

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge R. Brooke Jackson

Civil Action No 13-cv-00173-RBJ

CELLPORT SYSTEMS, INC.,

Plaintiff,

v.

HTC CORPORATION,
HTC AMERICA HOLDING INC., and
HTC AMERICA, INC.,

Defendants.

Consolidated with,

Civil Action No. 13-CV-178-RBJ

CELLPORT SYSTEMS, INC.,

Plaintiff,

v.

NOKIA CORPORATION, and
NOKIA INC.

Defendants.

ORDER

These consolidated cases are before the Court on joint motions for construction of certain terms in United States Patent No. 6,122,514 (the ‘514 patent). The Court held a “Markman” hearing on November 20, 2013 and has also considered the parties’ briefs and their respective technology tutorials.

FACTUAL BACKGROUND

The '514 patent, filed in 1997 and issued in 2000, bears the title, "Communications Channel Selection." The language of the patent is typically complex and technical, but the following simplified example should suffice for illustrative purposes.¹ An individual in a moving vehicle has a mobile phone. The phone has various "applications" (software programs) that generate information such as voice information (talking to someone) or data (such as email). Each application has certain transmission requirements expressed as "operating parameters," such as minimums for bandwidth and security, and maximums for jitter, latency and cost. *See, e.g.,* '514 patent [#1-1] at Fig. 4. The information generated (or received) by the phone is transmitted over a "network channel," such as a cellular or a satellite network channel.

The subject invention is a communications system, including both a method (independent Claim 1) and an apparatus (independent Claim 17) for transferring information. Again using the phone and vehicle example, the system first identifies network channels that are "available" (will work) in the specific location of the vehicle.² The system then determines which of the available channels is actually available for selection or "acceptable" (will work well) by comparing the channel's operating parameters to the particular application's requirements for each operating parameter. *Id.* at Fig. 3. If more than one network channel is acceptable, a weighting factor reflecting the weight or importance attached to each operating parameter is applied. *Id.* at Fig. 4. This results in the selection of the best or most "suitable" network channel for the transmission

¹ The example of a phone in a moving vehicle was used to illustrate defendants' tutorial. Cellport's tutorial uses a different example, i.e., a mobile unit (computer) in an ice-cream delivery truck with applications that monitor the temperature of the freezer and the status of the truck's engine. A similar example was used in the patent's specification. *See* '514 patent [CM/ECF docket entry #1-1] at Col.5:43-47. The Court has used the phone example for simplicity of explanation, not to define terms based on a particular use or embodiment.

² The system also provides certain "recovery procedures" if there is no "available" channel.

of that information from that phone at that location. As the vehicle continues to move the system senses the presence of new available and acceptable network channels and continues to select the most suitable of the available and acceptable channels. The system can also determine the optimum time for the transition from one channel to another to occur to assure a smooth continuation of the transmission of the information.³

CONSTRUCTION OF DISPUTED TERMS

Claim construction is a matter of law for the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384-91 (1996). The objective is to give disputed terms in a patent claim the meaning that a person of ordinary skill in the relevant art would have given them at the time of the invention unless the patent applicant has clearly and unambiguously defined the terms differently. *See, e.g., Honeywell Int'l Inc. v. Universal Avionics Sys. Corp.*, 493 F.3d 1358, 1361 (Fed. Cir. 2007).

The Court principally considers “intrinsic evidence,” i.e., the words of the claim itself in the context of the entire patent including as relevant the specification and the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313-17 (Fed. Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006). The specification is “the single best guide to the meaning of a disputed term.” *Vitrionics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The court may not, however, read limitations from the specification, particularly the disclosed embodiments, into the claim. *Phillips*, 415 F. 3d at 1323-24. “Extrinsic evidence” such as dictionaries, treatises and, in the present case, the parties’ technology tutorials, can also be considered, although such evidence generally should be given less weight than intrinsic evidence. *See id.* at 1317-19.

In a “Modified Joint Claim Construction & Pre-Hearing Statement,” tendered at the beginning of the hearing, the parties notified the Court of certain agreed constructions and of 20

³ The latter process, implemented by a “link scheduler,” is not provided in all embodiments.

disputed terms. At the Court's request, the parties identified certain disputed terms, 10 in number, that they considered to be the most critical. The Court here defines those 10 terms and will define additional terms only if the parties later deem it to be necessary.

Claim 1 (the terms construed are bolded)

A method for transferring information when a number of different network channels are available over which the information can be transferred, comprising:

providing **first information** for transfer relative to a mobile unit;

providing **second information** for transfer relative to said mobile unit;

selecting a first network channel from a plurality of different network channels, including said first network channel and a second network channel, over which at least said **first information** is to be transferred relative to said mobile unit, wherein said network channels communicate directly with network interfaces located with the mobile unit including said first network channel communicating with a first network interface and said network channel communicating with a second network interface;

deciding after said selecting step that said second network channel is to be used to transfer said second information, said deciding step **taking into account a position of said mobile unit**; and

controlling within said mobile unit a use of said second network interface in transferring said second information relative to said mobile unit, said controlling step including a switching from using said first network channel to using said second network channel, wherein said controlling step is conducted free of any request related to change communicated to said second network channel from said first network channel.

1. **“first information.”**⁴

Cellport proposes: “information originating above a transport layer and passing through a protocol stack,” adding that this would not be indefinite. Defendants propose: “a first portion of a voice or data communication.” I note that neither the term “first information” nor the term “second information” is found in the specification section of the patent.

⁴ The terms “first information” and “second information” are found in both Claim 1 and Claim 17.

In all embodiments of the system described in this invention, information to be transmitted is processed as it passes from the application through a “transport layer,” then through a “protocol stack,” and then through a “network interface” to the network channel. Collectively, these layers are deemed the “terminal stack.” *See, e.g.*, ‘514 Patent, col. 5:61-col. 6:35; Fig. 1, item 12. *See also* Cellport Tutorial [#56] at 18. Claim 1 describes a method for selecting the most suitable among a plurality of available network channels to use to transmit the processed information. It is also fundamental to the invention that “the system is able to dynamically adapt to situations where the currently used network channel becomes unavailable or inappropriate *and the transfer of information has not yet been completed.*” Col. 2:6-9 (emphasis added). Thus, “the system is able to switch network channels *within the course of a particular information transfer or session* when it is determined that a more advantageous channel is now available.” Col.2:9-13 (emphasis added). It does this by switching to a second available channel that has become more suitable during the course of the transmission due, for example, to the movement of the mobile unit, or in the words of Claim 1, “deciding after said (first) selecting step that said second network channel is to be used to transfer said second information, said deciding step taking into account a position of said mobile unit.” Col. 14: 66-Col. 15:2.

Therefore, the Court concludes that the term “first information” refers to the information transmitted through the first-selected network channel, and “second information” refers to the information transmitted through the second-selected network channel. Once selected, the second network channel becomes, in turn, a first network channel until the system switches the mobile unit to a new second network channel; and the process repeats through the continuation of the particular information transfer as the mobile unit continues to change locations. This

interpretation is also consistent with the phrase in Claim 1, “selecting a first network channel from a plurality of different network channels, including said first network channel and a second network channel.” Col.14:56-57.

Cellport points to language in the specification indicating that a mobile unit can have different applications, and that the applications may transmit information at different times or according to different priorities. Opening Brief [#55] at 10, citing col 9:17-34 and col. 12:59-63.⁵ To my mind this begs the question of what constitutes “first” and “second” information. Each transmission must begin with a network channel, but when that channel becomes inappropriate, the transmission must be switched to a more suitable network channel. That is, by my reading, the essence of the invention.

In that context, the defendants’ proposed interpretation of “first information” as constituting “a first portion of a voice or data communication” makes sense. Cellport’s proposed definition, essentially that all information originating above a transport layer and passing through a protocol stack is first information except that which isn’t first information, does not make sense.

2. **“second information.”**

Cellport proposes: “information distinct from the first information, originating above a transport layer and passing through a protocol stack,” again adding that this would not be indefinite. Defendant HTC proposes: “a second portion of a voice or data communication.” Defendant Nokia proposes: “a second portion of the voice or data communication.”

⁵ HTC, although in the context of arguing about Claim 17, seems to make a similar argument, pointing to Col.4:64-Col.5:1, which states that a “currently used network channel can be switched to another network channel because, for example, a different application with higher priority requires a different network channel.”

For the reasons discussed above with respect to the term “first information,” the Court does not agree with Cellport’s definition. The Court concludes that Nokia’s proposed construction better captures the concept that the switch occurs during the continuation of the same transmission. Accordingly, “second information” is defined to mean “a second portion of the voice or data communication.”

3. **“selecting a first network channel from a plurality of different network channels.”**

Cellport proposes: plain and ordinary meaning. Defendants propose: “choosing a first network channel from at least two available and acceptable network channels based on an analysis of application requirements and network channel operating parameter values.”

During oral argument I suggested that the plain and ordinary meaning seemed clear enough. I stand by that comment, but it was made from the viewpoint of this Court as a lay interpreter of the language. Upon review of the briefs and argument transcript, and further study of the patent including its specification, I am convinced that one skilled in the art would interpret this term as implicitly referring to the selection of the most suitable network channel from a plurality of available and acceptable network channels, because that is a fundamental element of the invention. *See, e.g.*, ‘514 patent [#1-1], Summary of the Invention, Col.2:2-4; Col.3:23-44. I conclude that one skilled in the art would also interpret the term as implicitly basing the selection on application requirements and network channel operating parameter values, since that too is fundamental to the invention. *See, e.g.*, Abstract (describing the system as including a link selector for selecting an acceptable network channel using application requirements and channel operating parameter values); Summary of the Invention, Col.2:32-Col.3:8; Col.4:50-58. Those inherent qualifications (basing the network channel selection on application requirements and network channel operating parameter values) are not provided later in the claim.

Thus, the plain language, without further qualification, is overly broad and potentially misleading. Defendants' proposed construction makes explicit what is implicit, and the Court adopts that construction.

4. **“deciding after said selecting step that said second network channel is to be used to transfer said second information.”**

Cellport proposes: plain and ordinary meaning. Defendants propose: “determining based on an analysis of application requirements and network channel operating parameter values that the second network channel is desirable over the selected first network channel for transfer of the second information.”

In the previous example, the term was easy enough to understand on its face, but the plain and ordinary meaning was too broad to fit the patent. Here, the term lacks a plain and ordinary meaning. The defendants' proposal provides more clarity. However, the Court's interpretation is “determining, based on application requirements and network channel operating parameter values, that a second network channel is more suitable for the transmission of the second information.”

5. **“taking into account a position of said mobile unit.”**

Cellport proposes: “taking into account a position of said mobile unit relative to an available network.” Defendants propose: “including using a geographic location of the mobile unit as part of the deciding step.” During oral argument counsel modified Cellport's position, now suggesting that the parties' proposals be combined into something like, “taking into account a geographic location of the mobile unit or its position relative to an available network as part of the deciding step.”

First, it must be noted that the dispute does not truly concern the meaning of “position.” That term, quite simply, is synonymous with “location.” For example, in discussing the reliability problems that network channel selection systems face, the specification notes that these problems exist particularly with mobile units “whose position changes during the transfer.” ‘514 patent, Col.1:20-25. Similarly,

The channel selection process is made more complicated and difficult when the transmitter and/or receiver of the transferred information is part of a mobile unit. In such a case, because of the movement of the mobile unit, such as a vehicle, a presently accessed network channel may no longer be available for use because of the *new geographic position* of the mobile unit. *That is*, the presently utilized network channel may not be available in *the new location* of the mobile unit. The network channel selection process is rendered even more complicated when, due to the different geographic *position* of the mobile unit, a previously available channel is now available to the mobile unit.

Col.1:62-65 (emphasis added).

The dispute, arising from the parties’ jockeying for “position” in the later infringement/invalidity debate, concerns how the “position” or location of the mobile unit is determined within the meaning of this patent. I conclude that both parties have it partially right.

It is evident that, at least in those embodiments in which a link scheduler is included, “position” includes the type of measurements provided by a GPS system, i.e., latitude, longitude, altitude, speed, bearing, etc. In the Summary of the Invention section of the specification I find the following:

With regard to the determination made by the link scheduler as to the future availability of one or more available network channels, the link scheduler relies on the current geographic position of the transmitter or receiver of the information, whichever or both is applicable. The link scheduler also relies on future geographic position information, which can be found by the link scheduler using movement related data, such as the velocity of the mobile unit that includes the transmitter or receiver.

Col. 4:4-11.

The meaning of “geographic position” is further developed in the Detailed Description section of the specification:

The link scheduler provides the capability of combining current system location, as part of the mobile unit, with geographic coverage maps. That is, the link scheduler is useful in identifying network channels that may become available later due to movement of the mobile unit. This functional capability can also be coupled with information transfer priority, with the link scheduler contributing to the determination as to whether the information should be buffered or transmitted immediately.

The link scheduler also communicates with a global positioning system (GPS) of the selection apparatus.

The GPS is used to provide the location of the mobile unit having the communications system and the direction of travel thereof. A highly accurate time measurement is also derived. With this GPS-derived location and velocity information, the link scheduler can determine which network channels will be going off-line and schedule a channel switch before loss of communication occurs.

Col.12:26-44. *See also* Col.9:64-67; Col.13:8-15, 51-61; and Claim 26, Col.17:19-Col.18:3.

Figure 1 of the ‘514 patent graphically shows the interaction of the link scheduler and GPS. Similarly, the Cellport Technology Tutorial [#56] indicates that GPS “[p]rovides location information such as GPS coordinates, velocity, and time.” *Id.* at 22. Cellport’s opening brief [#55] concedes, as it must, that the link scheduler augments the selection process with GPS location information, and that Claim 1 uses “position” in a sense that includes geographical coordinates. *Id.* at 6, 12.

However, it is not at all clear that the term “position” is limited to what can be determined by the GPS system. For one thing, not all embodiments have a link scheduler. Moreover, as a matter of common sense, the position of the mobile unit in relation to an available network channel is relevant. If the mobile unit is not within a network’s coverage area, then the network cannot be available for transmission of information from that mobile unit.

Also, the link selector necessarily uses signal strength in its operation. *See, e.g.*, Col.4:37-49.
See also Col.1:54-62.

Accordingly, the Court concludes that “position” means “location.” The location is provided both by its position relative to an available network and by GPS data. The system takes into account the “position” or “location” of the mobile unit by using this information as appropriate to the particular task.

Claim 17 (the terms construed are bolded)

An apparatus for transferring **first and second information** when a plurality of different network channels including a first network channel and a second network channel are available over which the information can be transferred, comprising

- network interfaces located with a mobile unit that communicate with the plurality of network channels including a first network interface communicating with the first network channel and a second network interface communicating with the second network channel;
- a **protocol stack** located with the mobile unit and in communication with the second network channel;
- a link selector held with the mobile unit that is use in **determining that the first network channel is to be used for transferring at least the first information**, said link selector is also used in determining that a change is to be made from using the first network channel to using the second network channel to transfer **the second information, said protocol stack receiving an indication that the second network channel is to be used and provides second network channel addressing information to said second network interface that is used in directing the second information to the second network channel for transfer, with the second information then being transferred using the second network channel** and all control for said change to using the second network channel being conducted interiorly of the mobile unit.

1. **“protocol stack.”**

Cellport proposes: “the IP protocol layer in a TCP/IP or UDP/IP protocol stack.”

Defendants propose: “unit that addresses and delivers information through the first and second network channels using the first and second network channel addresses.”

Cellport acknowledges that “[t]he ‘514 patent uses the term ‘protocol stack’ differently from how it was normally used in the art.” Cellport Tutorial [#56] at 20. *Accord* Opening Brief [#55] at 8. There is nothing inherently wrong with defining a term that has a plain and ordinary meaning to one skilled in the art in a different way. An inventor may be his own lexicographer so long as his definition of the disputed claim term is clearly provided in the specification or the prosecution history. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

Although Cellport’s proposed definition is circular (a “protocol stack” is a layer in a “protocol stack”), I think I understand Cellport’s point. An individual of ordinary skill in the art would have an understanding of the normal usage of a TCP/IP or a UCP/IP protocol stack, such as that discussed in Murphy, et al., TCP/IP TUTORIAL AND TECHNICAL OVERVIEW (5th ed.), submitted as Exhibit B [#55-2] to Cellport’s Opening Brief. Cellport’s proposed definition could alert that individual that this patent’s use of the term “protocol stack” refers to a specific layer within what would normally be thought of as a TCP/IP or a UCP/IP protocol stack. The problem is, I find nothing in the claim or the specification that restricts the invention to a TCP or UCP transport protocol. On the contrary, the “Detailed Description” section states, the “[t]ransport layer typically utilizes available protocols, *such as* the transmission control protocol (TCP) and the user datagram protocol (UDP).” Col. 5:65-66 (emphasis added). Defendants point out that the invention contemplates the possibility of communication with network channels that do not

use the TCP/IP or UDP/IP protocol, such as in dependent claim 28. Joint Response Brief [#60 in No. 13CV180] at 15-16. By the same token, the Court concludes that the defendants' proposed definition, although accurate so far as it goes, provides insufficient guidance as to what this patent's "protocol stack" is.

The Court finds guidance as to the meaning of "protocol stack" in the specification at Col. 5:37-Col. 6:29 and in Fig. 1. The "protocol stack" as that term is used in this invention is a layer or unit within what in normal usage would be called a "protocol stack" but here is called a "terminal stack." More specifically, because data generated by an application must be converted to a transmittable form, the invention utilizes a series of sub-systems or layers that prepare the data for transfer by converting it (or re-converting information being received) into an appropriate form and directing it to the network channel. These layers collectively comprise the "terminal stack." The "protocol stack" layer within the terminal stack generates the network address or addresses, i.e., directs the information (which, in the case of data transmissions, the transport layer breaks down into data packets) to the chosen network channel through a network interface. *See* Col.6:1-5. *See also* defendants Exhibit B, '514 File History, September 7, 1999 Office Action Response, [#60-2 in No. 13CV180] at 19. It uses a protocol such as, in a preferred embodiment, the Internet protocol. Col.6:13-15.

2. **"determining that the first network channel is to be used for transferring at least the first information."**

Cellport proposes: plain and ordinary meaning (not indefinite). Defendants propose: "choosing a first network channel from at least two available and acceptable network channels for transferring at least first information based on an analysis of application requirements and network channel operating parameter values."

The subject phrase is similar to the phrase, “selecting a first network channel from a plurality of different network channels” in Claim 1, and my reasoning is similar to that explained there. The phrase describes a use of what the invention calls a “link selector.” The link selector chooses the most suitable network channel by comparing each potential channel’s operating parameters to the operating parameter requirements of the application. Thus, one use of the link selector is to determine the most suitable network channel to transmit the first information generated by the application within the coverage area of the available networks, using the application’s requirements and the network channels’ operating parameter values to do so. Another use of the link selector is to select a different and more suitable network channel to use to continue the transmission as the geographic position of the mobile unit changes.

One part of the subject phrase on which no party comments is the term “at least” as in “determining that the first network channel is to be used for transferring *at least* the first information.” (emphasis added). The first network channel is the channel chosen as the most suitable for the transmission of the first information. How, then, does one explain “at least first information,” which implies that the first network channel might transmit something other than the first information. The term makes sense to this Court if one allows for the possibility that the mobile unit could move into, out of, and back into the coverage area of the first network channel chosen, such that it could be the most suitable channel for more than the first information transmitted. It could, for example, become the most suitable channel for “second information” as the mobile unit moves from another coverage area back into the first coverage area.

In any event, the Court concludes that the defendants’ proposed construction is reasonable and is more complete and helpful than simply resorting to “plain and ordinary meaning.”

3. **“said protocol stack receiving an indication that the second network channel is to be used**
4. **and provides second network channel addressing information to said second network interface that is used in directing the second information to the second network channel for transfer,**
5. with **the second information then being transferred using the second network channel.”**

The parties have broken the longer phrase into three parts. As to each part, Cellport proposes the terms be given their plain and ordinary meaning which, Cellport argues, will not render them indefinite. Defendants counter that the use of plain and ordinary meaning at least as to the second phrase would render the term indefinite, and they instead propose that the first phrase (#3 above) requires that the protocol stack is, in fact, receiving an indication that the second network channel is to be used; the second phrase (#4 above) requires that the second network channel information is, in fact, being provided by the protocol stack; and that the last phrase (#5 above) requires that the second information is, in fact, being transferred using the second network channel.

The Court’s construction is closer to Cellport’s position, and it sees no need to break the longer phrase into component parts. Consistent with its foregoing constructions, the Court concludes that this phrase simply means that the protocol stack, which is used to address or direct data to the most suitable network channel, is used not only to direct the first information to the first network channel but also, when the mobile unit changes location and a second channel becomes the most suitable channel, to address or direct information (second information) to the most suitable network channel for transmission of that information.

DATED this 7th day of January, 2014.

BY THE COURT:

A handwritten signature in black ink, appearing to read "Brooke Jackson", written in a cursive style.

R. Brooke Jackson
United States District Judge