patent, 24:66-67) Claim 28 recites, "a client module running on a processor, said client module generating and sending a data transaction to a remote processing capability on the network across the communication line . . . ." (*Id.* at 27:38-41) The descriptions correspond to the role of the form driven operating system.

3. "Transaction assembly server (TAS)"[9]

The court construes this limitation as "firmware - the set of instructions programmed on a hardware device." This is consistent with the construction of "form driven operating system," of which the TAS is a part, and the specification, which explains that:

> The TAS is absolutely self-contained in its relationship to the hardware of the transaction entry device and in general performs the two basic functions of (1) generating a template or form from a data stream and (2) developing a data transaction as the user inputs data in response to prompts in the template or form.

('676 patent, 2:55-60) Additionally, "the TAS firmware from TAS PROM 95 and menus and forms from form/menu memory 96 of the invention together replace a conventional operating system and individual application programs." (*Id.* at 14:13-16; *see also* '382 patent, 17:24-27)

---

[9] The limitation appears in claims 4 and 16 of the '676 patent; claims 4 and 19 of the '103 patent; and claim 1 of the '382 patent.

IV. CONCLUSION

For the foregoing reasons, the court construes "form driven operating system" as "firmware - a set of instructions programmed on a hardware device - that, together with forms, operates to control a microprocessor without the need for a conventional operating system (such as DOS or Windows);" "client module" as "firmware - a set of instructions programmed on a hardware device - that, together with forms, operates to control a microprocessor without the need for a conventional operating system (such as DOS or Windows);" and "transaction assembly server" as "firmware - the set of instructions programmed on a hardware device." An appropriate order shall issue.