IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

COMCAST IP HOLDINGS I, LLC,	:	
	:	
Plaintiff,	:	
	:	
v.	:	C.A. No. 12-205-RGA
	:	
SPRINT COMMUNICATIONS COMPANY L.P.; SPRINT SPECTRUM L.P.; and NEXTEL OPERATIONS, INC.,	:	
	:	
Defendants.	:	

CLAIM CONSTRUCTION

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August 16, 2013
Wilmington, Delaware

ANDREWS, UNITED STATES DISTRICT JUDGE:

This is a claim construction opinion. Plaintiff Comcast IP Holdings I, LLC ("Comcast") asserts certain patent rights against Defendants Sprint Communications Company L.P., Sprint Spectrum L.P., and Nextel Operations, Inc. (collectively, "Sprint").[1] Those rights include one group of patents, referred to by the parties as the "Low Patents," and an unrelated patent, U.S. Patent No. 6,873,694. The "Low Patents" are U.S. Patent Nos. 7,012,916, 7,206,304, 7,903,641, 8,170,008, 8,189,565, 8,204,046, and 8,223,752.

The "Low Patents" claim inventions facilitating the integration of traditional telephone networks with computer networks. The `694 Patent claims the invention of systems and methods to optimize a telephony network by accounting for different telephony parameters to determine whether a request for telephony network service should be accepted.

A. "Low Patents"

1. "switched telecommunication system / telecommunication system"

[1] Defendant Sprint Communications in turn counterclaimed that Comcast infringes six of its patents. That litigation is proceeding separately in Case No. 12-1013.

Claim term	Comcast's Construction	Sprint's Construction
"switched telecommunication system" 8,170,008: Claims 1, 3, 6, 7, 12, 13, 19, 27, and 29; 8,189,565: Claims 1 and 3; and 8,223,752: Claims 16, 24, and 30.	A system comprising a bearer network with switches for setting up a bearer channel through the network. A datagram-based communication system where each data packet is independently routed through a bearer network without following a predetermined bearer channel is not a "switched telecommunication system."	A system comprising a bearer network with switches for setting up a bearer channel through the network that does not include datagram-based communication systems where each data packet is independently routed through a bearer network without following a predetermined bearer channel.
"telecommunication system" 8,170,008: Claims 19 and 29.	A system comprising a bearer network with switches for setting up a bearer channel through the network. A datagram-based communication system where each data packet is independently routed through a bearer network without following a predetermined bearer channel is not a "telecommunication system."	A system comprising a bearer network with switches for setting up a bearer channel through the network that does not include datagram-based communication systems where each data packet is independently routed through a bearer network without following a predetermined bearer channel.

The parties dispute the construction of "switched telecommunication system." They do agree that a "switched telecommunication system" is defined in the specification as "a system comprising a bearer network with switches for setting up a bearer channel through the network." *See* `008 Patent at 1:31-33. They differ over whether a "switched telecommunication system" may include certain additional elements, those being elements of a "datagram-based communication system[] where each data packet is independently routed through a bearer network without following a predetermined bearer channel" ("datagram-based system"). *Id.* at 1:52-55. Sprint argues that the specification specifically defines the "switched telecommunication system" to exclude the elements of a "datagram-based system." This is

because the specification states that a "communication system" in general is a broader concept than the "switched based telecommunication system" because a "communication system" may include a "datagram-based system." *See id.* at 1:50-55. Comcast disagrees, arguing that a "communication system" is broader than a "switched telecommunication system" because a "communication system" includes a system without switches, but this does not necessarily mean that a "switched telecommunication system" cannot also have aspects of a "datagram-based system." That is, so long as a "switched telecommunication system" indeed has switches, it may also have aspects of a "datagram-based system."

The Court agrees with Comcast. A system with elements of both switches and a "datagram-based system" is not necessarily outside the scope of a "switched telecommunication system." The fact that the "communication system" is understood to be broader than the "switched telecommunication system" does not mean a "switched telecommunication system" is precluded from having some overlap with elements of a "datagram-based system." A "communication system" is still a broader concept than a "switched telecommunication system" even where the "switched telecommunication system" has elements of a "datagram-based system," because a "switched telecommunication system" at a minimum must have switches and function on a bearer network. A "communication system" does not have those requirements. Sprint's argument that a system would no longer be a "switched telecommunication system" so long as it includes datagram elements, even if it indisputably includes switches and is on a bearer network, is not justified by the claims or specification.

2. "requesting. . .a communication to be set up through the switched telecommunication system"

Claim term	Comcast's Construction	Sprint's Construction

"requesting . . . a communication to be set up through the switched telecommunication system" 8,189,565: Claim 1	Requesting a communication to be set up through a bearer network or a signaling network of the switched telecommunication system.	Requesting a communication to be set up through a bearer channel of the switched telecommunication system.

At oral argument, the parties agreed to the plain and ordinary meaning of this term. (D.I. 97, p. 48).

3. "telecommunications system control apparatus"

Claim term	Comcast's Construction	Sprint's Construction
"telecommunications system control apparatus" 7,903,641: Claims 13, 17, 21, and 25.	A device involved in the processing of signaling used in a telecommunications system to effect call control.	An apparatus that controls a "telecommunication system"

At oral argument, the parties agreed to the following construction of this term: "a device that processes signaling used in a telecommunications system to effect call control." (D.I. 97, p. 34).

4. "URI / uniform resource identifier (URI) / universal resource identifier (URI) / universe resource name (URN)"

Claim term	Comcast's Construction	Sprint's Construction
"URI / uniform resource identifier (URI) / universal resource identifier (URI) / universe resource name (URN)" 7,012,916: Claim 45;	No construction necessary. In the alternative: "A compact string of characters used to identify a resource accessible over a network."	An internet-resolvable indicator of a location of a phone page.

8,204,046: Claims 90 and 113; 7,903,641; Claims 13 and 21	Modified alternative: "A compact string of characters used to identify a resource accessible over a network and adhering to a syntax in which a naming scheme specifier is followed by a string whose format is a function of the naming scheme, with the name of the scheme separated from the following string by a colon.	
"uniform resource name" 8,170,008: Claim 28.	No construction necessary. In the alternative: "A uniform resource identifier (URI) that identifies the resource by name"	A Uniform Resource Identifier (URI) (as that term is construed by the Court) that identifies the resource by name.

The parties agree that "URI" is a term of art with a well-understood meaning. They dispute whether the meaning is redefined by the specification. Sprint argues that the following statement in the "Best Mode" section of the patent redefined the scope of "URI:" "(for convenience, the more general term URI will be used hereinafter to mean the Internet-resolvable indicator of a phone page)". '916 Patent at 13:22-25. Comcast argues that this narrower definition only applies to the "Best Mode" section and should not limit the term as it is used generally in the claims of the patent, especially because "URI" is used in sections prior to the "Best Mode" section with no redefinition or limitation.

The Court agrees with Comcast. "URI" is a widely used term with a long history in the art of computer networks, and the Court sees no clear sign that the patentee intended a redefinition. First, the passage pointed to by Sprint styles itself to be only used "for convenience," suggesting it is not a permanent redefinition and lessening the persuasiveness of its complete applicability to the claims of the patent. The "for convenience" qualifier suggests a

desire to simplify the discussion in the particular context of the "Best Mode" section, which is an extremely detailed discussion of a preferred embodiment.[2] *See id.* at 12:52-53. The understanding of the patentee's intentions is supported by his willingness to introduce the term "URI" with its traditional meaning earlier in the specification. *See, e.g., id.* at 7:61-66.

The inference that this is not a definition is bolstered by its comparison with truly clear cut definitions of the specification. Those definitions are found in the "Field of the Invention" section at the very start of the specification, fall within quotation marks, and are accompanied by the words "when used herein." Sprint's proposed redefinition shares none of those qualities. Finally, independent claim 90 of the `046 Patent includes the term "uniform resource identifier (URI)," and corresponding dependent claim 103 limits "URI" in just one way, to "an Internet-resolvable indicator of a location of a phone page." The doctrine of claim differentiation suggests that "URI" should be construed so that the construction results in independent claim 90 being broader than dependent claim 103. The only way to do that is if "URI" is not limited to just "an internet resolvable indicator of a location of a phone page."

Sprint argues that the "hereinafter" language in the alleged redefinition of "URI" requires the Court to apply the redefinition in all places subsequent, including the claims. While this is not an unreasonable stance if the phrase existed in a vacuum, or if the specification were devoid of other references to "URIs," the Court finds that it would be misplaced to find a clear definition when viewed in the context of the entire specification. As to the prosecution history cited by

[2] By my count, the term "URI" is used at least 65 times in the "Best Mode" section.

Sprint, it represents statements of the examiner rather than the patentee, and thus cannot limit the claims. The Court thus adopts the plain and ordinary meaning of "URI."[3]

5. "DNS-type database system / DNS-type distributed database system"

Claim term	Comcast's Construction	Sprint's Construction
"a DNS-type database system" 7,012,916: Claim 45	A database system comprised of one or more servers that associates domain names with one or more records and uses an IP protocol and a pre-determined message format, wherein the domain names are hierarchically structured and at least one server of the system may be addressed through a resolver.	A system having the following characteristics of the Domain Name System: i) host name space is organized as a tree structured hierarchy of nodes with each host having a corresponding leaf node; each node has a label (except the root node) and each label begins with an alphabetic character and is followed by a sequence of alphabetic characters or digits; ii) each host has one or more associated Registration Records ("RR"); iii) There are one or more DNS servers each with responsibility for a subtree of the name space. A DNS server will hold RRs for all or part of its subtree--in the latter case it delegates responsibility for the remainder of the subtree to one or more further DNS servers. A DNS server knows the address of any server to which it has delegated responsibility and also the address of the server which has given it the responsibility for the subtree it manages. The DNS servers thus point to each other in a structuring reflecting that of the naming hierarchy; iv) An application wishing to make use of the DNS does so through an

[3] Should the parties disagree as to the plain and ordinary meaning of this term, they will be given additional opportunity to argue it.

		associated "resolver" that knows the address of at least one DNS server. When a DNS server is asked by this resolver for an RR of a specified host, it will return either the requested RR or the address of a DNS server closer to the server holding the RR in terms of traversal of the naming hierarchy. In effect, the hierarchy of the servers is ascended until a server is reached that also has responsibility for the domain name to be resolved; thereafter, the DNS server hierarchy is descended down to the server holding the RR for the domain name to be resolved. v) using a predetermined message format and IP protocols.
"a DNS-type distributed database system" 7,206,304: Claim 7.	A database system comprised of a plurality of servers that associates domain names with one or more records and uses an IP protocol and a pre-determined message format, wherein the domain names are hierarchically structured and at least one server of the system may be addressed through a resolver.	A system having the following characteristics of the Domain Name System: i) host name space is organized as a tree structured hierarchy of nodes with each host having a corresponding leaf node; each node has a label (except the root node) and each label begins with an alphabetic character and is followed by a sequence of alphabetic characters or digits; ii) each host has one or more associated Registration Records ("RR"); iii) There a plurality of DNS servers each with responsibility for a subtree of the name space. A DNS server will hold RRs for all or part of its subtree--in the latter case it delegates responsibility for the remainder of the subtree to one or more further DNS servers. A DNS server knows the address of any server to which it has delegated responsibility and also the address of the server which has given it the

		responsibility for the subtree it manages. The DNS servers thus point to each other in a structuring reflecting that of the naming hierarchy; iv) An application wishing to make use of the DNS does so through an associated "resolver" that knows the address of at least one DNS server. When a DNS server is asked by this resolver for an RR of a specified host, it will return either the requested RR or the address of a DNS server closer to the server holding the RR in terms of traversal of the naming hierarchy. In effect, the hierarchy of the servers is ascended until a server is reached that also has responsibility for the domain name to be resolved; thereafter, the DNS server hierarchy is descended down to the server holding the RR for the domain name to be resolved. v) using a predetermined message format and IP protocols.

The next term is "a DNS-type database system/ DNS-type distributed database system." Sprint argues that the term has been clearly defined by the specification, as written from 5:47-6:24 of the '916 Patent and copied above. The specification states that the characteristics of Sprint's proposed construction represent the "main characteristics of the DNS" and also that they "may be considered as defining a 'DNS-type' system always allowing for minor variations such as in label syntax, how the labels are combined (ordering, separators), the message format details, evolution of the IP protocols etc." *Id.* at 5:45-47, 6:25-29. Sprint argues that its proposal is an explicit definition and should be adopted in its entirety. Comcast argues that Sprint's construction is prohibitively long, and the Court should instead adopt its version, which is truncated but nevertheless provides a concise summary that includes each element of a DNS-type

system understandable to a jury. Comcast further argues that Sprint's construction fails to account for the statement that "minor variations" from that proposed definition are permissible. In response, Sprint argues that Comcast's construction is incomplete, inexplicably leaving out numerous "main characteristics of the DNS," including the inventors' reference to a tree-structured hierarchy, the requirement of "Registration Records," and how delegation and addressing are handled. Sprint also argues that the doctrine of equivalents analysis accounts for the "minor variations" language in the specification.

The Court agrees with Sprint. Comcast may now regret the patentee's decision to explicitly define the claim term with a long and unwieldy definition, but that is the consequence with which it must live. The patentee used definitional language in connection with this term, by explicitly stating that the long quotation "may be considered as defining a 'DNS-type' system." Comcast does not cite any intrinsic evidence explaining why its proposed definition encompasses the key elements of a DNS-type system, nor does Comcast cite evidence explaining why omissions are mere "minor variations" that need not be incorporated into the construction. As pointed out by Sprint, "minor variations" from the claim may be accounted for by the doctrine of equivalents.

6. Domain name system signaling

Claim term	Comcast's Construction	Sprint's Construction
"domain name system signaling" 8,170,008: Claims 1, 5, 8, 13, 16, 27 and 28.	Signaling exchanged with the Domain Name System ("DNS") of the Internet or with a DNS-type database system.	A message format of the Domain Name System. Modified proposal: "a DNS-formatted message of the Domain Name System."

The next term is "domain name system signaling." The first dispute, whether the term is limited to the Domain Name System of the Internet, or whether it also includes DNS-type database systems, is now resolved, as the parties agreed that the term encompasses both systems. (D.I. 97, p. 82). The remaining dispute thus boils down to whether the "domain name system signaling" encompasses any signal exchanged on the system, as argued by Comcast, or only a message formatted by the DNS, as argued by Sprint.

Sprint argues that its construction should be adopted because every description in the patent about DNS or "DNS-type systems" involves a message format for querying the DNS database and receiving a response. `008 Patent at 5:43-56; Figures 3-5, 6:49-7:18. Sprint also points out that one of the five defined "main characteristics" of the "DNS-type system" includes its use of a "predetermined message format." *Id.* at 5:56-58. Of the allowable "minor variations" of the "DNS-type system," one includes the "message format details." *Id.* at 5:63. Comcast concedes that DNS-type systems use "a predetermined message format, and also concedes that signaling and messaging are synonymous. (D.I. 81, p. 75). Comcast disagrees, however, that the "DNS-type system" itself formats the message. There is, however, no suggestion within the specification as to which other component of the invention would format the message. It is not disputed that the "DNS-type system" is the component that sends and receives the messages, and that the system's use of a predetermined message format is a main characteristic of the system. It is further not disputed that the "message format details" are varied within the "DNS-type system" itself, not some other component of the invention. It follows that, as the "message format" is controlled by the "DNS-type system," the "DNS-type system" formats the actual message. For these reasons, the Court construes "domain name

system signaling" as "a DNS-formatted message of the Domain Name System of the Internet or with a DNS-type system."

7. A substantial portion of the number string

Claim term	Comcast's Construction	Sprint's Construction
"a substantial portion of the number string" 7,012,916: Claim 45; and 7,206,304: Claim 7.	A portion of a number string having a distinct meaning such as, in the case of a telephone number, the country code, the area code, or the local number.	Indefinite.

The next term is "a substantial portion of the number string." The dispute as to this term is whether it can be construed at all, as Sprint argues that it is indefinite. Sprint argues that a "number string" is generically claimed with an unlimited scope that can be practiced by an infinite number of strings with various lengths, groupings, and meanings, including phone numbers, local routing numbers, groupings, meanings, etc. In response, Comcast argues that the claims themselves offer context to understand the scope of the "number string," as they are associated with identifying a target entity. *See, e.g.*, '916 Patent at claim 45; '304 Patent at claim 7. Comcast further argues that a person skilled in the art would understand the "distinct meaning" any individual number string may have according to the distinct groups of a number. In response, Sprint argues that a "number string" is not fairly limited to the only type of string described as parsed in the patents.

The Court agrees with Comcast. Although the term "number string" is vague in a vacuum, it must be read in light of the specification as a whole. The only type of strings described in the patents are telephone numbers, and this helps inform the construction of the term. The Court

thus does not believe that "number string" is so "insolubly ambiguous" as to evade construction and adopts Comcast's proposed construction. The Court is not making an ultimate finding as to the indefiniteness of the term, and Sprint is free to renew the argument at the summary judgment stage.

B. U.S. Patent No. 6,873,694

The remaining three terms are from the claims of the `694 Patent.

1. Dial-up prompt [parameter]

Claim term	Comcast's Construction	Sprint's Construction
"dial-up prompt [parameter]" Claim 5	A parameter that allows a user to decide whether to allow network connections on each request or whether a prompt to the user is required on each request.	A parameter that allows a requesting application, or requester, to give a user of an appliance control over an Internet connection.

The parties dispute the construction of "dial-up prompt [parameter]." The key dispute in scope is whether the "dial-up prompt [parameter]" must trigger a prompt in response to each attempt to connect to the network, as argued by Sprint, or whether it includes the ability to decide whether the prompt is required at all, as argued by Comcast.

The specification states, "A dial-up prompt parameter may allow a user to decide whether to allow network connections on each request; that is, the user may decide when it is appropriate to connect to the telephony network using an appliance, and when to keep the telephone available for phone conversations." `694 Patent at 3:17-22. The specification is clear that the "dial up prompt parameter" arms the user with the ability to "decide when it is appropriate to connect to the telephony network." This is a broad-sounding statement that, most naturally read,

would include any decision controlling connectivity to the network, even one made in advance of a request that did not require the presentation of a prompt. It does not require the decision to allow or deny a network connection to be made in response to or contemporaneously with each instance of request. This is supported by Figure 2 of the specification, which shows that the user may control whether a prompt is required.

Sprint's arguments are not convincing. Sprint relies on the following from the specification: "a dial-up prompting parameter, which allows a requesting application, or requester, to give a user of an appliance control over an Internet connection." *Id.* at 2:56-69. This sentence, however, merely states what the dial-up prompting parameter allows, and is not inconsistent with allowing advanced control or setting the prompt to not appear at all. Further, the claim does not require a "dial-up prompt," it requires a "dial-up prompt parameter," and the "parameter" may be used to control whether the prompt appears at all. Finally, Sprint argues that the Court's construction will incorrectly "ensnare systems that do not actually require dial-up prompts." This is not so. Any accused system must have the capability of presenting a dial-up prompt.

2. Telephony parameter

Claim term	Comcast's Construction	Sprint's Construction
"telephony parameter" Claims 1, 5, and 21.	A variable or factor used to determine whether to allocate a channel on a telephony network to an application or to a phone conversation.	Plain and ordinary meaning.

The parties next dispute the scope of "telephony parameter." Sprint argues for the plain meaning of the term, while Comcast argues that the term is not so simple as to justify a plain and

ordinary construction. The Court agrees with Sprint, as Comcast's construction only repeats requirements already found in two of three claims. For example, claim 1 states, "determining whether to allocate to the application a channel on the telephony network based on telephony parameters for obtaining balanced network service between the application usage of the telephony network and telephone usage of the telephony network." Where those requirements are not found, in claim 21, the Court agrees with Sprint that the claim provides its own context sufficient to understand the "telephony parameters" at play. As there does not seem to be an actual dispute of scope here, *i.e.*, neither party genuinely represents that anything of significance is wrongly excluded or included by the other's construction, the Court adopts the plain and ordinary meaning of "telephony parameter."

3. Telephone usage of the telephony network

Claim term	Comcast's Construction	Sprint's Construction
"telephony usage of the telephony network" Claim 1	Use of the telephony network by a telephone for a phone conversation	Plain and ordinary meaning

The final term is "telephone usage of the telephony network." The dispute of scope here is whether such "telephone usage" is restricted to network usage for phone conversations, as argued by Comcast, or whether it may also include other phone activities, such as voicemail or text messages, as argued by Sprint. The Court agrees with Sprint. The use of a telephone on a telephony network most naturally includes more functionality than a mere voice conversation, even going back to the 2001 filing date of this patent, when voicemail and text messages were already well-known. The Court thus adopts the plain and ordinary meaning of this term.

The parties are instructed to jointly submit a claim construction order suitable for submission to the jury consistent with this opinion within 14 days.