UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

BROCADE COMMUNICATIONS SYSTEMS, INC., a Delaware corporation, and FOUNDRY NETWORKS, LLC, a Delaware limited liability company, Plaintiffs and Counterclaim Defendants, v. A10 NETWORKS, INC., a California corporation; LEE CHEN, an individual; RAJKUMAR JALAN, an individual; RON SZETO, an individual; DAVID CHEUNG, an individual; LIANG HAN, an individual; and STEVE HWANG, an individual, Defendants and Counterclaimants.	Case No.: 10-CV-03428-LHK ORDER CONSTRUING DISPUTED CLAIM TERMS OF U.S. PATENT NOS. 7,647,427; 7,716,370; 7,558,195; 7,454,500; 7,581,009; 7,657,629; 7,584,301; 7,840,678; and 5,875,185

Plaintiffs Brocade Communications Systems, Inc. and Foundry Networks, LLC (collectively "Brocade") bring this action against A10 Networks, Inc. ("A10"), and the following individuals: Lee Chen, Rajkumar Jalan, Ron Szeto, David Cheung, Liang Han, and Steve Hwang. Brocade asserts claims of patent and copyright infringement as well as trade secret misappropriation, breach of contract, breach of fiduciary duty, breach of duty of loyalty, interference with prospective economic advantage, interference with contract, and unfair competition under Cal. Bus. & Prof. Code §§ 17200 *et seq.* A10 counterclaimed that several of Brocade's products infringed one of A10's patents. The parties now seek construction of ten disputed terms used in the claims of the following patents-in-suit: U.S. Patent Nos. 7,647,427 B1 ("'427 Patent"); 7,716,370 ("'370 Patent"); 7,558,195 ("'195 Patent"); 7,454,500 ("'500 Patent"); 7,581,009 ("'009 Patent"); 7,657,629 ("'629 Patent"); 7,584,301 ("'301 Patent"); 7,840,678 ("'678 Patent"); and 5,875,185 ("'185 Patent"). The Court held a technology tutorial on December 12, 2011, and a claim construction hearing on December 19, 2011. The Court has reviewed the claims,

specifications, and other relevant evidence, and has considered the briefing and arguments of the parties. The Court now construes the terms at issue.

I. BACKGROUND

A. Prosecution History

At issue in this claim construction are four families of Brocade's patents and one of A10's patents.

Brocade's '427 Patent and the '370 Patent are related and share a common specification. Both patents are titled "Redundancy Support for Network Address Translation." The '427 Patent application was filed on October 18, 2002, and the patent issued on January 12, 2010. The '370 Patent is a divisional of the '427 Patent. The '370 Patent application was filed on January 24, 2007, and the patent issued on May 11, 2010.

Brocade's '195 Patent, titled "System and Method for Providing Network Route Redundancy Across Layer 2 Devices," is unrelated to any of the patents-in-suit. Its application was filed April 2, 2007, and the patent issued on July 7, 2009.

Brocade's '500, '009, '629, '301, and '678 Patents all relate to "Global Server Load Balancing." The application for the '500 Patent was filed on September 26, 2000, and the patent issued on November 18, 2008. The '009 Patent is a continuation of the '500 Patent, and the two share a common specification. The '009 Patent's application was filed on April 27, 2007, and the patent issued on August 25, 2009. The '629 Patent is a continuation in part of the '009 and '500 Patents, and their specifications, while not identical, have much in common. The '629 Patent's application was filed February 28, 2003, and the patent issued February 2, 2010.

Brocade's '678 Patent is a continuation of the '301 Patent, and they share a common specification. The '301 Patent's application was filed May 6, 2004, and the patent issued September 1, 2009. The '678 Patent's application was filed July 20, 2009, and the patent issued November 23, 2010.

The '185 Patent was filed July 20, 2009, and the patent issued November 23, 2010. A10's Taiwan affiliate, A10 Networks, Inc. Taiwan, purchased the '185 Patent from its original assignee, the Industrial Technology Research Institute, on March 18, 2011. Declaration of Siddhartha M.

Venkatesan in Support of Brocade's Motion for Summary Judgment of Noninfringement of U.S. Patent No. 5,875,185, ECF No. 223 Ex. A. A10 acquired the '185 Patent on May 10, 2011. *Id.*

B. Background and Description of the Inventions

The inventions at issue relate to improving various aspects of network communications.

1. '427 and '370 Patents

The '427 and '370 Patents both teach "providing redundancy support for network address translation (NAT) devices (such as routers or switches) in the event of a failover." '427 Patent 1:10-12. A NAT device translates Internet Protocol (IP) addresses used within one network to a different IP address known within another network. *Id.* at 1:15-17. For example, a company may use a NAT device to map its local inside network addresses to one or more global outside IP addresses, and map the global IP addresses on incoming packets back into local IP addresses. *Id.* at 1:20-24. Such translation is used for security and to limit the number of IP addresses a company uses to communicate outside of its local inside network. *Id.* at 1:24-34.

The inventions claimed by the '427 and '370 Patents overcome a problem in the prior art that occurred when a NAT device without redundancy failed due to, for instance, a power failure. *Id.* at 1:41-45; '370 Patent at 1:48-50. In such situations, without redundancy, the NAT device would be unable to perform address translation and to forward traffic. *See* '427 Patent at 1:47-48; '370 Patent at 1:52-56. Even in prior art systems that included a backup NAT device, a NAT device failure would result in network downtime and lost traffic between the time that the failure occurred and the time that the backup NAT device was brought online. '427 Patent at 1:48-53; '370 Patent at 1:56-62. The inventions claimed by the '427 and '370 Patents provide a method for redundancy support, which allows a backup NAT device to continue the NAT function of a failed master NAT device without incurring downtime after the failure. *See id.* at 2:54-62; '370 Patent at 2:59-3:3.

2. '195 Patent

The '195 Patent teaches "systems and methods for providing route redundancy across Layer 2 devices, as well as selected ports on L2 devices." '195 Patent at 1:38-40. The invention solves network traffic problems encountered by networks that cover large geographic areas such as

Metropolitan Area Networks that span a single urban metropolitan environment. *Id.* at 1:52. These large networks are moving towards using switches, rather than Layer 3 devices such as routers, to avoid latency problems associated with the use of Layer 3 devices. *Id.* at 1:64-66. "In a switched network, all hosts or end nodes connected to the same physical Local Area Network ("LAN") segment reside in the same broadcast domain, which has the potential of flooding the network with traffic and making it essentially unusable as the network grows." *Id.* at 1:67-2:4. The '195 Patent provides route redundancy to Layer 2 networks and improves on the shortcomings of the prior art. The invention achieves route redundancy by having "a plurality of switches arranged in arbitrary configuration or architecture, but must remain loop free through the use, for example, of spanning tree or other protocol. Redundancy is provided through use of a virtual switch identified by an address and having two or more layer switches which communicate with one another to elect a master at any given time." *Id.* at 3:43-49.

3. The Global Sever Load-Balancing ("GSLB") Patents

The '500, '009, '629, '301, and '678 Patents all relate generally to using a global server load-balancing ("GSLB") switch to achieve load balancing among servers.

The '500 and '009 Patents relate to "achieving load balancing by, in response to a [Domain Name System ("DNS")] query by a client, providing the address of a server that is expected to serve the client with a high performance in a given application." '500 Patent at 1:7-11. When an internet user seeks access to a website by typing in a Uniform Resource Locator ("URL"), a device known as a DNS server translates the URL into an IP address. *See id.* at 1:13-17. Websites that receive heavy traffic may have multiple valid IP addresses so no one IP address is overloaded with requests. Brocade's Initial Claim Construction Brief ("Brocade's CC Br."), ECF No. 227, at 13. The DNS server achieves "load balancing" by distributing requests across multiple IP addresses. *Id.* The prior art used a "round-robin algorithm to rotate the IP addresses in a list of responsive IP addresses, so as to distribute equally the requests for access among the host servers." '500 Patent at 1:39-43. The prior art method had certain shortcomings like, for example, not optimizing the IP address for a particular request or providing a non-working IP address for a down server. *Id.* at 1:45-49.

The '500 Patent and its relatives improve upon the prior art by teaching the GSLB invention, whereby a GSLB server, upon receipt of a request to resolve an IP address, ranks the responsive addresses based on various performance metrics.

> In one embodiment, the IP address that is estimated to provide the best expected performance for the client is placed at the top of the list. Examples of suitable performance metrics include availability metrics (e.g., a server's or an application's health), load metrics (e.g., a site switch's session capacity or a corresponding preset threshold), and proximity metrics . . . . The ordered list can also be governed by other policies, such as the least selected host server.

Id. at 4:1-14.

Like the '500 and '009 Patents, the '629 Patent performs a similar function of achieving load balancing, but adds additional metrics, such as a weighted site metric, a weighted IP metric, or an active bindings metric. *See* '629 Patent at 2:45-57.

The '678 and '301 Patents improved upon the prior art by allowing a single DNS server to act as an authoritative DNS server for multiple domains, yet applying different criteria in evaluating the "best" address for each domain. *See* '301 Patent at 4:22-24, 6:11-22. Before the invention of the '301 Patent, there was no way to configure a GSLB switch to use different metrics or rules in evaluating the "best" address for each domain. *See, e.g.*, '301 Patent at 2:8-30.

4. A10's '185 Patent

A10's '185 Patent, titled "Seamless Handoff for a Wireless LAN/Wired LAN Internetworking," claims methods of keeping a mobile device, known as a mobile terminal, connected to a wireless local area network (WLAN) as it moves around and passes from one base station's coverage area to another. The invention provides a method for seamlessly handing off a mobile terminal from one base station to another without losing a network connection. *See* '185 Patent 1:5-10. The invention improves upon the prior art's "path elongation" method of using a "virtual channel connection" ("VCC") to connect mobile terminals within a network. *See id.* at 1:60-65. The prior art's shortcoming was that as a mobile terminal with a VCC to another mobile terminal moves from one base station's coverage to another, the distance the message must travel increases, which leads to bandwidth waste and slows a network down. *Id.* at 2:31-32; 2:54-57. The invention is a new handoff method that maintains a mobile terminal's VCC as the mobile

terminal moves from one base station's coverage to another, but reduces or eliminates path elongation. *Id.* at 3:19-35.

The invention teaches handoff methods for two scenarios: (1) "intraswitch mobility," where a mobile terminal moves from a first base station to a second base station that is connected to the same switch, and (2) "interswitch mobility," where the mobile device moves from a base station associated with a first switch to a new base station associated with a second switch. *Id.* at 3:21-26.

The invention's handoff method in the intraswitch mobility scenario completely eliminates path elongation. *Id.* at 3:27-29. Under the prior art, when a mobile device moved from one base station to another, data had to travel to the old base station first, back to the switch, and then to the new base station. *Id.* at 2:31-54. Under the '185 Patent's method, the switch changes the data path directly to the new base station and eliminates the path through the original base station. *Id.* at 3:27-29. This intraswitch handoff is achieved through four "control messages": "location message," "connection message," "routing message," and "complete message." *Id.* at 5:50-6:4. The meaning of some of these control messages is disputed by the parties, and the Court discusses the disputed messages in further detail and construes their meaning below.

The invention's handoff method in the interswitch mobility scenario reduces, but does not completely eliminate, path elongation. *Id.* at 2:29-35. The '185 Patent teaches a handoff method where the switch performs the path set-up, rather than the original base station. *Id.* at 2:29-30. The path may be elongated from the switch connected to the original base station, to the new base station, rather than from the original base station to the new base station. *Id.* at 2:30-33. The interswitch handoff uses the "location message," "connection message," and "routing message" discussed above. *Id.* at 7:8-10. It also uses a "couple message," discussed in greater detail and construed below, and a signaling virtual channel. *Id.* at 7:10-11.

II. LEGAL STANDARD

Claim construction is a question of law to be determined by the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd* 517 U.S. 370 (1996). "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim."

Phillips v. AWH Corp., 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). Accordingly, a claim should be construed in a manner that "stays true to the claim language and most naturally aligns with the patent's description of the invention." *Id.*

In construing disputed terms, the court looks first to the claims themselves, for "[i]t 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.'" *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Generally, the words of a claim should be given their "ordinary and customary meaning," which is "the meaning that the term[s] would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1312-13. In some instances, the ordinary meaning to a person of skill in the art is clear, and claim construction may involve "little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

In many cases, however, the meaning of a term to a person skilled in the art will not be readily apparent, and the court must look to other sources to determine the term's meaning. *Id.* Under these circumstances, the court should consider the context in which the term is used in an asserted claim or in related claims, bearing in mind that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. Indeed, the specification is "'always highly relevant'" and "'[u]sually [] dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Where the specification reveals that the patentee has given a special definition to a claim term that differs from the meaning it would ordinarily possess, the inventor's lexicography governs. *Id.* at 1316. Likewise, where the specification reveals an intentional disclaimer or disavowal of claim scope by the inventor, the inventor's intention as revealed through the specification is dispositive. *Id.*

The Court may also consider the patent's prosecution history, which consists of the complete record of proceedings before the PTO and includes the cited prior art references. The Court may consider prosecution history where it is available in evidence, for the prosecution

history "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be." *Id.* at 1317 (internal citations omitted).

Finally, the court is also authorized to consider extrinsic evidence in construing claims, such as "expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980 (internal citations omitted). Expert testimony may be particularly useful in "[providing] background on the technology at issue, [explaining] how an invention works, [ensuring] that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or [establishing] that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Phillips*, 415 F.3d at 1318. Although the court may consider evidence extrinsic to the patent and prosecution history, such evidence is considered "less significant than the intrinsic record" and "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.* at 1317-18 (internal quotation marks and citation omitted). Thus, while extrinsic evidence may be useful in claim construction, ultimately "it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1319. Any expert testimony "'that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history" will be significantly discounted. *Id.* at 1318.

III. DISCUSSION

A. "base address corresponding to . . . pool of . . . addresses"

Brocade's Proposed Construction	A10's Proposed Construction
Plain and ordinary meaning.[1]	"starting address of . . . pool of . . . addresses"

[1] Brocade's briefing implicitly suggests the following alternative construction: "address corresponding to a pool of addresses, which is used to identify that pool of addresses," *see* Brocade CC Br. 6, and at the claim construction hearing Brocade acknowledged that this alternative construction may be helpful to the jury.

The terms "base address corresponding to . . . pool of addresses" appear in Claims 1, 6, and 8 of the '427 Patent, and Claims 1, 6, 10, 18, and 27 of the '370 Patent. For example, Claim 1 of the '427 Patent recites:

> 1. An article of manufacture, comprising:
>
> a storage medium having instructions stored thereon that are executable by a back-up device to:
>
> share, by said back-up device with a master device, a ***base address corresponding to*** a first ***pool of*** first ***addresses*** that are owned by said master device;
>
> perform network address translation (NAT) and routing, by said back-up device, for a second pool of second addresses while said master device is active;
>
> detect, by said back-up device, a failure of said master device; and
>
> assert ownership, by said back-up device, of all of said first addresses of said first pool corresponding to said base address, in response to detection by said back-up device of said failure.

'427 Patent at 9:11-26 (emphasis added).

The Court finds it unnecessary to construe "corresponding to" to mean "of," as A10 proposes, because the term "corresponding to" would be well understood by a jury and does not require construction. *Liquid Dynamics Corp. v. Vaughan Co.*, 355 F.3d 1361, 1368 (Fed. Cir. 2004). Furthermore, the parties do not dispute the meaning of "pool of . . . addresses." At issue, therefore, is whether the term "base address" in the claims should be limited to a "starting address," as it is in the specification.

Brocade argues that a person of ordinary skill in the art[2] would understand that a "base address" need not be a "starting address," and that A10 is improperly attempting to import limitations from specific embodiments in the specification. A10 argues that the meaning of "base

[2] The parties agree that a person of ordinary skill in the art in this case would be a person with a Bachelor of Science degree in computer science or electrical engineering, or its equivalent, with several years of experience with the operation and management of networking systems. Declaration of Izhak Rubin in Support of Brocade Communications Systems, Inc.'s and Foundry Networks, LLC's (1) Claim Construction Brief; (2) Opposition to Defendants' Motion for Summary Judgment of Non-Infringement of U.S. Patent Nos. 7,647,427 and 7,716,370; and (3) Opposition to Defendants' Motion for Summary Judgment of Non-Infringement of U.S. Patent No. 7,558,195 (lodged with the Court) ("Rubin Decl."), at ¶ 20; Declaration of J. Douglas Tygar, Ph.D., In Support of Defendant and Counterclaimant A10 Networks, Inc.', and Defendants Lee Chen's and Rajkumar Jalan's Responsive Claim-Construction Brief ("Tygar Decl."), ECF No. 324, at ¶ 17.

address" is not clear and that the specification dictates that the base address must be the starting address, i.e. the lowest numbered address, in a pool of addresses. The Court agrees with Brocade.

1. Claim Language

As the above exemplar from the claim language shows, and Brocade points out, the claims themselves are silent as to whether a "base address" corresponding to a pool of addresses must be the "starting address" of such a pool. Thus, the Court turns to the specification for further guidance.

2. Specification

Brocade argues that the specification makes clear that the base address is simply used to identify an address pool. Brocade's CC Br. 6.

Brocade argues that A10's proposed construction is contrary to the intrinsic evidence. In support of this argument, Brocade points out that the word "'start' and its variations do not appear anywhere in the Patents." *Id.* at 7. The Court notes that while the word "start" does not appear in the specification in the context of base addresses, "starts" and "starting" appear in other, irrelevant contexts.[3] Brocade also points to language that suggests that the "base address" is simply used to identify the address in an address pool: "For instance, if there is a pool of NAT addresses, the base address is associated to a back-up NAT device during the configuration, and if there is a failover involving any of the IP addresses in the same pool, such IP address(es) are 'hooked' to the back-up NAT device by way of the base address." '427 Patent at 7:35-39. The Court agrees with Brocade that this passage from the specification, showing that the base address is simply used to identify a pool of IP addresses, does not support A10's proposed construction that would narrow "base address" to only the "starting address" in a pool of addresses.

However, other examples from the specification lend some support to A10's proposed construction. In specific embodiments described in the specification, as Brocade acknowledges, the "base address" is "the lowest address in the pool." Brocade CC Br. 7. For example, the

[3] "The session synchronization information may be generated dynamically or 'on-demand' whenever new sessions are *started*." '427 Patent 8:7-9 (emphasis added). "When the master NAT device goes down, the back-up NAT device detects the gap or other interruption in the communication and takes ownership of the MAC address, and *starts* forwarding traffic destined for that address." '427 Patent 3:40-44 (emphasis added).

specification describes "192.168.2.20" as the "base address" in a pool ranging from "192.168.2.20 to 192.168.2.70." '427 Patent at 4:61-62, 5:10. In another example, 192.168.2.1 is the base address in a pool of addresses ranging from 192.168.2.1 to 192.168.2.40. *Id.* at 5:64-6:9.

A10 argues that because the specification's only examples of "base addresses" are "starting addresses," "the claim can properly be restricted to just the disclosed embodiments." Defendant and Counterclaimant A10 Network, Inc.'s and Defendants Lee Chen's and Rajkumar Jalan's Responsive Claim-Construction Brief ("A10's CC Resp."), at 12 (citing *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1378 (Fed. Cir. 2006)). However, *Curtiss-Wright* is inapposite because there, unlike here, the limitation from the specification was the express improvement over the prior art and a "critical aspect" of the invention. 438 F.3d at 1378-79. Here, the specification does not suggest that limiting "base addresses" to "starting addresses" was an improvement over the prior art or a "critical aspect" of the invention.

Moreover, while the background context provided by the specification is generally relevant to claim construction, the Court must be careful not to import limitations from the specification into the claim terms in the absence of the patentee's explicit expression of such intent. *Phillips*, 415. F.3d at 1316, 1323. Here, nothing in the specification reveals an express intent to limit the claim term "base address" to "starting address of a pool." Moreover, the specification specifically states that the "IP addresses are used merely for illustrative purposes to explain operation of an embodiment of the invention, and are not intended to restrict the scope of the invention to the specific addresses shown." '427 Patent at 3:52-56. A10 is unable to identify any language in the specification demonstrating that Brocade explicitly expressed its intent to limit "base address" to "starting address."

3. Prosecution History

Neither party relies on evidence from the prosecution history for the interpretation of this term. As such, the Court turns to the extrinsic evidence.

4. Extrinsic Evidence

Although extrinsic evidence is generally not dispositive, both Brocade and A10 cite expert testimony in support of their proposed constructions.

Brocade's expert, Dr. Rubin, states that "the plain language of the claim best represents its true meaning because the claim language makes clear that the 'base address' is simply an address 'corresponding to. . . [the] pool of addresses," Rubin Decl. ¶ 89 (alteration in original). As Dr. Rubin explains, in one embodiment of the '427 Patent, "[i]n the event that the main [NAT] device fails, the backup device asserts control over the entire pool associated with that 'base' address." *Id.* at ¶ 57 (citing '427 Patent at 7:35-39).

A10's expert, Dr. Tygar, on the other hand, argues that the meaning of the language is not clear to one of ordinary skill in the art, and that the specifications "dictate only one possible relationship between a base address and a pool of addresses: that the base address is the starting address of the addresses of the pool of addresses." Tygar Decl. ¶¶ 28-29.

The Court finds that A10's expert's declaration is insufficient to show that the patentee clearly intended to limit the scope of the claim to the specification. As such, the Court construes "base address corresponding to . . . pool of addresses" to mean "an address corresponding to a pool of addresses, which is used to identify that pool of addresses."

B. "transmitting . . . redundancy control packets for flooding throughout the Layer 2 network"

Brocade's Proposed Construction	**A10's Proposed Construction**
Plain and ordinary meaning.	"forwarding . . . packets without routing addresses."

The term "transmitting . . . redundancy control packets for flooding throughout the Layer 2 network" appears in claim 1 of the '195 Patent. That claim reads:

> A switch for use in a system of switches, the system of switches acting as a virtual switch, the switch comprising: a memory; and a plurality of ports, each for communicatively coupling the switch to a Layer 2 network, wherein the switch is configured to act in concert with one or more other switches in the system of switches to provide route redundancy for the Layer 2 network, and wherein the switch is configured to communicate its status to the one or more other switches by ***transmitting***, via at least one of the plurality of ports, ***redundancy control packets for flooding throughout the Layer 2 network***.

'195 Patent at 21:22-33 (emphasis added).

The parties stipulated that the only terms requiring construction are "packets for flooding throughout the Layer 2 network." ECF No. 412 ¶ 1.

Brocade urges the Court to give these disputed claim terms their plain and ordinary meaning and accuses A10 of improperly excising "throughout the Layer 2 network" and importing limitations from the specifications into the claim terms. *Id.* at 11. In its reply claim construction brief, Brocade suggests that the disputed claim terms should be construed as "transmitting redundancy control packets that are in some way configured to be flooded throughout the Layer 2 network." Brocade CC Reply 8.

A10 does not offer any argument for excising the words "throughout the Layer 2 network" from the disputed claim terms. Therefore, the Court will give these words their plain and ordinary meaning. *See Liquid Dynamics Corp.*, 355 F.3d at 1368. Although A10 recognizes that "one of ordinary skill in the art would customarily understand "packets for flooding" to mean "packets that are in some way configured to be flooded," A10's CC Resp. 13, A10 argues that language in the specification compels the Court to construe "packets for flooding" to mean "packets without addresses." *Id.* at 13.

Accordingly, the Court deems A10 to have narrowed the dispute to whether "packets for flooding" must be "packets without routing addresses." The parties' briefing does not rely on the prosecution history and instead focuses on language in the specification and the parties' experts' dueling interpretation of this language.

1. Specification

The specification states that "[a]s understood by those skilled in the art, flooding . . . is generally performed when the packet has no routing address." '195 Patent at 10:21-24.

Brocade argues that the use of the word "generally" makes clear that the lack of a routing address is not a requirement of Claim 1 and that A10's arguments to the contrary are an attempt to import limitations from the specification into the claim terms. Brocade CC Br. 11. A10 argues that the word "generally" is used "to clarify that flooding is not *always* performed when a packet has no routing address." A10 CC Resp. 13 (emphasis in original).

The Court agrees with Brocade that A10 is impermissibly seeking to import into the claim terms the specification's limitation that the packets not have a routing address. To show that Brocade as its "own lexicographer" chose to give "packets for flooding" a definition other than its plain and ordinary meaning, A10 must show that Brocade clearly intended "packets for flooding" to mean "packets without routing addresses." *Johnson Worldwide Assoc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999). The relevant statement in the specification is hardly of "sufficient clarity to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term." *Merck & Co., Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir. 2005). Moreover, A10's expert confirms that the meaning of "packets for flooding" would be clear to a person of ordinary skill in the art.

2. Extrinsic Evidence

Both parties' experts agree, and A10 conceded at the claim construction hearing, that the meaning of "packets for flooding" is clear to a person of ordinary skill in the art. As the above statement from the specification shows, a person of ordinary skill in the art would understand that flooding can be performed when a packet has no routing address. However, Brocade's expert states that packets *with* routing addresses could also be flooded, for example, through the use of a "packet containing an IP header as well as a MAC (Layer 2) multicast or broadcast address." *See* Rubin Decl. ¶ 92. A10's expert appears to agree that there are ways other than omitting routing addresses for packets to be flooded. Indeed, Dr. Tygar stated that one of ordinary skill in the art generally would understand "packets for flooding" to mean "packets that are in *some way* configured to be flooded." *See* Tygar Decl. ¶ 34 (emphasis added). Thus, limiting the claim to "packets without routing addresses" would exclude embodiments well known to those of ordinary skill in the art.

Accordingly, the Court construes "transmitting . . . redundancy control packets for flooding throughout the Layer 2 network" to mean "transmitting . . . redundancy control packets that are in some way configured to be flooded throughout the Layer 2 network."

C. "order[ing] . . . network addresses"

Brocade's Proposed Construction	A10's Proposed Construction
Plain and ordinary meaning	"rank[ing] network addresses in a sequentially ordered list using a method other than a rotation-based algorithm"

The terms "order[ing] network addresses" appear in Claims 1 and 25 of the '500 Patent and Claims 1, 12, 13, and 24-26 of the '009 Patent. Claim 1 of the '500 Patent is representative of how the disputed term is used:

> A method of load balancing among host servers of a data network, the method comprising; storing, in a load balancing switch of the data network, round trip time data for a plurality of host server site switches, wherein the round trip time data for a host server site switch from the plurality of host server site switches indicates a time for exchanging at least one message between the host server site switch and a first client machine of the data network, wherein each host server site switch from the plurality of host server site switches is associated with one or more host servers of the data network, the one or more host servers associated with a host server site switch being reachable via the host server site switch; and ***ordering***, in the load balancing switch, a plurality of ***network addresses***, the plurality of network addresses being responsive to a query regarding a host name, the plurality of network addresses determined from resolution of the host name, the plurality of network addresses comprising network addresses of multiple host server site switches from the plurality of host server site switches, wherein the load balancing switch is capable of ***ordering*** the plurality of ***network addresses*** based, at least in part, on the round trip time data stored for the multiple host server site switches.

'500 Patent at 6:57-7:14 (emphasis added).

Brocade once again argues for the plain and ordinary meaning, while A10 seeks to define the terms as "rank[ing] network addresses in a sequentially ordered list using a method other than a rotation-based algorithm."

Although Brocade agrees that "ordering" is synonymous with "ranking," Brocade Br. 15, it argues that replacing "ordering" with "ranking" is unnecessary at best and confusing to the jury at worst, Brocade CC Reply 12. The Court agrees with A10 that to the extent "ordering" and "ranking" are synonymous to those of ordinary skill in the art, the word "ranking" would be clearer to a jury because the specification makes clear that ordering here means "ranking or weighting." *See* '500 Patent at 3:26-28.

Brocade more strongly challenges A10's additional limitations that the ranking must be "in a sequentially ordered list using a method other than a rotation-based algorithm." Both parties make valid points.

1. Claim Language

The claim language in the '500 Patent tends to undercut A10's argument that the ranking needs to be in a sequentially ordered list. Indeed, as Brocade points out, the words "sequentially ordered list" do not appear in the claims of the '500 Patent. To the extent the term "list" appears at all, it is in dependent Claims 12 and 13, which depend from independent claim 1 in the '500 Patent. For example, Claim 12 requires arranging the network addresses into an "ordered list" based on their round trip time, placing the address with the lowest round trip time at the top of the list. '500 Patent at 7:51-62. Under the claim differentiation doctrine, there is a presumption that dependent claims are narrower than the independent claims from which they depend. *Phillips*, 415 F.3d at 1314-15.

A10 counters, without citation, that claim differentiation does not apply where the dependent claim recites various limitations not found in the dependent claim from which it depends. It argues that the "generating step" in dependent Claim 12 recites various limitations not found in claim 1. Even assuming, without deciding, that the claim limitation doctrine applies, the evidence in the prosecution history, as explained below, would rebut the presumption against importing the "ordered list" limitation from the dependent claims here.

The claim language in the '009 Patent, by contrast, does not present any claim differentiation doctrine issues. For example, independent Claims 12 and 24 of the '009 Patent teach a method and a system, respectively, that "order[], at the load balancing switch, the plurality of network addresses one or more times based upon the stored performance metrics until an *ordered list of network addresses is generated that has only one network address at the top of the ordered list.*" '009 Patent at 8:24-28, 10:9-12 (emphasis added). While the claim differentiation doctrine creates a presumption of broader scope of the independent claims in the '500 Patent, the doctrine would not apply to support Brocade's proposed construction of the '009 Patent, where the

limitation is present in *independent* claims. Independent Claims 12 and 24 include the limitation of a rank ordered list that places the best network address at the top of the list.

At the same time, however, independent Claims 12 and 24 suggest that the patentee intentionally included language to specify when the claims required generating a list with the best address at the top. Reading a limitation of generating a "sequentially ordered list" into the term "order[ing]," as A10 proposes, would render the claim language "until an ordered list of network addresses is generated that has only one network address at the top of the ordered list" superfluous. Thus, given that claims "must be 'interpreted with an eye toward giving effect to all terms in the claim,'" *Becton, Dickinson & Cp. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010), the Court declines to read the limitation of generating a "sequentially ordered list" into the term "order[ing]."

2. Specification

The specification supports A10's proposed limitation excluding "round-robin" as the sole basis for ordering IP addresses, but it does not support reading the limitation of generating a "sequentially ordered list" into the term "order[ing]."

Round-Robin. The specification clearly disclaimed the exclusive use of simple round-robin algorithms. Specifically, the specification disclaimed the method prevailing in the prior art of using a "simple round-robin algorithm to rotate the IP addresses in a list of responsive IP addresses, so as to distribute equally the requests for access among the host servers" and instead "provide[d] an improved method and system for serving IP addresses to a client, based on a selected set of performance metrics." '500 Patent at 1:39-43, 64-66. This statement supports A10's proposed limitation of "using a method other than a rotation-based algorithm." At the claim construction hearing, A10 agreed that "round-robin algorithm" could replace "rotation-based algorithm" in A10's proposed construction. The Court prefers to use "round-robin algorithm" as this is the only method that was disclaimed.

Additional language in the specification, however, undercuts A10's proposed construction requiring ordering to use "a method other than a rotation-based algorithm." For example, in one embodiment, the specification states that if "a best IP address" is not chosen, i.e. there is a tie, then

"an IP address in the site that is least often selected to be the 'best' site is chosen." '500 Patent at 6:8-11. This suggests that a round-robin algorithm can be used, as long as other metrics are also used for ordering. Thus, while there was no clear and unambiguous disclaimer of *any* use of a round-robin algorithm, the Court finds that Brocade clearly and unambiguously disclaimed ordering that *only* used a round-robin algorithm to select an IP address.

Sequentially Ordered List. The specification distinguished the prior art on the basis that in the claimed invention a "list of IP addresses are [sic] ordered . . . based on performance metrics . . . ." '500 Patent at 3:17-19. The specification describes an embodiment wherein an "ordered list" has the address of a switch that "would provide the best expected performance" based on "response time" at the top. '500 Patent at 3:17-28. However, the specification states that, "[w]ithin the scope of the present invention, other forms of ranking or weighting the IP addresses in the list can also be possible." *Id.* at 3:27-28. Although this statement undermines A10's proposed limitation of a sequentially ordered list," it nevertheless bolsters A10's proposed substitution of "ranking" for "ordering."

Other language in the specification further undermines A10's proposed construction, which requires that "ordering" result in a "sequentially ordered list." For example, it is unclear whether A10's proposed construction would allow two IP addresses to have the same rank, i.e., be in a "tie." Language in the specification suggests that "ordering" can result in two IP addresses receiving the same rank. *See, e.g.*, '500 Patent at 5:46-48 ("After act 106, if multiple sites are of equal rank for the best site, the IP addresses can be reordered based on available capacity.")

In sum, the specification provides a clear and unambiguous disclaimer of load balancing methods that exclusively use round-robin algorithms. The specification is ambiguous, however, as to whether the "sequentially ordered list" limitation should be read into the "order[ing] . . . network addresses" claim term. The Court turns to the prosecution history for further guidance.

3. Prosecution History

The prosecution history of the '500 Patent also lends support to A10's proposed construction that "ordering" must result in an "ordered list." In an amendment dated February 7, 2007, Brocade distinguished the prior art on the basis of the "ordering" feature of the '500 Patent.

The Patent Examiner had rejected application Claim 70, which issued as Claim 1, as being unpatentable over, among other patents, U.S. Publication No. 2002/0038360 (the "Andrews Patent"). In challenging this rejection, the applicant pointed out that the '500 Patent "specifically recites ordering a plurality of network addresses based, at least in part, on the round trip time data. Applicant would like to point out that ordering a plurality of network addresses is substantially different from merely picking a network address with the shortest round trip time. The ordering creates an ordered list of network addresses." Declaration of Scott R. Mosko in Support of Defendant and Counterclaimant A10 Networks, Inc.'s and Defendants Lee Chen's and Rajkumar Jalan's Responsive Claim-Construction Brief ("Mosko Decl."), ECF No. 323 Ex. E, at 8 (emphasis in original). *See also* Amendment Dated Apr. 21, 2008, Mosko Decl. Ex. F, at 12-13 (emphasizing that "ordering a plurality of network addresses is substantially different from merely picking a network address with the shortest round trip time) (emphasis in original). The applicant further stated that "Andrews fails to teach or suggest at least the 'ordering' feature recited in claim 70." Mosko Decl. Ex. E, at 9. *See also* Mosko Decl. Ex. F, at 16 (same). Brocade points out that the prosecution history makes no mention of the word "sequential" or "sequentially." Thus, while the prosecution history evidence tends to rebut any presumption from the claim differentiation doctrine weighing against including an "ordered list" limitation in the claim language, it does not provide support for including the limitation that this list be *sequentially* ordered.

Moreover, although language in the prosecution history rebuts the claim differentiation presumption against importing the limitation of generating an "ordered list" into the claim term "ordering," as discussed above, the Court declines to adopt a construction that would render other claim language -- "ordered list of network addresses is generated that has only one network address at the top of the ordered list" -- in independent claims, such as Claims 12 and 24 of the '009 Patent, superfluous. *Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000).

4. Extrinsic Evidence

Brocade's expert, Dr. Bestavros, argues that A10's proposed construction imports limitations from the specification that restrict what a person of ordinary skill in the art would

understand "ordering" to mean at the time of the invention. Specifically, he argues that the "'sequentially ordered list' in which the best address is listed first is unduly narrow . . . ." Declaration of Azer Bestavros in Support of Brocade Communications Systems, Inc. and Foundry Networks, LLC's Claim Construction Brief ("Bestavros Decl."), ECF No. 411, at ¶ 70. Dr. Bestavros opines that this limitation excludes other ways of ranking IP addresses, such as indexed or linked lists, that do not require arranging the addresses in a sequentially ordered list. *Id.* at ¶ 72 (discussing indexing); Declaration of Nitin Gambhir in Support of Brocade Communications Systems, Inc.'s and Foundry Networks, LLC's Reply Claim Construction Brief ("Gambhir Decl."), ECF No. 340 Ex A. (Bestavros Dep.), at 49:14-20, 52:10-19 (discussing linked lists). As Dr. Tygar points out, Brocade has failed to point to any language in the claims, the specification, or prosecution history that suggests that the invention contemplated the use of indexing or linked lists. This silence, however, is not a clear and unambiguous disavowal of indexed or linked lists.

Accordingly, the Court construes "order[ing] . . . network addresses" to mean "rank[ing] network addresses . . . using at least one algorithm other than, but possibly also in conjunction with, a round-robin algorithm."

D. "arrange a list of virtual addresses"

Brocade's Proposed Construction	**A10's Proposed Construction**
Plain and ordinary meaning	"rank virtual addresses in a sequentially ordered list according to an active bindings performance metric"

The terms "arrange a list of virtual addresses" appears in Claims 10, 15, and 21 of the '629 Patent, which is a continuation of and related to the '500 and '009 Patents. Claim 10 recites:

> An article of manufacture, comprising: a storage medium having instructions stored thereon that are executable by a processor to: determine a number of active servers that are bound to each of a plurality of virtual addresses; and ***arrange a list of virtual address*** [sic] to identify a virtual address having a determined most number of active servers bound to it as a candidate optimum virtual address to receive traffic.

'629 Patent at 18:65-19:1-6.

Neither party seeks to construe the words "virtual addresses," and the parties therefore appear to agree that those words have a plain and ordinary meaning. Brocade advocates for the plain and ordinary meaning for all of the claim terms, whereas A10 proposes a similar construction to the one it proposed for "order[ing] network addresses" above, namely "rank virtual addresses in a sequentially ordered list according to an active bindings performance metric." For the reasons explained below, the Court agrees with Brocade.

1. Claims

The language in the claims of the '629 Patent preclude A10's proposed construction. A10 seeks to limit the claim language in a way that would render other existing claim language superfluous. The remaining claim language in claim 10, not selected for construction by A10, requires consideration of which address has the "most number of active servers bound to it." The Court agrees with Brocade that this language would be rendered superfluous if the Court were to introduce the "active bindings performance metric" that A10 seeks to introduce into the claim language. Other claim language makes clear that the "active bindings performance metric" is not the only metric to be used in "arranging a list of virtual addresses." That "a virtual address having a determined most number of active servers bound to it" can be "a candidate optimum virtual address," '629 Patent at 19:4-5, suggests that other metrics may be used to arrange a list of virtual addresses.

Thus, the claim language does not support adopting A10's proposed deviation from the plain and ordinary meaning.

2. Specification

The specification language further undermines A10's proposed construction. The specification makes clear that other metrics may be used to arrange a list of virtual addresses:

> In one embodiment, the metrics used in a GSLB switch 12 includes, but are not limited to: (a) the health of each host server and selected applications, (b) the assigned weights under the weighted site metric, or under the weighted IP metric in the alternative, (c) each site switch's session capacity threshold, (d) the round trip time (RTT) between a site switch and a client in a previous access, (e) the

> geographical location of a host server, (f) the connection-load measure of new connections-per-second at a site switch, (g) the current available session capacity in each site switch, (h) active bindings or the measure of the number of active real servers bound to a VIP residing on a GSLB site, (i) the "flashback" speed between each site switch and the GSLB switch (i.e., how quickly each site switch responds to a health check from the GSLB switch), and (j) a policy called the "Least Response Selection" (LRS) which prefers the site least selected previously.

'629 Patent at 5:17-33. Indeed, A10 recognizes that "other metrics" besides active bindings may be considered in arranging a list of virtual addresses. *See* A10's Resp. 17. Given that claims should not be construed to exclude a preferred embodiment, *Katz Interactive Call Processing Litig. v. Am. Airlines, Inc.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011), the Court declines to import the "active bindings performance metric" limitation into the claim term "arranging a list of virtual addresses."

3. Prosecution History

Neither party cites to the prosecution history. Accordingly, the Court turns to the extrinsic evidence.

4. Extrinsic Evidence

Brocade's expert, Dr. Bestavros, testified that plain and ordinary meaning of "arrange a list of virtual addresses" is "putting the set of virtual addresses in a list of some form" that need not be sequential. Bestavros Dep. at 62:4-25. In its response, A10 does not cite to any expert testimony to the contrary.

Accordingly, the Court adopts the plain and ordinary meaning of "arrange a list of virtual addresses."

E. "respectively ranks addresses associated with said first and second domains"/ "rank addresses of each one of said domains"/ "rank addresses associated with said first domain"/ "rank addresses of each one of said domains"

Brocade's Proposed Construction	A10's Proposed Construction
Plain and ordinary meaning.	"sort network addresses correlated to the first [/second / a] domain to form a sequentially ordered list with the best-performing network address listed on the top."

These terms appear in Claims 15 and 24 of the '301 Patent and Claims 1, 11, 15 of the '678 Patent. Brocade submits, and A10 does not dispute, that Claim 15 of the '301 Patent is representative of how this set of claim terms is used:

> 15. An article of manufacture, comprising: a storage medium having instructions stored thereon that are executable by a processor of a load balance switch to enable load balancing, by: associating, by said load balance switch, a first load balancing policy to a first domain associated with a first site switch, wherein said first load balancing policy specifies an order in which a first plurality of metrics of said first load balancing policy are to be applied; associating, by said load balance switch, a second load balancing policy to a second domain associated with a second site switch and different from said first domain; and using said first and second load balancing policies by the load balance switch to ***respectively rank addresses associated with said first and second domains***, wherein said metrics of said first load balancing policy each include at least one parameter, wherein said at least one parameter includes at least one of a tolerance, limit, threshold, DNS parameter, preference, and alternative tie-breaker metric use.

Brocade again argues for the plain and ordinary meaning, whereas A10 proposes a construction that replaces the word "rank" with "sort," replaces the phrase "correlated to" instead of "associated with," and introduces the limitation that the addresses "form a sequentially ordered list with the best-performing address placed at the top."

For the reasons stated above, the Court has already found that the word "rank" has a plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention. Moreover, at the hearing A10 said "rank" could replace "sort" in it proposed construction. Accordingly, the Court rejects A10's original proposal to replace "rank" with "sort."

Furthermore, A10 has not provided any compelling reasons grounded in the claims, the specification, the prosecution history, or the extrinsic evidence to substitute the non-technical phrase "correlated to" instead of "associated with." A10 does not rebut Brocade's assertion that "associated with" has a plain and ordinary meaning that would be clear to one of ordinary skill in the art. Instead, A10 merely argues that its proposed language, "correlated to," which appears nowhere in the claims or specification, is "closely aligned with" another phrase, "corresponding to," which does appear in the specification. The Court declines to adopt A10's proposed substitution of a phrase in the claim term ("associated with") that has a plain and ordinary meaning, with another term ("correlated to") that A10 concedes is narrower, A10 Resp. 20, and is only

"closely aligned with" another phrase ("corresponding to") that appears only in the specification. *Id.*

For the reasons explained below, the Court rejects A10's other proposed limitation that the addresses "form a sequentially ordered list with the best-performing address placed at the top."

1. Claim Language

The Court agrees with Brocade that the language in the claims does not support A10's proposed limitation that "ranking" must "form a sequentially ordered list with the best-performing address placed at the top." For example, that the proposed limitation of a "list with the best-performing address placed at the top" appears in dependent Claim 22 of the '301 Patent ("said preferred address being placed on top of a list of addresses"), undermines reading that limitation into the independent claim terms in dispute. *See Phillips*, 415 F.3d at 1314-15. A10 counters, without citing to any authority, that the claim differentiation doctrine should not apply here, where dependent Claim 22 does not depend from an independent claim containing the disputed language. A10 Resp. 22. However, claim differentiation can be based on differences between unrelated claims. *Curtiss-Wright*, 438 F.3d at 1381. Thus, the Court agrees with Brocade that the use of the more limited language within the patented claims suggests that the patentee knew how to describe and claim a ranked list of addresses with the best performing network address listed at the top.

2. Specification

The specification further undercuts A10's proposed limitation that the addresses "form a sequentially ordered list with the best-performing address placed at the top." As A10 recognizes, A10's CC Resp. 21, even though the specification discloses an embodiment where the virtual IP address with the best expected performance is "placed at the top" of the list, the specifications teach that "[o]ther forms of ranking or weighting the IP addresses in the list can also be possible." '301 Patent at 6:13-21. Nor is forming a "sequentially ordered list" even required to practice the invention, as A10 recognizes, A10's CC Resp. 21. In another embodiment, the system will "return only the best IP address to the client, and discard the other IP addresses in the response." '301 Patent at 10:41-43. The Court declines to commit double error by importing a limitation from one

embodiment, *see Phillips*, 415. F.3d at 1323, to construe the disputed terms to exclude another embodiment, *see Katz*, 639 F.3d at 1324 (Fed. Cir. 2011).

3. Extrinsic Evidence

Brocade's expert's declaration is consistent with the specification's statement that "[o]ther forms of ranking or weighting the IP addresses in the list can also be possible." '301 Patent at 6:13-21. Dr. Bestavros explained that "ordering of data structures such as lists and arrays could be achieved through the maintenance of an index." Bestavros Decl. ¶¶ 71-73. A10 does not cite any expert evidence to rebut Dr. Bestavros's opinion, but merely states that there are no examples of indexed lists in the specification.

Accordingly, the Court gives these disputed terms their plain and ordinary meaning.

F. "virtual channel connection" or "virtual channel connection (VCC)"

Brocade's Proposed Construction	A10's Proposed Construction
"a virtual connection between two end stations"	"a logical path through which a mobile terminal communicates"

The term "virtual channel connection" or "virtual channel connection (VCC)" is an element of all eight claims of A10's '185 Patent. Relying on prior art usage and extrinsic evidence, A10 urges the Court to construe the term to mean "a logical path through which a mobile terminal communicates." Brocade argues that the specification expressly defined "virtual channel connection" to mean "a virtual connection between two end stations." The Court rejects both proposed constructions and adopts its own construction of the disputed terms.

1. Claim Language

Claim 7 is representative of how "virtual channel connection" is used throughout the claims:

> 7. A handoff method for a wireless local area network servicing at least two mobile terminals, and having at least two base stations and at least two switches; each mobile terminal being in wireless communication with a base station covering a coverage area, each base station being connected to a switch, and the switches being connected by a wired local area network (LAN), the method comprising the steps of:

a. designating a ***virtual channel connection (VCC)*** between a first and a second mobile terminal; and

b. altering the ***VCC*** between the first and second mobile terminals when the second mobile terminal moves from a first base station to a second base station . . . .

* * *

The Court agrees with A10 that Brocade's proposed construction, "a virtual connection between two end stations" appears to conflict with the above claim language, which expressly states that the "virtual channel connection" is "between a first and a second mobile terminal." Indeed, Brocade recognizes that "VCCs . . . are created between two communicating *devices*." Brocade CC Resp. 13. Moreover, the claims do not mention "end stations." However, the Court does not find support in the claims for A10's proposed construction either. The word "logical" does not appear in the claims. Thus, the Court turns to the specification for further guidance.

2. Specification

Brocade argues that the specification contains an express definition of the term "virtual channel connection." The Court disagrees.

It is true that the specification states that "[i]n known methods, a VCC is a virtual connection between two end stations (e.g. base stations)." '185 Patent at 1:64-65. However, this statement is made in the context of discussing the prior art method and appears to define how the term is used in the prior art. It does not "expressly define" how the term is to be used in the claims. *See Vitronics*, 90 F.3d at 1582. As noted above, Brocade's proposed definition would conflict with other language in the claims suggesting that virtual connections exist between mobile terminals. It would also conflict with language in the specification to the same effect: "The VCC is maintained between the MTs and 'follows' the MTs as they move to new coverage areas." '185 Patent at 4:38-40.

The specification does not support A10's construction either, as there is no mention of "logical path" in the specification. Thus, the Court turns to the prosecution for further guidance.

3. Prosecution History

A10 argues that a prior art article that is cited as Exhibit 10 in the prosecution history, Goodman, *et al.*, "Network Control for Wireless Communications," IEEE Comm. Mag. 116-24

Dec. 1992, supports its proposed construction. Declaration of Scott A. Herbst in Support of Defendant and Counterclaim-Plaintiff A10 Networks, Inc.'s Opening Claim Construction Brief Regarding U.S. Patent No. 5,875,185 ("Herbst Decl."), ECF No. 230 Ex. 10. A10 argues that the Goodman article supports construing "virtual" as "logical" rather than "physical." The Goodman article refers to a "virtual circuit identifier," which "establishes a logical link between interface units." *Id.* at 120. Brocade recognizes that "virtual channel connections" are also referred to as "virtual circuits." Brocade Opp'n 3. The Court finds that the Goodman article provides some support for the use of the word "logical," but it does not provide support for the remaining words in A10's proposed construction. Thus, the Court turns to the extrinsic evidence.

4. Extrinsic Evidence

A10 cites a dictionary definition, and Brocade cites the declaration of its expert, Dr. Acampora. The Court finds that these sources generally support A10's construction.

A10 cites Newton's Telecom Dictionary definition of "virtual circuit," which Brocade acknowledges is synonymous with the disputed claim term. The dictionary defines "virtual circuit," as "a logical, rather than a physical path for a call." Harry Newton, Newton's Telecom Dictionary at 650 (1996). Similarly, "virtual connection" is defined as a "logical connection that is made to a virtual circuit." *Id.* The Court finds that these dictionary definitions support using the word "logical" as a construction for "virtual."

Brocade's own expert provides additional support in this regard. Dr. Acampora's declaration states that "The connection oriented networks that the '185 Patent addresses require a *logical* end-to-end *connection* to be established across the networks *between a sending and receiving device*." Declaration of Professor Anthony Acampora in Support of Brocade Communications Systems, Inc. and Foundry Networks, LLC's Motion for Summary Judgment of Noninfringement of US Patent 5,875,185, ECF No. 224 ("Acampora Decl."), at ¶ 31 (emphasis added). He also states "the *logical* end-to-end connection established in a connection-oriented packet network is known as a 'virtual' connection or virtual circuit." *Id.* (emphasis added).

In sum, the Court rejects Brocade's proposed construction because it would conflict with the claim terms, the specification, the prosecution history, the extrinsic evidence, and even the

testimony of its own expert. While A10 has provided ample support for the Court to construe "virtual" to mean "logical," it has not provided support for the additional words it proposes. Accordingly, the Court construes "virtual channel connection" and "virtual channel connection (VCC)" to mean "a logical, rather than physical, connection."

G. "switched virtual connection" or "switched virtual connection (SVC)"

Brocade's Proposed Construction	A10's Proposed Construction
"a connection between two base stations that is dynamically established by signaling protocol"	"a dynamically-established logical path"

The term "switched virtual connection" or "switched virtual connection (SVC)" appears in Claims 4 and 7 of the '185 Patent. The parties stipulated that this term would merely add "that is dynamically established" to the Court's construction of the term VCC. ECF No. 412 ¶ 2. On January 3, 2012, the parties further stipulated that switched virtual connections (SVCs) are between two base stations. *See* ECF No. 427 ¶1. This additional proposed language is consistent with language in Claims 4 and 7, which require, respectively, "establishing a switched virtual connection to the *second base station*" and "creating a switched virtual connection (SVC) *from the first base station to the second base station* via the first and second switches." '185 Patent 11:2-3, 12:8-9 (emphasis added). Accordingly, the Court construes "switched virtual connection" and "switched virtual connection (SVC)" to mean "a logical, rather than physical, connection that is dynamically established between two base stations."

H. "a couple message containing the virtual channel connections for the first mobile terminal"

Brocade's Proposed Construction	A10's Proposed Construction
"a control message sent by the first switch through different elongated paths to the second switch that contains the virtual channel connection for a mobile terminal pair."	Plain and ordinary meaning or "control information identifying the logical paths through which the first mobile terminal communicated."

The parties agree that the "couple message" is one of four "control messages" described in the specification. *See* ECF No. 412 ¶ 3; A10 CC Br. 15. Accordingly, the Court only needs to

construe the words "containing the virtual channel connections for the first mobile terminal." Brocade seeks to add limitations that the message be "sent by the first switch through different elongated paths to the second switch that contains the VCCs for a mobile terminal pair." A10 argues that the term is clear and unambiguous once the Court construes VCC. Neither party relies on the prosecution history or the extrinsic evidence. Accordingly, the Court only considers the claim language and the specification. For the reasons explained below the Court agrees with A10.

1. Claim Language

The claim phrase "a couple message containing the virtual channel connections for the first mobile terminal" appears in Claims 3-7 of the '185 Patent. Its use in Claim 3 is representative: "the first switch issuing, via the second switch, to the second base station ***a couple message containing the virtual channel connections for the first mobile terminal***." (emphasis added). The Court agrees with A10 that Brocade's proposed limitation that the message be "sent by the first switch through different elongated paths to the second switch" is unnecessary given that the other language in the claims, not selected for construction, clarify that the first switch sends the message via the second switch.

2. Specification

In discussing the inter-switch hand-off, the specification states that "[w]hen an elongated path from a previous switch to a new BS connected to another switch is set up, the switch issues a 'couple message' to BS_{NEW} through different elongated paths of the MT-associated VCCs." '185 Patent at 7:8-14. The Court finds that Brocade is impermissibly seeking to import the "elongated path" language from the specification into the claim terms and to limit the claim terms to the preferred embodiment.

Given that the parties agree that "couple message" is a "control message" and that the rest of the claim term is clear once the Court gives meaning to VCC, the Court construes the disputed term as follows: "a control message containing the virtual channel connections for the first mobile terminal."

I. "a complete message containing the altered virtual channel connections for the first mobile terminal"

Brocade's Proposed Construction	A10's Proposed Construction
"a control message sent via a predefined handoff virtual channel containing the virtual channel connections associated with the first mobile terminal."	Plain and ordinary meaning or "control information identifying the updated logical paths through which the first mobile terminal communicates."

The parties agree that the "complete message" is one of four "control messages" described in the specification. *See* ECF No. 412 ¶ 4; A10 CC Br. 16. Brocade seeks to add limitations that the message be "sent via a predefined handoff virtual channel containing the virtual channel connections associated with the first mobile terminal." A10 argues that the term is clear and unambiguous once the Court construes VCC. The Court finds that as with "couple message," Brocade is seeking to limit the claim terms to the preferred embodiment. Accordingly, the Court gives this term a similar construction to "couple message": "a control message containing the altered virtual channel connections for the first mobile terminal." The Court limits its analysis to the claim language and the specification, because neither party cites to the prosecution history or to extrinsic evidence.

1. Claim Language

The claim phrase "a complete message containing the altered virtual channel connections for the first mobile terminal" appears in Claims 1 and 2. Its use in Claim 1 is representative: "the switch issuing to the second base station a complete message containing the altered virtual channel connections for the first mobile terminal." Nothing in the claim language supports Brocade's additional proposed limitations.

2. Specification

In discussing "an illustrative example of intra-switch" hand-off, the specification states that "[w]hen the switch completes the path switching, it issues a message to BS_{NEW} via the handoff VC containing the MT-associated VCCs." '185 Patent at 6:1-4. The Court finds that Brocade, in seeking to add the limitation that the message be sent "via a predefined handoff virtual channel" is again impermissibly seeking to limit the claim terms to the preferred embodiment.

Given that the parties agree that "couple message" is a "control message" and that the rest of the claim term is clear once the Court gives meaning to VCC, the Court construes the disputed

term as follows: "a control message containing the altered virtual channel connections for the first mobile terminal."

J. "a connection message containing virtual channel connections for the first mobile terminal"

Brocade's Proposed Construction	A10's Proposed Construction
"a control message containing VCC values for a mobile terminal pair"	Plain and ordinary meaning or "control information identifying the logical paths through which the first mobile terminal communicated."

The parties agree that the "complete message" is one of four "control messages" described in the specification. *See* ECF No. 413; A10 Br. 17. Brocade seeks to replace "virtual channel connections for the first mobile terminal" with "VCC values for a mobile terminal pair." A10 argues that the term is clear and unambiguous once the Court construes VCC. The Court finds that as with the prior two terms Brocade is seeking to limit the claim terms to the preferred embodiment. Accordingly, the Court gives this term a similar construction to "couple message": "a control message containing virtual channel connections for the first mobile terminal." The Court limits its analysis to the claim language and the specification, because neither party cites to the prosecution history or to extrinsic evidence.

1. Claim Language

The claim phrase "a connection message containing virtual channel connections for the first mobile terminal" appears in Claims 1-3. Its use in Claim 1 is representative: "the first mobile terminal issuing to the second base station a connection message containing virtual channel connections for the first mobile terminal." Nothing in the claim language supports Brocade's additional proposed limitations.

2. Specification

In discussing "an illustrative example of intra-switch" hand-off, the specification states that "the MT obtains the contents of the corresponding MT-pair VCC values from BS_{ORIG} and sends it to BS_{NEW}" '185 Patent at 5:56-58. The Court finds that Brocade, in seeking to add the limitation

that the message contain "VCC values" is again impermissibly seeking to limit the claim terms to the preferred embodiment.

Given that the parties agree that "connection message" is a "control message" and that the rest of the claim term is clear once the Court gives meaning to VCC, the Court construes the disputed term as follows: "a control message containing virtual channel connections for the first mobile terminal."

IV. CONCLUSION

For the foregoing reasons, the Court construes the disputed claim terms as follows:

1. "base address corresponding to . . . pool of addresses" as "an address corresponding to a pool of addresses, which is used to identify that pool of addresses";

2. "transmitting . . . redundancy control packets for flooding throughout the Layer 2 network" as "transmitting . . . redundancy control packets that are in some way configured to be flooded throughout the Layer 2 network";

3. "order[ing] . . . network addresses" as "rank[ing] network addresses . . . using at least one algorithm other than, but possibly also in conjunction with, a round-robin algorithm";

4. "arrange a list of virtual addresses" as its plain and ordinary meaning;

5. "respectively ranks addresses associated with said first and second domains"/ "rank addresses of each one of said domains"/ "rank addresses associated with said first domain"/ "rank addresses of each one of said domains" as their plain and ordinary meaning;

6. "virtual channel connection" and "virtual channel connection (VCC)" as "a logical, rather than physical, connection";

7. "switched virtual connection" and "switched virtual connection (SVC)" as "a logical, rather than physical, connection that is dynamically established between two base stations";

8. "a couple message containing the virtual channel connections for the first mobile terminal" as "a control message containing the virtual channel connections for the first mobile terminal";

9. "a complete message containing the altered virtual channel connections for the first mobile terminal" as "a control message containing the altered virtual channel connections for the first mobile terminal"; and

10. "a connection message containing virtual channel connections for the first mobile terminal" as "a control message containing virtual channel connections for the first mobile terminal."

IT IS SO ORDERED.

Dated: January 6, 2012

LUCY H. KOH
United States District Judge