IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SPRINT COMMUNICATIONS COMPANY L.P.,
             Plaintiff,
 	
      v.
 	
 CEQUEL COMMUNICATIONS, LLC d/b/a SUDDENLINK COMMUNICATIONS and CSC HOLDINGS, LLC d/b/a OPTIMUM-CABLEVISION,
 	
             Defendant.
	Civil Action No. 18-1752-RGA

MEMORANDUM ORDER

Currently before me is the issue of claim construction of terms in U.S Patent Nos. 6,330,224 ('224 patent), 6,697,340 ('340 patent), and 7,327,728 ('728 patent). I have considered the Parties' Joint Claim Construction Brief (D.I. 140), and I heard oral argument on May 13, 2020. This Order construes the disputed "format" terms.

I.   BACKGROUND

The patents in this case disclose methods for transmitting calls back and forth between traditional telephone networks and packet-based data networks. I construed various terms in these patents as part of separate litigation involving Plaintiff Sprint and other defendants. *Sprint Commc'ns Co. LP v. Charter Commc'ns, Inc.*, 2019 WL 7037656 (D. Del. Dec. 20, 2019) (17-1734-RGA; D.I. 296) ("*Charter Markman*").

The three patents at issue in this order fall into two groups. The '224 patent and the '340 patent are in the "Enhanced Services" group, and the '728 patent is in the "Broadband" group.

The patents within each group share an identical specification.

## II.	LEGAL STANDARD

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). When construing patent claims, a court considers the literal language of the claim, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Of these sources, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (internal quotation marks omitted).

"[T]he words of a claim are generally given their ordinary and customary meaning. . . . [Which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312–13 (citations and internal quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

When a court relies solely upon the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court's construction is a determination of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). The court may also make

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factual findings based upon consideration of extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317–19 (internal quotation marks omitted). Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

III.   CONSTRUCTION OF DISPUTED TERMS

The patent claims at issue are:

1. A method for operating a communication system, the method comprising:
    receiving information into a processing system wherein the information is related to a user communication in a *first communication format*;
    in the processing system, selecting a service and a service node to provide the service based on the information;
    in the processing system, generating and transmitting a first message from the processing system;
    in the processing system, generating and transmitting a second message from the processing system to the service node wherein the second message indicates the selected service and a user;
    receiving the user communication in the *first communication format* and the first message into an interworking unit; and
    in the interworking unit, *converting the user communication from the first communication format to a second communication format* and transmitting the user communication in the *second communication format* to the service node in response to the first message.

12. The method of claim 1 wherein the *second communication format is a connectionless communication format*.

('224 patent, claims 1 and 12).

11. A method of operating a communication system, the method comprising:
    in a signaling processor, receiving and processing Signaling System Seven (SS7) signaling for a call, and in response, generating and transferring control messaging indicating identifiers that are used for routing; and

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in a service platform system, receiving the control messaging, and in response, exchanging communications that include the identifiers to interact with a caller to provide a service.

14. The method of claim 11 wherein exchanging the communications that include the identifiers comprises *converting the communications between a time division multiplex format and another format* where the communications include the identifiers.

('340 patent, claims 11 and 14).

1. A method of operating a communication system, the method comprising:
    receiving telecommunication signaling for calls into a signaling processor, and responsively on a call-by-call basis, selecting routing information based on the telecommunication signaling and transferring control messages indicating the routing information; and
    receiving the control messages and user communications for the calls into a communication unit, and responsively on the call-by-call basis, *converting the user communications from a first communication format into a second communication format* having headers that include the routing information selected by the signaling processor and transferring the user communications in the *second communication format*.

('728 patent, claim 1).

The specific disputed terms and the proposed constructions are set forth below.

1.   "converting the communications between a time division multiplex format and another format" ('340 Patent, Claim 14)

        a.   *Plaintiff's proposed construction*: Plain and ordinary. No construction necessary. Alternative: "converting the communications from time division multiplex format to a format that is not time division multiplex"

        b.   *Defendants' proposed construction*: "converting voice between a time division multiplexed format and ATM"

        c.   *Court's construction*: "converting the communications between a time division multiplex format and ATM"

2.   "First communication format/second communication format" / "converting the user communications from a first communication format into a second communication format" / "converting the user communication from the first communication format to a second communication format" ('728 and '224 Patents, Claim 1)

a. *Plaintiff's proposed construction*: Plain and ordinary. No construction necessary. Alternative: "converting the user communications from a first communication format into a distinct second communication format" / "converting the user communication from the first communication format to a distinct second communication format"

b. *Defendants' proposed construction*: "Two formats, one of which is ATM" / "Converting the user communications between two formats, one of which is ATM"

c. *Court's construction*: "Two formats, one of which is ATM" / "Converting the user communications between two formats, one of which is ATM"

3. "[second communication format is a] connectionless communication format" ('224 Patent, Claim 12)

a. *Plaintiff's proposed construction*: Plain and ordinary. No construction necessary.

b. *Defendants' proposed construction*: "wherein the second communication format is a connectionless communication format, and the first communication format is ATM"

c. *Court's construction*: "wherein the second communication format is a connectionless communication format, and the first communication format is ATM"

The dispute here is whether these communications "format" terms are limited to Asynchronous Transfer Mode (ATM)—a specific type of packet-based technology. A patentee disavows a broader meaning of a term if "the specification or prosecution history make clear that the invention does not include a particular feature or is clearly limited to a particular form of the invention." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014). Disavowal can occur through "clear, repeated, and consistent statements in the specification." *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1203 (Fed. Cir. 2013). Disavowal applies when the specification includes language such as "the present invention requires . . ." or "the

present invention is . . . ." or "all embodiments of the present invention are . . . ." *Hill-Rom Servs., Inc.,* 755 F.3d at 1372.

The specifications of the Enhanced Services and Broadband patents are clearly focused on ATM technology. In *Charter Markman*, based on the intrinsic evidence, I concluded the patentee had disavowed any meaning of an "interworking unit" and a "communications unit" beyond an "ATM interworking multiplexer." *Charter Markman* at *2, *4. I held though that certain "format" terms (including Terms 1 and 2 above) were not so limited. *Id.* at *7. I concluded that whether an "ATM interworking multiplexer" was physically capable of converting to formats beyond ATM was a factual dispute, and not one to resolve during claim construction. *Id.*

While the Cequel Defendants seek the same construction as did the defendants in *Charter Markman*, they raise a different argument in support of that construction. They argue that the intrinsic record disavows the scope of the "format" terms beyond ATM technology (just as it disavows the scope beyond "ATM interworking multiplexer"). I agree. Both the Broadband and the Enhanced Services specifications "make clear" that the inventions are limited to ATM. *Hill-Rom Servs., Inc.*, 755 F.3d at 1372.

The "Summary of the Invention" section of the Enhanced Services specification has seven paragraphs, each of which starts with "the present invention." I think they are worth quoting in full:

> *The present invention comprises a system for providing services for a call from a first communication device in an asynchronous transfer mode format.* The call has user communications and call signaling. The system comprises a service platform adapted to receive the user communications. The service platform applies an interactive application to the user communications to process the user communications. The system further

comprises a signaling processor adapted to receive the call signaling from the first communication device and to process the call signaling to select a first connection to the service platform. The signaling processor transports a processor control message designating the selected first connection. The system also comprises an interworking unit adapted to receive the processor control message from the signaling processor and to receive the user communications from the first communication device. *The interworking unit converts the user communications from the asynchronous transfer mode format to a format usable by the service platform and uses the processor control message to transport the converted user communications to the service platform.*

Further, the present invention is a system for providing services for a call from a first communication device in a time division multiplex format. The call has user communications and call signaling. *The system comprises a service platform adapted to receive the user communications in an asynchronous transfer mode format.* The service platform applies an interactive application to the user communications to process the user communications. The system further comprises a signaling processor adapted to receive the call signaling from the first communication device and to process the call signaling to select a first connection to the service platform. The signaling processor transports a processor control message designating the selected first connection. The system further comprises an interworking unit adapted to receive the processor control message from the signaling processor and to receive the user communications from the first communication device. *The interworking unit interworks the user communications from the time division multiplex format to asynchronous transfer mode formatted cells that identify the selected first connection to the service platform.*

In another aspect, the present invention is a method for connecting a call from a first communication device through an asynchronous transfer mode system. The call has user communications and call signaling. The method comprises receiving the call signaling in a signaling processor. The call signaling is processed to select a selected first one of a plurality of connections to a service platform for the user communications. A processor control message is transported from the signaling processor designating the selected first connection. The method further comprises receiving the user communications and the processor control message in an interworking unit. *The user communications are converted in the interworking unit from the asynchronous transfer mode format to a format that is compatible with the service platform in response to the processor control message and transported from the interworking unit over the selected first connection to the service platform.* The user communications are received in the service platform and processing the user communications.

In yet another aspect, the present invention is a method for connecting a call from a first communication device in a time division multiplex format. The call has user communications and call signaling. The method comprises receiving the call signaling in a signaling processor and processing the call signaling to select a selected first one of a plurality of connections to a service platform for the user communications. The processor control message is transported from the signaling processor designating the selected first connection. The user communications and the processor control message are received in an interworking unit. *The method further comprises converting the user communications*

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in the interworking unit from the time division multiplex format to asynchronous transfer mode formatted cells that identify the selected first connection to the service platform and transporting the converted user communications from the interworking unit over the selected first connection to the service platform. The user communications are received in the service platform and processing the user communications.

In still another aspect, the present invention is a system for connecting a call in an asynchronous transfer mode system. The call has user communications and call signaling. The system comprises a first communication device adapted to transport the call, a service node adapted to process the user communications, and a signaling processor adapted to receive the call signaling and to process the call signaling to select a connection to the service node. The signaling processor transports a processor control message designating the selected connection. The system also comprises an interworking unit located in the asynchronous transfer mode system adapted to receive the user communications from the first communication device, to receive the processor control message from the signaling processor, and to use the processor control message to route the user communications to the service node over the selected connection.

Still further, the present invention is a method for connecting a call through an asynchronous transfer mode system to a service node. The call has user communications and call signaling. The method comprises transporting the call from a communication device, the user communications comprising asynchronous transfer mode cells. The method includes receiving the call signaling in a signaling processor and processing the call signaling to select one of a plurality of connections to the service node. A processor control message is transported from the signaling processor designating the selected connection. The user communications and the processor control message are received in an interworking unit. *The method further comprises converting the user communications from the asynchronous transfer mode cells to a format usable by the service node* and using the processor control message to route the user communications to the service node over the selected connection and processing the user communications in the service node.

The present invention further comprises a method for connecting a call having user communications through an asynchronous transfer mode system. The method comprises selecting in a processor a selected one of a plurality of connections to a service platform for the user communications. An interworking unit is notified which one of the plurality of connections was selected. The user communications are received in the interworking unit. *The user communications are converted in the interworking unit from the asynchronous transfer mode format to a format that is compatible with the service platform.* The converted user communications are transported in real time from the interworking unit over the selected connection to the service platform.

('224 patent at 1:26-3:20).

In relevant part, these paragraphs disclose, starting with the very first sentence of the first

paragraph: "The present invention comprises a system for providing services for a call from a

first communication device in an asynchronous transfer mode format." (*Id*. patent at 1:26-28).

The second paragraph describes the "present invention" as a system which "comprises a service

platform adapted to receive the user communications in an asynchronous transfer mode format."

(*Id.* at 1:47-52). The second paragraph further teaches, "The interworking unit interworks the

user communications from the time division multiplex format to asynchronous transfer mode

formatted cells." (*Id.* at 1:63-66).

These descriptions are of the "present invention" itself, not just preferred embodiments,

The specification therefore requires that the invention converts to or from an ATM format. *See*

GPNE Corp. v. Apple Inc., 830 F.3d 1365, 1371 (Fed. Cir. 2016) ("When a patent describes the

features of the 'present invention' as a whole, this description limits the scope of the

invention."). Whether some of the remaining paragraphs would likely be considered to be

embodiments (in "another aspect") or not, they are entirely consistent with the first two

paragraphs. *See also* '224 patent at 7:54-60 ("The interworking unit 114 may be an ATM

interworking multiplexer that interworks between the ATM format and other formats while

providing multiplexing and demultiplexing functions, or it may be an ATM interworking unit that

interworks between different types of ATM systems."). I decline, however, to limit Term 1 to

"voice" communications (as Defendants propose) because that limitation is not supported by the

intrinsic evidence.

The Broadband specification contains similarly clear disavowals of non-ATM formats.

Let me quote the "Summary" in full too:

> The invention includes a method of operating a telecommunications system to
> provide a call with a virtual connection. The invention is applicable where a user places
> the call by sending signaling for the call to the telecommunications system and by
> transmitting user information to the telecommunications system over a particular

connection for the call. The telecommunications system comprises an ATM interworking multiplexer and a signaling processor coupled to the ATM interworking multiplexer. The method comprises receiving the signaling for the call into the signaling processor and processing the signaling to select the virtual connection. The method further includes generating a control message in the signaling processor to identify the particular connection and the selected virtual connection, and transmitting the control message to the ATM interworking multiplexer. *The method further includes receiving the user information for the call from the particular connection into the ATM interworking multiplexer and converting the user information into ATM cells that identify the selected virtual connection in response to the control message.* The method further includes transmitting the ATM cells from the ATM interworking multiplexer over the selected virtual connection.

The invention also includes a telecommunications system to provide a call received over a particular connection with a virtual connection in response to signaling for the call. The telecommunications system comprises a signaling processor operable to receive and process the signaling to select the virtual connection for the call, and to generate and transmit a control messages that identifies the particular connection and the selected virtual connection. *The system further includes an ATM interworking multiplexer operable to receive user information from the particular connection, convert the user information into ATM cells that identify the selected virtual connection in response to the new signaling, and to transmit the ATM cells from the ATM interworking multiplexer over the selected virtual connection.* The invention further includes a means for coupling the signaling processor and the ATM interworking multiplexer that is operable to transfer the control message from the signaling processor to the ATM interworking multiplexer. In some embodiments the system also includes an ATM cross-connect system connected to the ATM interworking multiplexer and configured to provide a plurality of virtual connections to the ATM interworking multiplexer.

In various embodiments, the invention accepts calls placed over DS0 voice connections and provides virtual connections for the calls. In this way, broadband virtual connections can be provided to narrowband traffic on a call-by-call basis without requiring the call processing and signaling capability of an ATM switch.

('728 patent at 2:12-62).

This passage explains, "The method further includes receiving the user information for the call from the particular connection into the ATM interworking multiplexer and converting the user information into ATM cells that identify the selected virtual connection in response to the control message." ('728 patent at 2:27-30). The specification further discloses, "The invention also includes a telecommunications system," and this system "further includes an ATM

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interworking multiplexer operable to receive user information from the particular connection, convert the user information into ATM cells . . . , and to transmit the ATM cells from the ATM interworking multiplexer over the selected virtual connection." ('728 patent at 2:35-48). As with the Enhanced Services patents, these statements apply to the "invention" itself, and not just embodiments. Sprint has not contested that "convert[ing] user information into ATM cells" is the same thing as converting into an "ATM format." Additionally, the "detailed description" of preferred embodiments repeatedly and consistently describes that one of the two formats involved in the conversion is ATM. *See id.* at 4:38-40 ("The mux would convert user traffic from access connection 180 into ATM cells that identify the selected virtual connection."); 5:13-14 ("Mux 130 would convert the user information from connection 180 into ATM cells."); 5:66-6:2 ("AAL 220 is operational to accept the user information in DSO format from DSO interface 210 and convert the information into ATM cells."); 6:19-22 ("If the communications path is bi-directional, user information in ATM cells arriving on connection 283 would be processed for output on connection 280 in the appropriate format."); *see also SkinMedica, Inc.*, 727 F.3d at 1203 (finding disavowal through "clear, repeated, and consistent statements."). Thus, I find that the Broadband specification also requires that at least one of the formats be ATM.

In opposition to the above-recited intrinsic evidence, Sprint has a number of arguments, but none of them are convincing. In the briefing and at the oral argument in this case, Sprint's lead argument was that I had already decided the issue. (*See* D.I. 140 at 21-22). Sprint relies upon my prior construction in *Charter Markman.* But Cequel was not a party to that dispute and, in any event, makes a different argument.[1]

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[1] Sprint argues that the Charter defendants made the same argument, but, whether or not they did, the *Charter Markman* order indicates that I understood it differently.

Sprint's second argument is that the construction imports a preferred embodiment into the construction. (*See id*. at 22-23). Not only the preferred embodiment, but all embodiments have ATM as one of the two formats. Of course, almost any time a patentee limits the scope of the "present invention" in some way, the embodiments are almost certainly going to be at least that limited too. But it is the limits that accompany the "present invention" that are being read into the claims, not only the limits that are described in parallel fashion in the embodiments.

Sprint's third argument relies upon claim differentiation. (*See id*. at 23-25). Sprint argues that, because some other claims are explicitly limited to ATM, that implies that the claims at issue here must not be. Claim differentiation, however, "is not a hard and fast rule, and the presumption can be overcome by a contrary construction required by the specification or prosecution history." *Hill-Rom Servs., Inc.,* 755 F.3d at 1374; *see also Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1137 (Fed. Cir. 2016) ("[C]laim differentiation does not serve to broaden claims beyond their meaning in light of the patent as a whole, and it cannot override clear statements of claim scope found in the specification and prosecution history."). The clear statements in the specifications limiting the inventions to ATM format conversion therefore override any implication based on claim differentiation.

Sprint's fourth argument is a catch-all of arguments. (*See* D.I. 140 at 25-27). Among other things, Sprint argues that the specification discloses formats beyond ATM by referencing TCP/IP, Ethernet, and UDP/IP (D.I. 140 at 5), but, as I believe was conceded at oral argument, this is not a suggestion that these technologies were alternative formats that might be one of the two formats involved in the conversion of user communications from one format to another. Rather, the specification makes clear that these technologies are mentioned in connection with

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signaling. The catch-all argument also cites the prior decision of the Court of Appeals in *Sprint Commc'ns Co. v. Time Warner Cable, Inc.*, 760 F. App'x 977 (Fed. Cir. 2019). But, again, Cequel was not a party to that dispute. Just as significantly, that appeal did not involve claim construction, a question of law, but an attack on validity based on lack of written description, a question of fact reviewed under the deferential standard applicable to a jury's decision. Further, although I do not need to rely upon this, that appeal was not a precedential decision.

IV.   CONCLUSION

The parties should submit within five days a proposed order, suitable for submission to a jury, construing the terms as indicated.

Entered this 22nd day of May, 2020.

/s/ Richard G. Andrews_____
United States District Judge