

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Cisco Systems Inc.,
Petitioner,

v.

Portsmouth Network Corporation
Patent Owner.

Case No. IPR2024-00503
U.S. Patent No. 7,035,279

DECLARATION OF JAMES OLIVIER, Ph.D.

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PROFESSIONAL BACKGROUND.....	1
III.	COMPENSATION	5
IV.	OVERVIEW OF TASK & BASIS FOR OPINIONS	6
V.	MATERIALS CONSIDERED	7
VI.	LEGAL CONSIDERATIONS	7
VII.	LEVEL OF ORDINARY SKILL IN THE ART.....	10
VIII.	THE '279 PATENT.....	11
IX.	OVERVIEW OF PRIOR ART REFERENCES.....	12
	A. US Patent No. 6,920,113 (Kovvali)	12
	B. US Patent No. 6,680,912 (“Kalman”).....	12
X.	DR. MIR FAILS TO DEMONSTRATE THAT ANY CLAIM OF THE ‘279 PATENT WOULD HAVE BEEN OBVIOUS.	14
XI.	A POSITA WOULD NOT COMBINE KOVVALI WITH KALMAN AS DESCRIBED BY DR. MIR.	14
XII.	THE KOVVALI KALMAN COMBINATION DOES NOT DISCLOSE EACH CLAIM FEATURE	17
	A. Independent Claims 1 and 15	17
	B. Claim 7: [7.0] A method according to claim 1, wherein selecting which of the paths is to carry the data flow comprises comparing an amount of the one or more resources requested to a resource budget assigned to the first node, and permitting the data flow only if allocating the requested resources will not cause a total of the resources allocated to the first node to exceed the budget.....	21
	Claim 8: [8.0] A method according to claim 7, wherein comparing the amount of the one or more resources comprises comparing the	

Declaration of James Olivier, Ph.D.

amount of each of the resources requested to the resource budget
assigned for each of the resources, and wherein permitting the data
flow comprises permitting the flow only if all of the resources
requested for at least one of the paths are within the budget. 21

XIII. CONCLUSION..... 23

Declaration of James Olivier, Ph.D.

I, Dr. James L. Olivier, declare under penalty of perjury as follows:

I. INTRODUCTION

1. My name is James L. Olivier, Ph.D. I have been retained on behalf of Patent Owner, Portsmouth Network Corporation, as an independent expert and have been asked to provide my expert opinions regarding U.S. Patent No. 7,035,279. EX1001 (“the ’279 Patent”).

II. PROFESSIONAL BACKGROUND

2. My qualifications for forming the opinions given in this declaration are summarized here and are addressed more fully in my curriculum vitae, which is submitted as Exhibit 2005. My curriculum vitae also includes a list of my publications.

3. I am a recent Fulbright award winner in the areas of computer science and blockchain technologies, and I currently serve as an adjunct professor at Southern Methodist University.

4. I possess the knowledge, skills, experience, training, and education to form an expert opinion and testimony in this case. I am an expert in the field of networking technologies and have been an expert in this field since before 2001. I have designed and developed access systems such as those described in the patent while working at Marconi Communications and teach SONET Rings and bandwidth allocation models like those in my Multiprotocol Label Switching class.

Declaration of James Olivier, Ph.D.

5. I have a Ph.D. from The Ohio State University in Electrical Engineering with minors in Discrete Mathematics, Computer Science, and Microelectronics. My Ph.D. dissertation was based on coding theory and was titled “Concurrent Error Detection in Arithmetic Processors using GAN Codes,” in which I developed new codes for use in Arithmetic Processors such as microprocessors. I have published papers on coding theory and continued my work in coding theory for arithmetic processors while at the General Motor Research Laboratory.

6. I have extensive experience in network systems design and development and have specialized in networking product development. I have developed and designed equipment for networks since my time at AT&T Bell Laboratories in the 1990s, where I worked on AT&T 5ESS, Network Control Point, and Autoplex Series base stations as a Member of the Technical Staff. These systems made extensive use of a counter-rotating ring network topology known as the Common Network Interface, much like the network described in the '279 Patent. It was there where I first began my work with telecommunication standards bodies as a contributing member of the Asynchronous Transfer Mode (“ATM”) ATM Forum. Later at DSC Communications, I was the Senior Manager of the ATM systems engineering group developing ATM packet switches for a new generation base station for Motorola’s use in their Centralized Base Station Controller. While at DSC, I was also their corporate representative to the ATM Forum, participating in

Declaration of James Olivier, Ph.D.

bi-monthly standards body development. I was one of the first contributors to the wireless standards at the ATM Forum.

7. At Samsung Telecommunications America, I was a Principal Engineer for wireless broadband services over Universal Mobile Telecommunications System (“UMTS”). UMTS is a third-generation (“3G”) broadband standard developed by the 3rd Generation Partnership Project (“3GPP”). At Samsung, I worked on designing their next-generation cellular switch, a UMTS mobile switching center (“MSC”). While at Samsung, I was also their corporate representative to the International Telecommunication Union (“ITU”), the United Nations agency responsible for standardizing information and communication technologies. The ITU, under its International Mobile Telecommunications-2000 effort, was part of the 3GPP standards body. It was there that I participated in the development of standards for advanced wireless networks. While at Samsung, I was responsible for the ‘services portion’ of the UMTS switch. This subsystem provided Internet service, email, and the like to the subscribers.

8. At Marconi, I worked on several systems for the access market, such as Digital Subscriber Line (“DSL”) modems and Digital Subscriber Line Access Multiplexers (“DSLAMs”), along with the design of point-to-point wireless systems. At Navini Networks, I was responsible for layer 2 and layer 3 network protocols for their Wideband Code Division Multiplexed Access (“WCDMA”) wireless base

Declaration of James Olivier, Ph.D.

stations and broadband modems. These layers were responsible for packet transmissions for various services over the WCDMA air interface. I was also responsible for the development of a Single Sign On (“SSO”) system which allowed users to gain information relating to their wireless subscription and delete or add services.

9. Currently I am an Adjunct Professor in the Network Engineering Graduate Program at Southern Methodist University’s School of Electrical Engineering, where I teach MPLS networked-enabled applications. Among the MPLS applications I teach is the use of MPLS in advanced network design, including content delivery networks, (CDNs) service provider network design and Intranet vs Internet network designs. In my class I also teach SONET/SDH rings, ADMs, and bandwidth models. I am also the owner of Olivier Consulting, where I provide consulting services for advanced network/product design along with Intellectual Property consulting. This year I received a three-year Fulbright specialist award in the area of computer science for my work at the Hunt Institute for Engineering and Humanity, which is part of the Lyle School of Engineering at Southern Methodist University in Dallas, Texas. There, I served as the Program Lead for Transformational Technology. Among the transformational technologies I investigate at the Hunt Institute is the Internet of Things (“IoT”), which makes extensive use of Fourth-Generation and Fifth-Generation networks.

Declaration of James Olivier, Ph.D.

10. I am a co-inventor of U.S. patent No. 8,334,775 issued Dec. 18, 2012 and entitled “RFID-Based Asset Security and Tracking System, Apparatus and Method.” This invention relates to a Radio-Frequency Identification (RFID)-based Global Positioning System (GPS) tracking system to provide control and security of assets. This system integrates an RFID-based detection system with a conventional GPS tracking system. The GPS tracking system includes GPS receivers connected over a network to a centrally based GPS monitoring system.

11. A copy of my curriculum vitae with my publications and technical consulting experience is provided as Ex. 2005.

12. Because of my background, training, and experience, I am qualified as an expert to explain the background of the technology encompassed by the ’279 Patent as well as to offer opinions related to the validity of the claims of the ’279 Patent in view of the prior art references discussed herein.

13. If called upon to do so, I could and would testify truthfully regarding the points stated below in this declaration.

III. COMPENSATION

14. I am being compensated for my independent analysis as an expert with respect to this *inter partes* review proceeding. My work on this matter is being billed at my customary rate of \$685.00 per hour. Also, I am being reimbursed for reasonable expenses I incur in relation to my services. My compensation is not

Declaration of James Olivier, Ph.D.

contingent in any way on the content of my analysis, the opinions that I offer, or the outcome of this proceeding. I have no financial interest in Petitioner or Patent Owner, and I have no financial interest in the '279 Patent.

IV. OVERVIEW OF TASK & BASIS FOR OPINIONS

15. I have been asked to review the '279 Patent in light of the materials cited and discussed herein and my knowledge and experience in this field during the relevant time frame, which I understand to be January 9, 2001. I have been asked to provide opinions related to certain issues from the perspective of a person of ordinary skill, having knowledge of the relevant art, January 9, 2001 and—except where otherwise noted—the opinions stated in this declaration are from that perspective. I describe the qualifications and abilities of such a person in Section “Level of Ordinary Skill in the Art” below. I have also been asked to consider whether certain combinations of references have rendered obvious the inventions described in the claims of the '279 Patent.

16. My findings, as explained below, are based on my study, education, training, and experience as well as items that I reviewed to prepare my opinions, including the documents listed on ¶4 of the declaration of Dr. Mir and any other items I reference in my below analysis.

17. I understand that other issues may arise that require further explanation, and I will provide that explanation if appropriate. As a result, I respectfully reserve

Declaration of James Olivier, Ph.D.

the right to update and supplement this declaration and the information and opinions provided herein.

V. MATERIALS CONSIDERED

18. In preparing this declaration and forming my opinions, I have considered: the claims, specification, and prosecution history of the '279 Patent; the declaration by Dr. Mir (including all materials cited in each); and all materials cited and discussed in this declaration. As part of my analysis, I have also considered my own knowledge and experience, including my work and experience in the field.

VI. LEGAL CONSIDERATIONS

19. I am not an attorney. My understanding of the law is based on information provided by counsel for Patent Owner.

20. It is my understanding that assessing the validity / patentability of a U.S. patent claim based on a prior art analysis requires two essential steps. First, one must analyze the terms of the patent claims to understand what meaning one of ordinary skill in the art would give the terms. Second, one may then assess validity by comparing a patent claim to the "prior art." I understand that the teaching of the prior art is viewed through the eyes of a person of ordinary skill in the art at the time the invention was made. My opinion as to what constitutes a relevant person of ordinary skill in the art is set forth below.

Declaration of James Olivier, Ph.D.

21. I understand that a claim is invalid as obvious under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter of the claim as a whole would have been obvious at the time of the invention to a person having ordinary skill in the art. I have been informed that the following factors are used to determine whether or not the claimed subject matter would have been obvious: (i) the scope and content of the prior art; (ii) the differences between the prior art and the claimed invention; (iii) the level of ordinary skill in the field of the invention; and (iv) any relevant objective considerations of non-obviousness.

22. I also understand that a party asserting obviousness based on a combination of prior art references must demonstrate that one of ordinary skill in the art would have been motivated to combine the teachings of those references to achieve the claimed invention and that the skilled artisan would have had a reasonable expectation of success in doing so. It is my understanding that it is not enough to show that one skilled in the art could combine elements of multiple references, but instead there must be some reason that would have prompted a person of ordinary skill in the art to combine the elements in the way the claimed invention does. I understand that there must be some reasoned explanation as to why one of ordinary skill in the art would combine the references.

Declaration of James Olivier, Ph.D.

23. I understand that a combination of references would not have been obvious if the alleged modification(s) to be made to the reference(s) would have been inconsistent with the reference's stated goals or would have rendered the combination inoperable for its intended purpose. I further understand that for something to have been obvious, the party asserting obviousness must explain why a POSITA would have selected components for combination in the manner claimed.

24. I have been informed that a prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention.

25. It is my further understanding that obviousness cannot be based on a hindsight combination of components selected from prior art references. I also understand that an invention would not have been obvious simply because all of the elements of the invention may have been known separately in the prior art.

26. My opinions address what would have been logical to, and within the skill level of, a person of ordinary skill in the art ("POSITA") at the time of the invention, given the state of the relevant art, the knowledge and skill that a POSITA would have, the teachings of the references discussed below, and how a POSITA would have understood those teachings. My opinions also address whether a POSITA would have had a reasonable expectation of the modified systems discussed below successfully yielding the results discussed below. I understand that a POSITA

Declaration of James Olivier, Ph.D.

is a hypothetical person. I understand that a POSITA thinks along the lines of conventional wisdom. I understand that a POSITA is also a person of ordinary creativity, not an automaton (*see* Section “Level of Ordinary Skill in the Art,” below, for qualifications of a POSITA).

27. I understand that a claim term is given the meaning that the term would have to a POSITA at the time of the invention, which generally is the ordinary and customary meaning of the term. I further understand that the ordinary and customary meaning of a term may be evidenced by a variety of sources, including the words of the claims themselves, the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art. I also understand that a patentee can act as a lexicographer by clearly expressing an intent to define a claim term.

VII. LEVEL OF ORDINARY SKILL IN THE ART

28. Counsel for Patent Owner has informed me that a 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.

29. For the purpose of this Declaration, and based on my opinions herein, the time of invention for the '279 Patent is January 9, 2001. However, I understand that the conception dates of the inventions may have been earlier than that date. Any

Declaration of James Olivier, Ph.D.

earlier or later conception date around January, 2001 would not alter my opinions herein.

30. Dr. Mir opined that a POSITA “would have a master’s degree in computer science, computer engineering, electrical engineering, or equivalent training, and approximately two years of experience working in the field of network communications and resource allocations. Additional work experience can substitute for specific educational background, and vice versa.” Ex. 1003 (Mir Decl.) at ¶ 20.

31. I agree with Dr. Mir’s opinion on the qualifications of a POSITA, and have applied this definition throughout my analysis.

VIII. THE ’279 PATENT

32. The ’279 Patent is directed to an improved method for routing data flow in a network. As described in the Patent, prior art systems did not teach “how IP flows should be assigned to high priority levels or how load control should be accomplished for such high-priority packets,” nor did they provide “any means or basis for updating the costs [of data transmission] automatically, while the network is running, in response to network resource constraints.” Ex. 1001 (’279 Patent) at 1:45-48, 60-67. To address these issues, the ’279 Patent teaches a system that “provide[s] the means to select one of a plurality of possible paths through a network between a pair of nodes based on a dynamic assessment of network resource

Declaration of James Olivier, Ph.D.

availability that is made by the dispatcher, rather than static link ‘costs’ or other factors used in protocols known in the art.” Ex. 1001 (’279 Patent) at 2:38-43.

33. The independent claims of the ’279 Patent map out this process, which is further elaborated on in the specification, as discussed in my analysis below.

IX. OVERVIEW OF PRIOR ART REFERENCES

A. US Patent No. 6,920,113 (Kovvali)

34. Kovvali is titled “Transport of Isochronous and Bursty Data on a Sonet Ring,” and was issued on July 19, 2005. Kovvali is directed to systems and methods for accommodating data that does “not match the SONNET signal hierarchy” or that “exhibit[s] bursty or time-varying rates.” Ex. 1005 (Kovvali) at 4:32-34.

35. The invention provides that “[s]tatistical multiplexing and over-subscription is achieved by using a centralized bandwidth arbiter.” Ex. 1005 (Kalman) at 7:31-32. Kovvali further teaches that “[r]equests to assign dynamic channels for communication between particular nodes are sent from a client nodes to the arbiter. The arbiter responds to the requests by assigning dynamic channels to particular nodes, and by adjusting the allocated rates for the dynamic channels.” Ex. 1005 (Kovvali) at 9:6-11.

B. US Patent No. 6,680,912 (“Kalman”)

36. Kalman is titled “Selecting a Routing Direction in a Communications Network Using a Cost Metric,” and was issued on January 20, 2004. Kalman is

Declaration of James Olivier, Ph.D.

directed to a “network protection and restoration technique...that efficiently utilizes the total bandwidth in the network to overcome the drawbacks of [prior art] networks, that is not linked to a specific transport protocol such as SONET, and that is designed to meet the Telcordia 50 millisecond switching requirement.” Ex. 1006 (Kalman) at 2:56-61.

37. To achieve this objective, Kalman teaches that during normal operations, “data between nodes flows on the ring that provides the lowest-cost path to the destination node,” and that “[e]ach node determines the lowest-cost path from it to every other node on the ring,” which requires each node to “know the network topology.” Ex. 1006 (Kalman) at 3:1-9.

38. Specifically, Kalman teaches that each node “monitors the status of each link for which it is at the receiving end...to detect a fault.” Ex. 1006 (Kalman) at 3:10-12. In the event of a fault, the node sends a broadcast message to all nodes, which results in “reconfiguration of a routing table within each node so as to identify the optimum routing of source traffic to the destination node after the fault.” Ex. 1006 (Kalman) at 3:15-18. Kalman repeatedly emphasizes that its system requires that “all nodes know the status of the network and all independently identify the optimal routing path to each destination node when there is a fault in any of the links,” as this allows the processing “to be extremely efficient to maximize switching speed.” Ex. 1006 (Kalman) at 3:13-22.

Declaration of James Olivier, Ph.D.

X. DR. MIR FAILS TO DEMONSTRATE THAT ANY CLAIM OF THE '279 PATENT WOULD HAVE BEEN OBVIOUS.

39. In my opinion, Dr. Mir fails to demonstrate that any challenged claim would have been obvious. As I discuss below, it is my opinion that Dr. Mir's declaration includes numerous, distinct failures. It is therefore my opinion that Dr. Mir fails to demonstrate any reasonable likelihood of success that any challenged claim would have been obvious.

XI. A POSITA WOULD NOT COMBINE KOVVALI WITH KALMAN AS DESCRIBED BY DR. MIR.

40. Dr. Mir claims that a POSITA "would have combined Kovvali with Kalman because they both relate to efficient transmission of data in a ring network." Ex. 1003 (Mir Decl.) at ¶50. This opinion is an oversimplification of the systems presented in Kovvali and Kalman, and fails to consider the significant differences between the operations of the systems disclosed in these two references. Kovvali and Kalman are directed to different methods for data routing. Kalman teaches a distributed routing algorithm in which all nodes independently identify the optimal path, while Kovvali which teaches a central arbiter to identify the optimal path between the terminal nodes identified by the communication request. These systems are not compatible, and there is no motivation to combine their parts in the manner suggested by Dr. Mir. In fact, it is my opinion that both references teach away from the functionalities disclosed in the other.

41. Kalman is directed to “acheiv[ing] fast protection in a ring network while providing for efficient network capacity utilization.” Ex. 1006 (Kalman) at 4:20-22. It does not suggest the use of a “dispatcher” or ring-leader node, but rather teaches that each node monitors the status of each link that it’s connected to, and in the event of a link failure, broadcasts the failure to all nodes triggering a reconfiguration of path routing within each node. Ex. 1006 (Kalman) at 3:10-18. The system teaches that “all nodes know the status of the network and all **independently identify the optimal routing path** to each destination node when there is a fault in any of the links.” Ex. 1006 (Kalman) at 3:17-20 (emphasis added). The use of an arbiter node is not suggested, and in fact, in my opinion, would interfere with Kalman’s goal of fast failure protection by adding in multiple layers of communication into the system. Kalman’s strength is that it does not have a monitoring node slowing down transmission routing, and thus, to implement an arbiter node into this system, as suggested by Dr. Mir, would interfere with the purpose of this system.

42. Kovvali, on the other hand, teaches a centralized system in which “the requesting node communicates a request to establish a new communication session to the arbiter,” and the “arbiter node receives the request” and “responds to the requests by assigning dynamic channels to particular nodes, and by adjusting the allocated rates for the dynamic channels.” Ex. 1005 (Kovvali) at 13:29-36; 9:6-11.

Declaration of James Olivier, Ph.D.

This aligns with Kovvali's stated goal of accommodating bursty data, which prior art digital signal hierarchy systems could not efficiently handle. Ex. 1005 (Kovvali) at 3:32-35; 4:25-34. By featuring an arbiter that functions as a centralized bandwidth manager, Kovvali teaches a system that can achieve "[s]tatistical multiplexing and over-subscription," and thus, can accommodate bursty data by reorganizing bandwidth as necessary. Ex. 1005 (Kovvali) at 7:32-33. Unlike Kalman, Kovvali is not concerned with maximizing the efficiency of each available path in the ring network system, but rather with creating a communication network in which resources can be dynamically managed to handle irregular streams of data.

43. It is my opinion that a POSITA would not combine Kovvali with Kalman. In Kalman "[t]he processing is designed to be extremely efficient to maximize switching speed" by ensuring that "all nodes know the status of the network and all **independently identify the optimal routing** path to each destination node when there is a fault in any of the links." Ex. 1006 (Kalman) at 3:18-22. This structure is not compatible with the network structure disclosed in Kovvali, which requires each node to communicate with an arbiter node rather than all other nodes and it is the arbiter which identifies the optimal path. In fact, Kovvali specifically teaches that "**not all nodes on** [the] SONET ring...need to recognize the internal structure of dynamic frame 510; only nodes that terminate particular channels in the dynamic frame, and the arbiter node, need to recognize the structure."

Declaration of James Olivier, Ph.D.

Ex. 1005 (Kovvali) at 9:39-43. This is contrary to the teaching in Kalman, which mandates that “**each node must know** the network topology.” Ex. 1006 (Kalman) at 3:9. Thus, the communication and network structure in Kovvali is different from that in Kalman, and is designed to achieve different outcomes.

44. Dr. Mir’s analysis does not take these differences into consideration, and provides only conclusory motivations to combine Kovvali with Kalman that are discussed in any disclosure in either patent and go against the fundamental design of each reference. Ex. 1003 (Mir Decl.) at ¶51. In my opinion, implementing Kalman’s techniques of path selection to Kovvali’s multi-path ring network would not improve Kovvali’s system, as suggested by Dr. Mir, would introduce inefficiency in the system. Thus, it is my opinion that a POSITA would not be motivated to combine Kovvali with Kalman.

XII. THE KOVVALI KALMAN COMBINATION DOES NOT DISCLOSE EACH CLAIM FEATURE

A. Independent Claims 1 and 15

45. In my opinion, Dr. Mir fails to show how the combination of Kovvali with Kalman renders obvious each limitation of claim 1 and claim 15.

- 1. [1.2] [15.2] receiving a request at the first node to use a portion of the resources so as to carry the data flow between the first and second nodes over one of a plurality of paths**

therebetween, each such path comprising a respective sequence of the links;

[1.3] [15.3]and in response to the request: if the resources already allocated to the first node on one of the paths are sufficient, directing the data flow from the first node to the second node over the one of the paths without requesting additional resources

46. In my opinion, Kovvali does not disclose these limitations. Dr. Mir identifies Node B or Node C as the “first node” that receives the request “to carry data flow between the first and second nodes”. Ex. 1003 (Mir Decl.) at ¶83. However, as explained further below, Kovvali teaches that it the *arbiter* node and not other nodes in the system (e.g., Node B or Node C) that receives a request to carry data between certain nodes. On the other hand, in the ’279 patent, a node that is not the arbiter node, receives the data transmission request.

47. As an initial matter, the claim language and the specification of the ’279 patent teaches that a node on the network system “receives a request from one of its clients to send data to another node.” Ex. 1001 (’279 Patent) at 6:11-28. The ’279 Patent further teaches that after receiving this request, the node “first checks to determine whether it has sufficient resources already allocated to it in order to service the request.” Ex. 1001 (’279 Patent) at 6:11-28. Only if the “allocated resources are inadequate,” the node communicates with the dispatcher to request additional resources. Ex. 1001 (’279 Patent) at 6:11-28. These steps are mapped in the claim limitations of claim 1 of the ’279 Patent.

48. Kovvali, on the other hand, teaches that requests for transmission from the client nodes are communicated only to the arbiter node. Specifically, Kovvali explains that “[r]equests to assign dynamic channels for communication between particular nodes are sent **from a client nodes** to the **arbiter**. The arbiter responds by assigning dynamic channels to particular nodes.” Ex. 1005 (Kovvali) at 9:6-11. Thus in Kovvali it is the arbiter which receives requests, not the client nodes. After the receipt of this request, the arbiter assigns a dynamic channel to handle the traffic of the requested data flow. Thus, it is clear that Kovvali teaches that the arbiter node receives the data transmission request from the client, and that the dynamic channels are assigned prior to traffic flowing on them.

49. Moreover, in my opinion, Dr. Mir is incorrect when he opines that “[a] POSITA would have understood that the receipt of data from local dynamic channels by a node (e.g. Node B or Node C) for transmission to another node renders obvious ‘receiving a request at the first node to use a portion of the resources’ because it is a request for the node to process (e.g. queue, schedule, police) and multiplex the data onto the portion of network resources allocated by the arbiter (as discussed in [1.1]) to the node for the respective dynamic channels in the dynamic frame.” Ex. 1003 (Mir Decl.) at ¶83. A POSITA would understand that receiving is different than requesting and merely receiving data at a node for transmission to another node is not **a request** to use a portion of a resource for a number of reasons.

Declaration of James Olivier, Ph.D.

50. First, merely receiving and processing data is not a *request* to use any resources. A POSITA would understand that receiving, processing data and then multiplexing it to another node are **operations of data transfer**, not requesting resources. A POSITA would understand that if receiving and processing data constituted a request for a portion of resource, then every bit processed would be considered a “request” and Node B or Node C would be receiving millions of requests per second. Limitation 1.3 and 15.3 directing the data flow from the first node to the second node over the one of the paths without **requesting additional resources**. But under Dr. Mir’s analysis, each bit of data is a request, so there would many, many additional requests made.

51. Dr. Mir seems to agree that queuing, scheduling, and policing are mechanisms for receiving and processing data, i.e. handling traffic. *See* Ex. 1003 (Mir Decl.) at ¶82 (noting that “[p]acket processor 644 includes buffers and other mechanisms to implement appropriate queuing, scheduling and policing processes necessary to **handle** outgoing packet traffic.”) (emphasis added). But **handling** traffic is completely different from *requesting* traffic.

52. Second, as described above in Kovvali, if the node is processing the data, it has already been assigned by the arbiter to process that dynamic channel. That is to say, the data flow is already passing through it. It is clear from claim 1 that the request to use a portion of the resource occurs prior to the data actually flowing,

Declaration of James Olivier, Ph.D.

and that the request is actually sent to the arbiter and *not* the node that carries the data flow. Thus, Kovvali does not disclose or render obvious limitations [1.2],[1.3], [15.2], and [15.3].

B. Claim 7: [7.0] A method according to claim 1, wherein selecting which of the paths is to carry the data flow comprises comparing an amount of the one or more resources requested to a resource budget assigned to the first node, and permitting the data flow only if allocating the requested resources will not cause a total of the resources allocated to the first node to exceed the budget.

Claim 8: [8.0] A method according to claim 7, wherein comparing the amount of the one or more resources comprises comparing the amount of each of the resources requested to the resource budget assigned for each of the resources, and wherein permitting the data flow comprises permitting the flow only if all of the resources requested for at least one of the paths are within the budget.

53. In my opinion the combination of Kovvali, Kalman and RFC2892 does not disclose claims 7 and 8. As an initial matter, Dr. Mir provides no tangible reason for a POSITA to combine the three references beyond a vague characterization of RC2892 as relating to “efficient use of bandwidth.” Ex. 1003 (Mir Decl.) at ¶221. Furthermore, the parameters described by the RFC2892 reference are not aligned with the node budget described in claims 7 and 8.

54. The’279 Patent provides the following definitions for its node budget requirements:

node_budget_In-Maximum amount of the resource that the node can receive on the inner ring.

node_budget_Out-Maximum amount of the resource that the node can receive on the outer ring.

Declaration of James Olivier, Ph.D.

Ex. 1001 ('279 Patent) at 5:18-21.

55. The '279 Patent teaches that when a node submits a resource request to the dispatcher, the dispatcher, at the availability checking step, check whether there are “sufficient unallocated resources left in the specific node budget and unused resources left on the appropriate segments of at least one of the rings” before granting the node’s resource request. Ex. 1001 ('279 Patent) at 6:13-23. This is not equivalent to the “max_usage” or “MAX_ALLOWANCE” requirements articulated by the RFC2892 reference. Ex. 1003 (Mir Decl.) at ¶227. Max_usage is a per node parameter which limits the maximum amount of low priority traffic. Ex. 1018 (RFC2829) at (“Each node can send up to max_usage. Max_usage is a per node parameter than limits the maximum amount of low priority traffic a node can send.”) As such it cannot be used to limit data flows which are not low priority traffic. Ex. 1018 (RFC2829) at 9. (“High priority traffic does not follow SRP-fa rules and may be transmitted at any time as long as there is sufficient transit buffer space is sufficient transit buffer space.”) MAX_ALLOWANCE is used in the SRP Fairness algorithm and is used in controlling low priority traffic. Those parameters correspond to congestion management and internode communication, unlike the resource management parameters outlined in the '279 Patent that are in place to allow the dispatcher to “track[] the use of resources in [the] network.” Ex. 1001 ('279

Declaration of James Olivier, Ph.D.

Patent) at 4:46; Ex. 1018 (RFC2829) at 29. Dr. Mir’s analysis makes it clear the MAX_ALLOWANCE parameter is used to provide the “OK” to send packets, not to establish a new data flow as the claim limitation requires. Ex. 1003 (Mir Decl.) at ¶ 227 (“OK to send host **packets.**”)

56. Thus, it is my opinion that the combination of Kovvali, Kalman and RFC2892 does not render claims 7 and 8 obvious.

XIII. CONCLUSION

57. This declaration reflects my opinions as currently held. However, my analysis may continue such that I may consider additional information that may result in additional observations.

58. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were 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.

November 12, 2024

Date

/s/ James Olivier

James Olivier, Ph.D.