

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARISTA NETWORKS, INC.,
Petitioner,

v.

ORCKIT CORPORATION,
Patent Owner.

Case IPR2024-01239
Patent 10,652,111

EXHIBIT 2009

DECLARATION OF MIGUEL GOMEZ

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I. INTRODUCTION

1. My name is Miguel Gomez. I have been retained as an expert witness to provide my independent opinion in regards with matters at issue in the inter partes review of U.S. 10,652,111 (“the ‘111 Patent”) in the IPR2023-01239 proceeding. I have been retained by Orckit Corporation (“Orckit”), the Patent Owner, in the above proceedings. Petitioner in this case is Arista Networks, Inc. (“Arista”).

2. Unless otherwise noted, the statements made herein are based on my personal knowledge, and if called to testify about this declaration, I could and would do so competently and truthfully.

3. My CV is being submitted herewith as Exhibit 2010 to this proceeding and is summarized in Section II, *infra*.

4. I am not a legal expert and offer no opinions on the law. However, I have been informed by counsel of the various legal standards that apply, and I have applied those standards in arriving at my conclusions.

5. The opinions I set forth herein are my own and are based on my education, experience, training, and skill I have accumulated.

II. QUALIFICATIONS

6. I received a Bachelor of Science in Electrical Engineering degree from Yale University in 1983. I have thirty-five years of experience in the design and

development of hardware and software technology used in computer systems, communications systems, networking and storage infrastructure, and database systems. My experience includes extensive knowledge of computer operating systems, programming languages, and mobile and embedded applications. I am also highly skilled in the use of microelectronics simulation software, ASIC and FPGA coding, in hardware design languages, including Verilog and VHDL. I'm also skilled at programming for embedded systems and applications in C, C++ and C#.

7. From August 2006 to March 2009, I was VP of engineering for ActSolar. ActSolar was a solar power converter and instrumentation company where I developed the system architecture that defined the hardware and software for a solar inverter and a data gathering and control sub-system. I wrote a control program in the C programming language to manage power conversion for the solar inverter. I also managed a small team of engineers that built the software defined radio responsible for retrieving solar panel data. The data gatherer utilized the IEEE 802.15.4 low-rate wireless personal area network (WPAN) standard to retrieve power and temperature readings from each solar panel and aggregate that data at a server. This information was used to maximize the solar array output.

8. In 2006, ActSolar was sold to National Semiconductor. The transfer of technology included the software radio for data collection, the inverter and a variant of the power converter hardware that performed shading compensation.

9. From September 2004 to August 2005, I was a consultant for BridgeWave Inc. I built a 10 Gbps Ethernet test platform to facilitate manufacturing tests of BridgeWave's high speed wireless network system. This system replaced the Smart Bits Ethernet test analyzer used in the manufacturing test environment. I also built a test generator, specifically an Ethernet packet generator, which generated packets of various sizes, address spaces, payload and checksums. I built a test receiver and analyzer which detected various failure mechanisms, maintained statistics and reported them to a user interface written in Lab View. A Xilinx Vertex II FPGA was employed in the first version of the test platform and a Xilinx Spartan 3e in the second version.

10. From September 2003 to March 2004, I was a consultant for PA Consulting Group. I provided hardware evaluation services for corporate mergers and acquisitions. These services included systems and hardware reviews in the following areas: (1) Analysis of system performance to the cost of the hardware implementation; (2) Review of the VHDL and Verilog code implementations, documentation and development strategies; (3) VHDL and Verilog code

management including compilation processes, simulation, test coverage, bug tracking and source code control; (4) FPGA and ASIC tool chain management; (5) Circuit board design and layout for production environments; (6) Circuit board certification testing for FCC, UL, and Environmental tests; (7) Review of production line management including assembly and test processes; and (8) Review of hardware code for copyright or license violations.

11. From January 2003 to May 2003, I was a consultant for Santel Networks. I developed an optical duo-binary (ODB) encoder. Operating at 10.7 Giga bits per second (GBps), ODB reduces the spectral spread to $\frac{1}{2}$ of the ordinary NRZ format. This format allows high spectral efficiency over long distances by reducing nonlinear penalties due to narrower channel spacing and allows a higher bit rate or increases transmission distances. The project was implemented in a Xilinx FPGA running at 667 Mhz with a 10.7 GHz Mux/Demux feeding 32 LVDS streams to the FPGA. The ODB behavior was simulated in a C-coded simulation. The circuit board's highest clock speed was 10.7 Gigahertz and was modeled in HSPICE. Board level simulation was performed using NCVerilog. Several patents were applied for and the board was shown at the Optical Fiber Communication Conference & Exposition in March of 2003.

12. From March 2001 to December 2002, I was Director of Hardware, Content Networking Division for Extreme Networks, Inc. I managed a team of hardware and software engineers that developed and maintained a Layer 2-5 Content Addressable Switch. The switch was capable of L2, L3, L4 switching as well as L5 switching. In the L5 mode, the SLB used HTTP and HTML headers to make routing decisions. All routing decisions were made in real time (1 GBPs) by hardware logic in FPGAs while a Power PC provided a user interface, configuration management and housekeeping diagnostics. Communications between the hardware elements and the PowerPC CPU was via a PCI bus. I was responsible for the system design as well as for managing the product manufacturing process.

13. From January 2000 to March 2001, I was Director of Hardware for Webstacks, Inc. (now Extreme Networks, Inc.). Extreme Networks and several venture founding partners commissioned Webstacks to build a Content Addressable Switch which would operate as a L2-5 server load balancer. This switch included content routing, load balancing, firewall and security capabilities utilizing Secure Sockets Layers (SSL). I was hired to be the system architect. My responsibilities included hiring the hardware and software engineers that would implement the server load balancer as well as set up the manufacturing process. I hired 13 ASIC, FPGA and software engineers into my department and managed them for the

duration of the project. Within one year, our team had developed the product and met Extreme Networks' acquisition criteria. Extreme Networks purchased Webstacks for \$68MM cash and stock.

14. From February 1997 to December 1999, I was a consultant for Philips Semiconductor. I developed Philips Semiconductors' portion of a certification environment used by Philips Semiconductor and Microsoft to verify operation of Philips' Poseidon handheld chipset running Windows CE. This included board development, C coding, FPGA coding and simulation as well as porting to Windows CE. Later, I supported the development of Philips' version of the MIPS 4000 with communications and storage devices to emulate a system on a chip. I also designed ASIC logic and board level hardware for a 56Kbs software modem while at Philips.

15. From September 1994 to January 1997, I was President and Founder of Minden Group, Inc. The Minden Group developed and sold several types of memory adapters and a video conferencing system. The adapters were designed to expand the memory capacity of Personal Computers while saving the customer money. Both the adapters and the video conferencing system were sold through retail stores throughout the United States and Canada. Over 250,000 memory adapters were sold at stores such as Fry's, CompUSA, Computer City and Future Shop. After developing these products, I organized and managed a team of 10 to 15

employees focused on sales, marketing, finance and production. Manufacturing of the primary components was performed through contract manufacturing in Taiwan with final assembly and distribution in the United States. Distribution included order fulfillment, contracted sales channel distribution networks and end-point retail management.

16. From August 1992 to September 1994, I was Senior Hardware Manager of RAID Product Development for MTI, Inc. In this capacity, I was responsible for architectural development of the next generation RAID 1-5 systems and for managing the product development group. I introduced several design approaches that resulted in lower product costs as well as methods for interfacing with the company's other hierarchical storage components.

17. From April 1989 to August 1992, I was Founder and President of Spectrum Analysis, Inc., a consulting services company. I founded and operated Spectrum Analysis, Inc. with three other partners. Spectrum Analysis, Inc. specialized in electrical circuit design with emphasis on FPGA and ASIC emulation and complex PCB level designs.

18. From September 1988 to March 1989, I was Applications Manager for Quickturn Systems, Inc. Quickturn developed an ASIC emulator using Xilinx FPGAs. I was hired as Quickturn's first applications engineer, and was initially

responsible for developing the training and demonstration systems for Quickturn's initial customers. Later, as the company matured, I managed the customer support team. Because this ASIC emulator worked at a fraction of clock speed, I developed a methodology of slowing board designs to a fraction of the original clock speed, (on the order of 100s of KHz) while maintaining clock and memory (DRAM) integrity.

19. From July 1987 to August 1988, I was an Applications Engineer for Telestream Corporation and was responsible for demonstration system development, training and sales support for a software based communications protocol converter product. From March 1985 to July 1987 I was a design engineer for StrataCom Inc., an early voice and data network equipment manufacture. StrataCom developed the IPX, a packet over leased T1 transmission and management system. I was responsible for the voice compression card as well as designing a way to include data over a primarily voice solution. The hardware I developed eventually evolved into the Frame Relay protocol. Cisco bought StrataCom in 1996.

20. From June 1983 to March 1985, I was a Design Engineer for ROLM Corporation. I was responsible for the development of a multiplex/demultiplex hardware board used in the ROLM BUS 295 telephone switch. A novel elastic buffer was used to automatically determine the length of an inter-cabinet data bus,

whose length varied based on the customer's requirements. This eliminated the need for manufacturing technicians to manually adjust clock skew.

21. A more detailed account of my work experience and other qualifications is listed in my Curriculum Vitae filed as Exhibit 2010 in this matter.

III. BASES OF OPINIONS

22. In the course of conducting my analysis and forming my opinions, I have reviewed the exhibits submitted to date in this IPR, as well as the Petition, Preliminary Response, and Institution Decision.

IV. APPLICABLE LEGAL STANDARDS

A. Ordinary Skill in the Art

23. My opinions in this declaration are based on the understandings of a person of ordinary skill in the art, which I understand is sometimes referred to as an “ordinary artisan” or by the acronym “POSITA” or “POSA” (person of ordinary skill in the art), as of the time of the invention. For purposes of this Declaration, I have been instructed to use April 7, 2006 as the time of invention. I understand that the person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. By “relevant,” I mean relevant to the challenged claims of the '111 Patent.

24. I understand that, in assessing the level of skill of a person of ordinary skill in the art, one should consider the type of problems encountered in the art, the prior solutions to those problems found in the prior art references, the rapidity with which innovations are made, the sophistication of the technology, the level of education of active workers in the field, and my own experience working with those of skill in the art at the time of the invention.

25. I was at the time of invention, and am currently, one of more than ordinary skill in the art through my education and research experience. As of the date of the invention, I am very familiar with the types of problems encountered in computer networking, the types of prior art solutions described in prior art references, and the rapidity at which innovations are made. Indeed, I am very familiar with people having this level of skill in the area of computer networking and am very familiar with commonly used technologies such as Ethernet and the internet protocol / transmission control protocol (TCP/IP) suite. At the time of the invention, and since that time, I have been involved in the design and development of computer networks and in that capacity have worked with and managed teams of numerous individuals that would qualify as a POSITA.

B. Claim Construction

26. I understand that claims of the patent-at-issue in this IPR are generally interpreted according to their ordinary and customary meaning taking into consideration the so-called “intrinsic evidence” of the patent consisting of (1) the claim language; (2) the specification; and (3) the prosecution history.

27. I understand that claim terms may be explicitly defined in the patent specification, or they may be implicitly defined through consistent usage in the specification. I also understand that the scope of claim terms may be limited by statements in the specification or prosecution history where the applicant clearly disavows or disclaims subject matter.

C. Obviousness (35 U.S.C. § 103)

28. I have been informed that a patent may be invalid if the claimed invention would have been obvious at the time the invention was made to a person having ordinary skill in the art. I have been informed that the following factors must be evaluated to determine whether Petitioner has met its burden of proof that a claimed invention is obvious:

1. The scope and content of the prior art relied upon by Petitioner;
2. The difference or differences, if any, between each claim of the patent and the prior art;

3. The level of ordinary skill in the art at the time the invention of the patent was made; and
4. Any objective indicia of non-obviousness, including, for example:
 - (1) commercial success of an embodiment; (2) a long-felt need; (3) skepticism; (4) failure by others to find the solution provided by the claimed invention; (5) copying by others of the subject matter of the claim invention; (6) unexpected results of the claimed invention; (7) acceptance of others and industry praise; and (8) licensing of the patents.

29. I have been informed that a claim is not proved obvious merely by demonstrating that each of the elements was independently known in the prior art. I have been informed that many, if not all, inventions rely on building blocks already known, and claimed inventions almost of necessity will likely be combinations of what is already known.

30. I have been informed that it is important in the obviousness inquiry to identify whether a reason existed at the time of the invention that would have motivated a person of ordinary skill in the art in the relevant field to combine or modify the prior art references in the manner proposed by the Petitioner to arrive at the claimed invention. Put another way, a finding of obviousness should be

supported by an apparent reason to combine or modify the prior art references as proposed by the Petitioner.

31. I have been informed that it is important in the obviousness inquiry that it is understood how the combination of references is supposed to work. An explanation of the operation of the combined references is often a prerequisite to showing that a person of ordinary skill in the art would have been motivated to make the proposed combination and would have had a reasonable expectation of success.

32. I have been informed that a finding of obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. In addition, I have been informed that a person of ordinary skill in the art should have had a reasonable expectation of success in combining the references as proposed.

33. In assessing obviousness, I have been instructed to consider both the ordinary creativity and common sense of the person of ordinary skill in the art. I also understand that it is impermissible for common sense to be applied to fill gaps in prior art that fails to teach or suggest a limitation of the claim. I also understand that the obviousness inquiry should guard against hindsight bias or hindsight reconstruction where after-the-fact reasoning is applied to combine prior art

elements using the claimed invention as a template, without establishing that, as of the date of the invention, there exists a motivation to combine or apparent reason to combine the prior art as proposed.

34. In assessing obviousness, I have been instructed that, to qualify as proper prior art for an obviousness analysis, a reference must qualify as analogous art. I have been informed that a reference qualifies as analogous art with respect to the claims if it is either: (1) from the same field or endeavor as the patent; or (2) the reference is reasonably pertinent to the particular problem addressed by the invention. I have also been informed that for a reference to be reasonably pertinent, it must logically have commended itself during the ordinary course of development to an inventor's attention in considering his problem.

35. In assessing obviousness, I have also been instructed that, as noted above, secondary considerations can often be probative evidence of non-obviousness and can serve to avoid hindsight bias. I have been instructed that secondary considerations can be sufficient to overcome a prima facie case of obviousness. I have been instructed that Patent Owner can show non-obviousness if: (1) the industry praised their work; (2) their design was copied by others; (3) their design achieved a high level of commercial success; or (4) their invention had unexpected beneficial results, for example.

V. OVERVIEW OF THE '111 PATENT AND THE STATE OF THE ART

A. Technical Background of the '111 Patent

36. The '111 Patent is titled “Method and System for Deep Packet Inspection in Software Defined Networks.” Ex. 1001, abstract. Deep Packet Inspection (DPI) is a technique for examining network communications that can be used to extract data patterns from a data communication channel. Ex. 1001, 1:21-25. The extracted data patterns are useful for a variety of purposes, including network security and data analytics. *Id.*

37. A software defined network (SDN) is a networking architecture that provides for centralized management of the nodes in a network, as opposed to the distributed architecture utilized by conventional networks. Ex. 1001, 1:30-38. For example, a SDN may utilize a controller to manage network nodes such as vSwitches. *Id.* SDN-based architectures typically decouple the data forwarding (*e.g.*, data plane) from control decisions (*e.g.*, control plane), such as routing, resources, and other management functionalities. Ex. 1001, 1:39-49. The decoupling may allow the data plane and the control plane to operate on different hardware, in different runtime environments, and/or operate using different models. *Id.*

38. The '111 Patent proposes methods for DPI in a software defined network. Ex. 1001, 2:27-3:3. In one exemplary embodiment, a network system 100

as shown in Fig. 1 includes a controller 111 “configured to perform deep packet inspection on designated packets from designated flows or TCP sessions... the central controller 111 is further configured to instruct each of the network nodes 112 which of the packets and/or sessions should be directed to the controller 111 for packet inspections:”

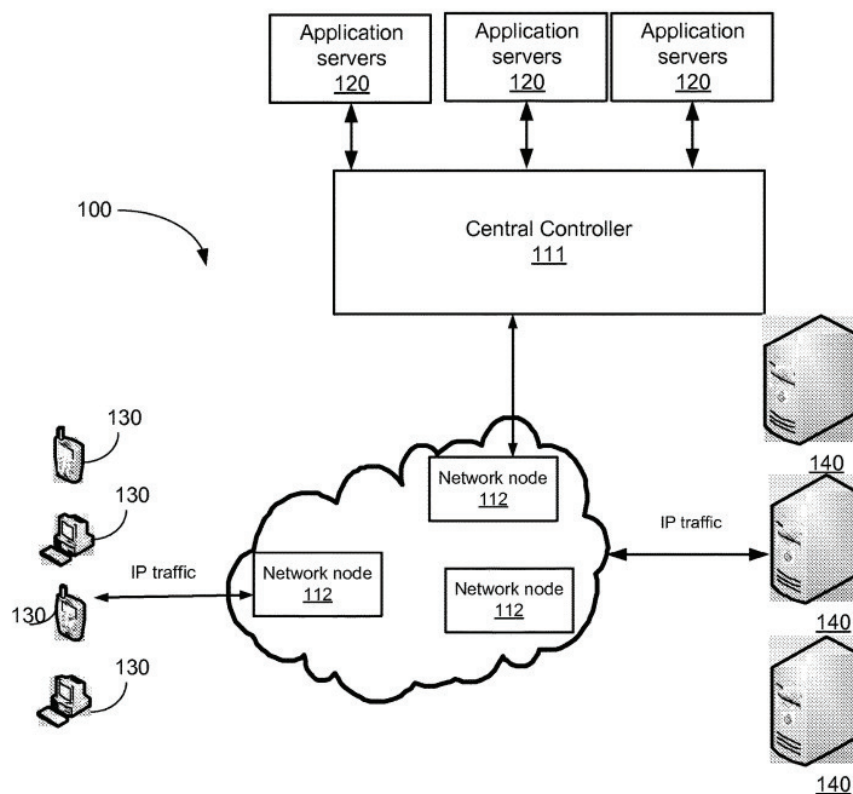


FIG. 1

Ex. 1001, 4:5-11, Fig. 1.

39. Controller 111 may provide instructions to the network nodes that configure the network nodes to analyze the headers of incoming packets for DPI. Ex.

1001, 4:23-37. For example, the network node may be instructed to either redirect the packet to controller 111 or send the packet to the destination server 140. *Id.*

Alternatively, the controller 111 may instruct the network nodes to mirror a number of bytes within the packet to be sent to controller 111 to perform DPI. *Id.* The TCP packet's header may include fields such as TCP FLAG SYN, TCP FLAG ACK, TCP FLAG FIN, TCP FLAG RST, which are analyzed by the network node to execute the instructions sent by the controller, which may vary depending on the contents of the TCP packet's header field. Ex. 1001, 4:23-46.

B. Petitioner's Cited References

40. The Petition asserts the following three grounds:

Ground	Claims	Basis
#1	1-6, 9-15, 18-19, 21-36, 41-42, 44-54	35 U.S.C. § 103 (AIA) over Lefebvre and Chua
#2	7-8, 37-38	35 U.S.C. § 103 (AIA) over Lefebvre, Chua and Rash
#3	16-20, 39-43	35 U.S.C. § 103 (AIA) over Lefebvre, Chua and RFC 793

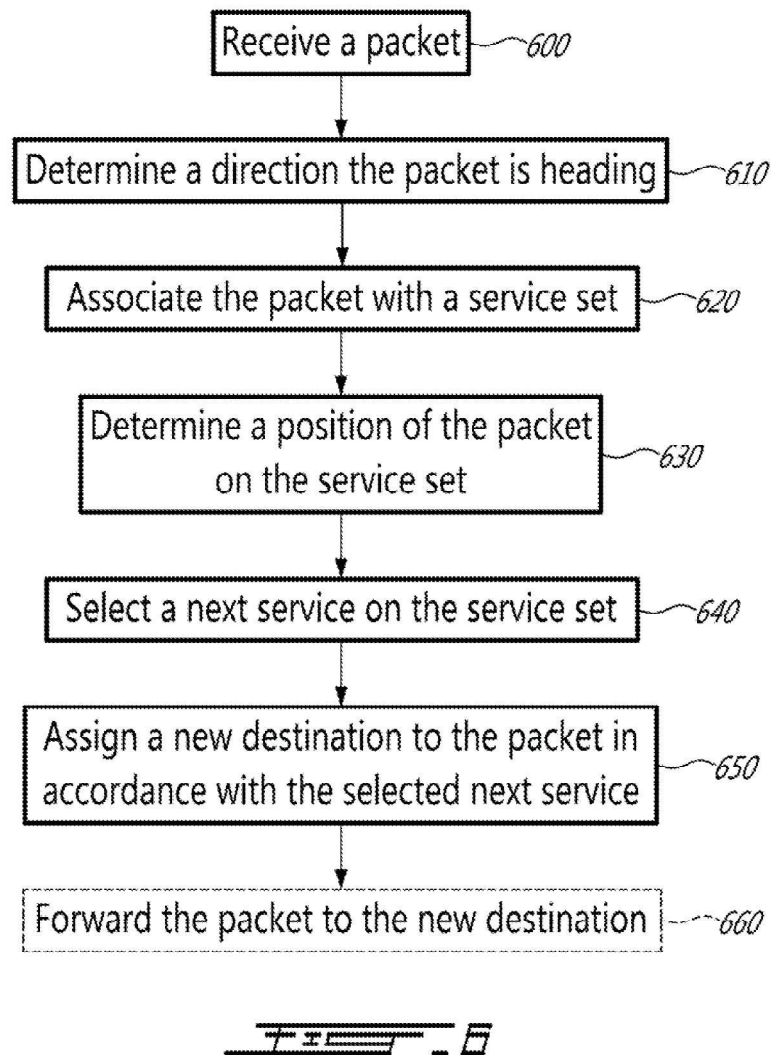
Pet., 13.

1. Lefebvre (Ex. 1005)

41. U.S. Patent No. 10,097,452 to Lefebvre et al. ("Lefebvre") is titled "Chaining of Inline Services Using Software Defined Networking" and describes a system and method for steering traffic through a set of services. Ex. 1005, Abstract.

According to Lefebvre, services are “middleboxes” that “inspect and alter network traffic transitioning” through a network. EX1005 [Lefebvre], 1:19-21. An ordered set of services is “[a] service chain, or path.” EX1005 [Lefebvre], 1:44. “Traffic steering is the action of classifying traffic and directing the different classes of traffic through specific service chains.” *Id.*, 1:45-49. By “selectively direct[ing] traffic to specific sets of services instead of forcing all traffic through every service,” Lefebvre allegedly avoids “expensive services such as deep packet inspection.” *Id.*, 1:32-38. Thus, Lefebvre does not use deep packet inspection.

42. Lefebvre Fig. 6 illustrates an embodiment of Lefebvre’s alleged traffic steering invention:



EX1005 [Lefebvre], Fig. 6.

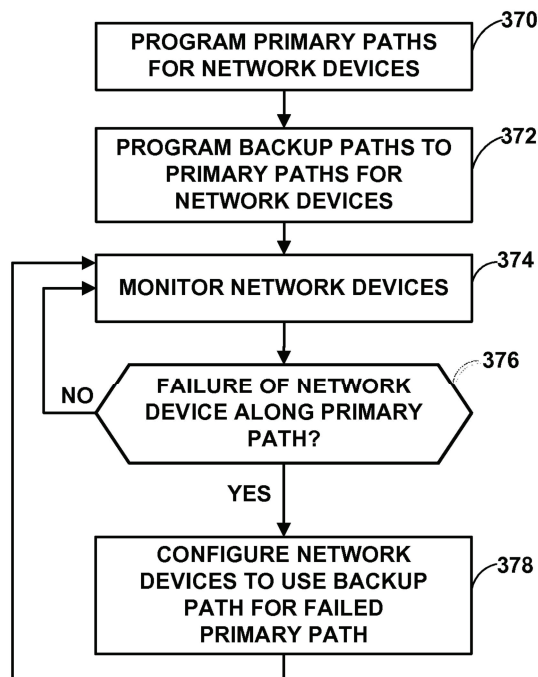
43. In Lefebvre Fig. 6, the process receives a packet (600) and determines its direction (upstream or downstream) based on the “ingress port the packet was received on” (610). EX1005 [Lefebvre], 15:47-53. At 620, “the received packet is associated with a service set.” *Id.*, 15:54. At 630, the process determines a position

of the packet on the service set. *Id.*, 16:4-5. “All previous services applied, can be determined based on the current position of the packet in the service set and the direction the packet is heading.” EX1005 [Lefebvre], 16:8-10. At 640, a next service is selected for the packet based on the determined direction and position of the packet. *Id.*, 16:10-15. The packet is assigned a new destination (650) and forward to the new destination (660).

2. Chua (Ex. 1006)

44. U.S. Patent No. 9,264,301 to Chua et al. (“Chua”) is titled “High Availability for Software Defined Networks” and describes a controller device for a software defined network (SDN) including one or more network interfaces configured to communicate with network devices of the SDN. Ex. 1006, Abstract. “A software defined network is generally a network of interconnected computing devices having forwarding planes or data planes that can be programmed remotely by one or more controller devices.” *Id.*, 1:46-50. “As an example of software defined networking, in the case of routing, rather than routers performing individual analyses to determine routes through the network, the controller can determine the routes and program other devices in the network to behave according to the determinations made by the controller.” *Id.*, 1:29-35.

45. Chua's SDN is configured to determine a primary and backup path for traffic between network devices and configure the network devices to switch from the primary to the backup path in case of a failover event. *Id.*, Abstract, cl. 1. Chua Fig. 8 below is a flowchart illustrating an example method for using one or more backup paths to a primary path through an SDN:



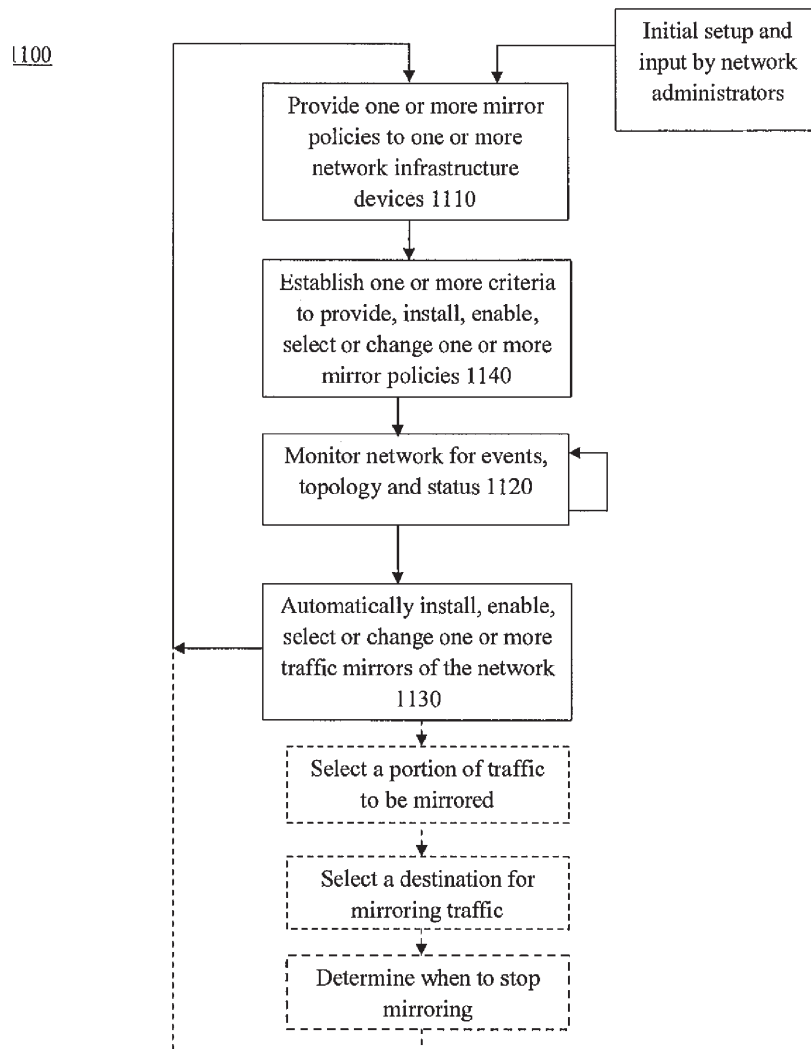
46. The SDN first programs the primary paths for the network devices (370). *Id.*, 29:51-52. Then, Chua's SDN programs backup paths to the primary paths (372). *Id.*, 29:52-54. Chua's SDN may monitor the network devices to determine whether a failure has occurred along the primary path. (374, 376). *Id.*, 30:24-32. If

so, Chua's SDN configures the network devices to use the backup path for the failed primary path (378). *Id.*

3. Rash (Ex. 1007)

47. U.S. Patent No. 9,813,447 to Rash et al. ("Rash") is titled "Device and Related Method for Establishing Network Policy Based on Applications" and describes a function provided in a network system for adjusting network policies associated with the operation of network infrastructure devices of the network system. Ex. 1007, Abstract. "An example policy to change is [to] direct a network device to mirror traffic to an application identification appliance for the purpose of identifying applications running on the network through a plurality of mechanisms." *Id.*

48. Figure 11 of Rash shows a diagram of steps associated with controlling dynamic traffic mirrors with mirroring policies:



49. As shown in Rash Fig. 11, the system provides mirror policies to network infrastructure devices (1110). *Id.*, 35:31-37. At step 1120, the network is monitored, and at step 1130, based on the information gathered at step 1120, the system can install, enable, select or change traffic mirroring. *Id.*, 35:37-43. The method can also select a portion of the traffic to be mirrored and a destination for the mirrored traffic, as well as determine when to stop mirroring. *Id.*, 35:54-36:4.

4. RFC (Ex. 1015)

50. RFC 793 is a 1981 request for comments prepared for DARPA by USC and titled “Transmission Control Protocol Darpa Internet Program Protocol Specification.” EX1015 [RFC793], 1. The document describes an early version of the TCP standard as it existed in 1981. *Id.*, 5.

C. Level of Ordinary Skill

51. Petitioner’s expert asserts:

[A] POSITA as of April 22, 2014 would have had at least a Bachelor’s degree in computer science, electrical engineering, computer engineering, or a closely related field, and two or more years of professional experience in packet-switched networking systems. Alternatively, a POSITA would have a Master’s degree or similar post-graduate work in computer science, electrical engineering, computer engineering, or a closely related field, and less professional experience. This level of skill is approximate, and more experience would compensate for less formal education, and vice versa.

Ex. 1002, ¶52. I do not dispute Petitioner’s level of ordinary skill for purposes of this declaration.

52. My level of qualifications as described in Section II met this level of ordinary skill at the time of invention of the ’111 Patent.

VI. CLAIM CONSTRUCTION

A. “Controller”

53. I understand that Petitioner has identified two potential constructions for the term “controller”: “an entity configured to perform deep packet inspection on packets” and “an entity that is capable of controlling deep packet inspection.” Pet., 17. My opinions as set forth below are the same under either of Petitioner’s proposed construction of “controller.”

54. I understand that the Board in IPR2023-00554 construed “controller” as “an entity that is either 1) configured to perform deep packet inspection on packets, or 2) that is capable of controlling deep packet inspection.” *Cisco Systems, Inc. v. Orckit Corporation*, IPR2023-00554, Paper 43 at 6-8 (P.T.A.B. Sept. 17, 2024). This construction essentially combines the two constructions identified in the Petition. I have applied that construction in this declaration. My opinions as set forth below are the same under either construction of “controller.”

B. “Criterion”

55. I understand that Petitioner proposes to construe “criterion” “to include ‘the conditions, or basis, used to identify packets for actions, such as inspection.’” Pet., 18.

56. In my opinion, no construction is necessary for this term. The construction does not appear to impact the arguments made by Petitioner or Patent Owner or my analysis herein. Further, Petitioner’s proposed construction does not

appear in the intrinsic record. Neither Petitioner nor Petitioner's expert cite any source including language similar to the proposed construction. Pet., 18; EX1002 [Min Decl.], ¶61. No construction is necessary for this term.

VII. NO COMBINATION OF THE CITED PRIOR ART REFERENCES TEACHES OR SUGGESTS EVERY LIMITATION OF THE CLAIMS

A. A POSITA Would Not Combine Lefebvre With Chua

57. Each ground in the Petition relies on Lefebvre and Chua. Pet., 13. For independent claims 1 and 32, the Petition uses Chua to satisfy the “controller” limitation, arguing that “Lefebvre’s modified controller is programmed to execute DPI, as Chua teaches.” Pet., 31-32; 39-40.

58. In my opinion, the purpose of Lefebvre’s purported invention is to provide a routing option that avoids services like DPI. The stated goal of Lefebvre’s software defined networking is to avoid “expensive services such as deep packet inspection.” EX1005 [Lefebvre], 1:34-38. Lefebvre explains:

Operators are facing a sharp increase in traffic demand and continue looking at new ways to monetize their network. Due to the high cost of service appliances, operators want to avoid matching the capacity of these services with this growth. Operators would rather have the ability to selectively direct traffic to specific set of services instead of forcing all traffic through every service. This ability would allow an operator to steer video traffic, which is a source of the recent traffic explosion,

away from expensive services such as deep packet inspection, thus reducing the need for investing in new service appliances.

Id., 1:28-38. *See, e.g.*, EX2011 [Min Dep. Tr.], 143:7-14 (“Q So using an SDN to route the flows more intelligently is one of the aims of the Lefebvre patent, right, to avoid having flows go through unnecessary or expensive dedicated appliances unless they have to? [] THE WITNESS: That is one of the descriptions as a goal.”).

59. A POSITA would understand that DPI is expensive because more analysis is required to make a decision. Whether based in software, hardware or intermediate firmware, more analysis requires more computing resources.

60. A POSITA looking to improve upon Lefebvre would not implement DPI in the system of Lefebvre because the traffic steering methods taught by Lefebvre are an alternative to DPI. Lefebvre’s traffic steering methods are trying to avoid service appliances that perform DPI. Lefebvre explains that the service appliances performing deep packet inspection have a “high cost” that network operators seek to avoid. EX1005 [Lefebvre], 1:30-34. According to Lefebvre, services such as deep packet inspection “are usually packaged and sold as dedicated appliances (either physical or virtual) and are often expensive.” *Id.*, 1:25-27. Thus, Lefebvre proposes systems and methods for steering particular classes of traffic

through predefined sets of services to avoid high-cost services such as deep packet inspection. EX1005 [Lefebvre], 1:28-38.

61. Petitioner argues that incorporating DPI into Lefebvre’s controllers would “help reduce the cost and complexity of the separate dedicated service appliances that Lefebvre discloses existed in the prior art.” Pet., 24. But Lefebvre is clear that it is trying to steer certain traffic away from services like DPI in order to lower the costs associated with such services. EX1005 [Lefebvre], 1:28-38. In other words, Lefebvre’s traffic steering is trying to avoid DPI so operators can avoid the cost associated with DPI, not perform DPI as Petitioner suggests. Lefebvre teaches—contrary to Petitioner’s argument—that incorporating DPI into Lefebvre’s controllers would make the controllers more expensive and complex. Petitioner’s argument would render the alleged invention of Lefebvre meaningless.

62. Petitioner similarly argues that “[a] POSITA would recognize Chua’s teaching means performing DPI and other services is not an expensive task that requires dedicated appliances.” Pet., 26. To the contrary, a POSITA would recognize that DPI in Chua is the same DPI that Lefebvre intentionally avoids. Petitioner cites nothing in Chua indicating Chua improves on the expense of DPI or explaining how a POSITA could reduce that expense. Chua is directed to “techniques related to controlling software defined networks (SDNs).” EX1006 [Chua], 1:45-46. DPI is

only mentioned in passing. Nothing in Chua indicates DPI is less expensive in Chua than in other networks. Chua is simply incorporating the basic concept of DPI that Lefebvre discloses and attempts to avoid.

63. Nor does the fact that DPI may be implemented in software in Chua make it any less expensive. Lefebvre recognizes the “service appliances” performing functions like DPI can be “either physical or virtual” yet are still expensive. EX1005 [Lefebvre], 1:25-27. A POSITA would understand “virtual” to mean software-based DPI. A POSITA would understand software-based DPI is still expensive because it requires the same complex operations and takes away software bandwidth from other tasks.

64. The Petition’s other arguments for adding DPI to Lefebvre’s traffic steering disclosure are generally premised on the purported advantages of DPI. Pet., 24-25. But again, Lefebvre is teaching that DPI’s high cost is a disadvantage to be avoided. EX1005 [Lefebvre], 1:28-38. *See also id.*, 1:34-38 (“This ability would allow an operator to steer video traffic, which is a source of the recent traffic explosion, *away from* expensive services *such as deep packet inspection*, thus reducing the need for investing in new service appliances.”). It would defeat the purpose of Lefebvre to modify Lefebvre and force its traffic steering system and

methods to always use DPI. Accordingly, a POSITA would not combine Lefebvre and Chua to arrive at the claimed invention.

B. Lefebvre-Chua Does Not Teach Or Suggests Claims 4 and 35

65. Claim 4 states:

The method according to claim 1, wherein the instruction is ‘probe’, ‘mirror’, or ‘terminate’ instruction, and upon receiving by the network node the ‘probe’ instruction and responsive to the packet satisfying the criterion, the method further comprising: sending the packet, by the network node, to the controller; responsive to receiving the packet, analyzing the packet, by the controller; sending the packet, by the controller, to the network node; and responsive to receiving the packet, sending the packet, by the network node, to the second entity.

66. I agree with Petitioner that Lefebvre does not disclose a “probe” instruction.

67. In my opinion, a POSITA seeking to improve upon Lefebvre would not look to Chua to implement a “probe” instruction because Lefebvre teaches that its traffic steering methods are an alternative to DPI. *See supra*, §VII.A. A POSITA would understand that Lefebvre teaches traffic steering method that avoid performing DPI due to DPI’s “high cost.” EX1005 [Lefebvre], 1:30-34. A POSITA confronted with Lefebvre’s teachings would not apply Chua’s DPI to Lefebvre’s controller for these reasons, as more fully laid out in Section VII.B above.

68. Accordingly, a POSITA would not look to combine Lefebvre and Chua to arrive at claim 4.

69. Claim 35 has similar language to claim 4 and my analysis for claim 35 is the same as for claim 4. In my opinion, claim 35 is patentable over Lefebvre and Chua for the same reasons.

VIII. CONCLUSION

70. I hereby declare that all statements made herein of my own knowledge are true and all statements made herein on information and belief were and are believed by me to be true, and that all statements herein were and are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Respectfully submitted,



Miguel Gomez

Dated: June 18, 2025