

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUNIPER NETWORKS, INC.,
Petitioner,

v.

MONARCH NETWORKING SOLUTIONS, LLC,
Patent Owner.

Case IPR2024-00175
Patent 8,693,369

**PATENT OWNER'S PRELIMINARY RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 8,693,369**

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EXHIBIT LIST

Exhibit	Description
EX2001	Declaration of Daniel Minoli
EX2002	<i>Curriculum Vitae</i> of Danieal Minoli
EX2003	RFC 793 (“Transmission Control Protocol”) (Sept. 1981), available at https://datatracker.ietf.org/doc/html/rfc793
EX2004	RFC 768 (“User Datagram Protocol”) (Aug. 1980), available at https://datatracker.ietf.org/doc/html/rfc768
EX2005	RFC 1933 (“Transition Mechanisms for IPv6 Hosts and Routers”) (Apr. 1996), available at https://datatracker.ietf.org/doc/html/rfc1933
EX2006	RFC 1631 (“The IP Network Address Translator (NAT)”) (May 1994), available at https://datatracker.ietf.org/doc/html/rfc1637
EX2007	RFC 2663 (“IP Network Address Translator (NAT) Terminology and Considerations”) (Aug. 1999), available at https://datatracker.ietf.org/doc/html/rfc2663
EX2008	Decision Ordering Reexamination, No. 90/015,315 (Jan. 18, 2024)
EX2009	PTO Reexamination Statistics, available at https://www.uspto.gov/sites/default/files/documents/reexamination-op-stats.pdf (last accessed Feb. 20, 2024)
EX2010	U.S. Pat. Pub. 2002/0141389 to Fangman <i>et al.</i>
EX2011	RFC 2460 (“Internet Protocol, Version 6 (IPv6) Specification”) (Dec. 1998), available at https://datatracker.ietf.org/doc/html/rfc2460

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I. Introduction

Petitioner Juniper Networks, Inc. (“Juniper”) filed a Petition (“Pet.”) challenging all claims of U.S. Patent No. 8,693,369 (“the ’369 Patent”) on five grounds. *See* Pet., ii-iii. Patent Owner Monarch Networking Solutions, LLC (“Monarch”) respectfully requests the Board to deny institution of that Petition.

Ground 1, which is primarily based on the Biswas reference, fails because Neither Biswas nor Kumar teach the transmission of a “port mask” as claimed by the ’369 Patent. Further, a person of ordinary skill in the art (“POSITA”) would not have been motivated to combine Biswas with the teachings of Kumar because the two references are directed to fundamentally different aspects of packet handling.

Grounds 2 and 4, which are primarily based on the Fangman reference, fail because Fangman does not teach that a packet is routed based on a port mask (or even a port range) as required by the independent claims of the ’369 Patent. Grounds 2 and 4 also fail because a POSITA would not have combined Fangman with the teachings of Kumar at the relevant time period.

Grounds 3 and 5, which are based primarily on the King reference. These grounds fail because King, like Fangman, does not teach that a packet is routed based on a port mask. King also does not teach that a packet is routed with a destination identifier (identified in part by a port mask) as required by the independent claims

of the '369 Patent. Grounds 2 and 5 also fail because a POSITA would not have been motivated to combine Fangman with the teachings of Kumar.

Finally, the Board should deny the Petition because similar art and arguments were previously presented to the Office in a granted re-exam. The co-pendency of that re-exam justifies denying institution of this IPR. The minor differences in art between the Petition and the re-exam are not sufficient to warrant institution.

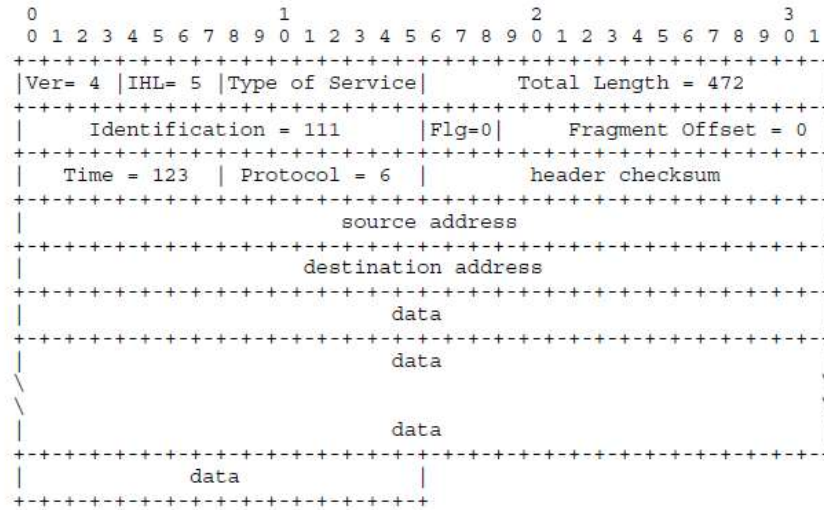
II. Background

A. The '369 Patent Invention

The '369 Patent is titled “Method of routing a data packet in a network and an associated device.” EX1001, cover. It was invented by Mohamed Boucadair while working on techniques to solve the problem cause by the exhaustion of public IP addresses at Orange, a French telecommunications company. *Id.*, cover, 1:53-54. The '369 Patent claims priority to March 31, 2008. *Id.*, cover. It issued on April 8, 2014. *Id.*

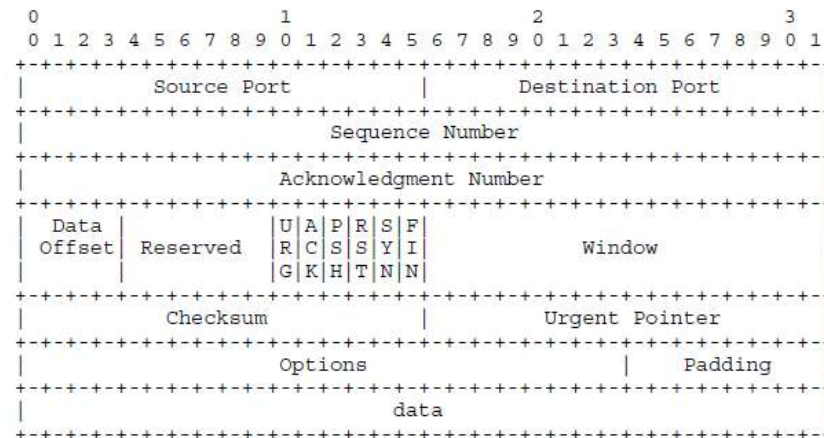
The '369 Patent generally relates to Internet Protocol version 4 (“IPv4”) telecommunications networks, and more specifically to IPv4 routing methods that conserve IPv4 addresses. EX1001, 1:41-50, 2:19-41 3:18-29, EX2001 ¶ 42. Specifically, the '369 Patent invention allows packets to be transmitted between public and private networks without using Operator Network Address Translation (“NAT”) techniques. EX1001, 3:11-23; EX2001 ¶ 42.

Packets of data can be transmitted between remote devices or networks using Internet Protocol (“IP”), and specifically Internet Protocol version 4 (“IPv4”). EX2001 ¶ 33. IPv4 packets include header “addresses” that identify the source and destination of the packet, typically in the form of 32-bit numbers. *Id.* ¶ 33. These packets also include data or payload sections. *Id.* ¶ 35. Within the data section, an IPv4 packet often includes a higher layer protocol such as Transmission Control Protocol (“TCP”) or User Datagram Protocol (“UDP”). *Id.* ¶¶ 34, 36, 43. These protocols include their own header information that includes a source and destination port. *Id.* ¶¶ 35, 43-45. One resulting structure of an IPv4 packet containing a TCP packet is illustrated by the example below (where the TCP packet would be within the data portion of the IPv4 packet):



Example Internet Datagram

Figure 6. (RFC 791)



TCP Header Format

Note that one tick mark represents one bit position.

Figure 3. (RFC 793)

Id. ¶ 35 (citing EX1026, Fig. 6, EX2003, Fig. 3).

Any device directly connected to a public IP network, such as the internet, needs a unique IP address in order to communicate with the rest of the network *Id.* ¶ 37. IPv4 provides for approximately 4.3 billion unique addresses. *Id.* But by the time of the '369 Patent, it was clear to IP practitioners that the internet would run

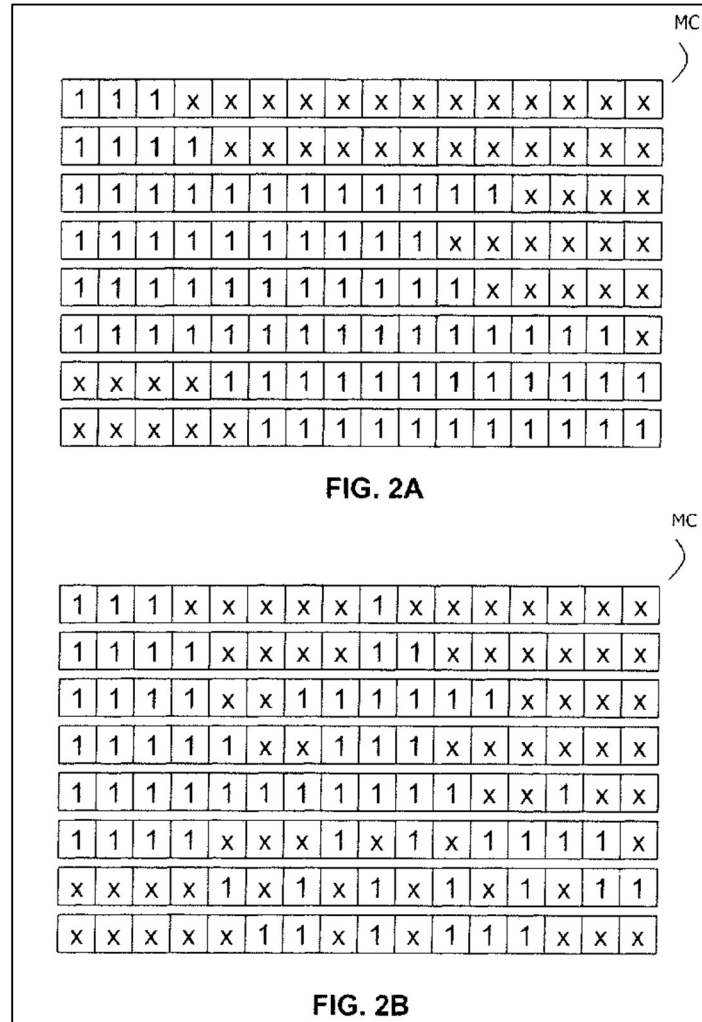
out of unique addresses and solutions were needed to either avoid exhaustion or replace IPv4 addresses. EX2001 ¶ 37; EX1001, 1:53-54.

The telecommunication community developed Internet Protocol version 6 (“IPv6”) to address this issue. EX2001 ¶ 38; EX1001, 1:55-59. IPv6 addresses can be represented by a 128-bit value, resulting in a nearly inexhaustible number of available addresses. EX2001 ¶ 38. However, at the time of the ’369 Patent, IPv6 adoption was proceeding slowly. *Id.*; EX1001, 1:59-60. Until IPv6 was more widely adopted, other solutions were needed to conserve public IPv4 addresses. *See, e.g.*, EX2001 ¶ 39 (referencing other solutions taken to address the imminent risk of IPv4 address exhaustion); EX1001, 1:67-2:1 (same).

According to the ’369 Patent, one of these conservation solutions is Operator NAT, which involves maintaining state tables associating private IP addresses and port numbers with public IP addresses and port numbers. EX2001 ¶ 39. But Operator NAT can significantly increase the processing overhead involved with routing packets through a network. *Id.*

The inventors of the ’369 Patent sought to alleviate these drawbacks in the prior art. EX1001, 2:45-46; EX2001 ¶ 40. One solution described by the ’369 Patent is to provide a shared public address and a portion of the available public port numbers to the terminal devices connected to a private network. EX1001, 3:11-29; EX2001 ¶ 45. As one aspect of this invention, the ’369 Patent describes a method

where port masks are assigned and transmitted to a terminal device by an edge router. EX1001, 7:29-32; EX2001 ¶ 43. These port masks are a sequence of bits that represent a range or set of port numbers. EX1001, 7:49-67; EX2001 ¶ 44. Examples of port masks are illustrated in Figs. 2A and 2B:



By conveying and maintaining the port range assignments as masks, edge routers using the methods of the '369 Patent are able to significantly reduce overhead. EX2001 ¶ 45. One way this happens is by allowing the terminal devices to use public IP addresses and a set (or range) of port numbers when transmitting a packet.

EX1001, 4:65-66, 7:33-35; EX2001 ¶ 45. In this embodiment, the edge router does not need to perform NAT on the packet before sending it into the public network. EX2001 ¶ 45; *see* EX1001, 2:17-23, 3:18-23 (similar). Another advantage is that it simplifies routing packets from a public network back to the terminal devices. In this instance, the edge router only needs to compare the port number to the assigned port masks using simple functions to identify the destination terminal device. EX2001 ¶ 45; *see* EX1001, 8:57-67 (similar).

The '369 Patent has seven independent claims that fall roughly within two categories. EX2001 ¶ 46. The first group of independent claims are 1, 5, and 6. *Id.*; EX1001, 14:15-15:2. These claims are directed to methods and devices that route a packet to a destination device based on determining a port mask assigned to the destination device. EX2001 ¶ 46; EX1001, 14:15-15:2. The second group includes independent claims 7, 10, 11, and 14. EX2001 ¶ 46; EX1001, 15:3-16:44. These claims are directed to methods and devices that assign a port range to a device in the form of a mask, and transmitting the mask to the device. EX2001 ¶ 46; EX1001, 15:3-16:44. Claims 1 and 7 are presented below, using the same annotations as Petitioner for denoting claim limitations:

1[pre]. A method of routing an IP data packet in a telecommunications network to a destination equipment, said packet comprising a primary destination address and a destination port number, said method comprising, on reception of said packet, the following steps:

1[a] determining a port mask assigned to the destination equipment, the port mask defining a range of port numbers to which the destination port number belongs;

1[b] selecting at least one identifier of the destination equipment of the packet from a plurality of equipment identifiers associated with said primary destination address based on the port mask; and

1[c] routing the packet to the destination equipment based on said identifier.

7[pre]. A method of configuring a piece of terminal equipment connected to a telecommunications network, comprising, on reception of a configuration request sent by said equipment, the following steps:

7[a] assigning to said piece of terminal equipment a primary address shared with a plurality of pieces of terminal equipment;

7[b] assigning to said piece of terminal equipment a port mask defining a range of numbers dedicated to it and a routing identifier; and

7[c] sending to said piece of terminal equipment a configuration message comprising said primary address, said port mask, and said routing identifier.

EX1001, 14:15-28; 15:3-15 (annotations added). *See also* Pet., viii-xi (same).

B. Effective Filing Date of the '369 Patent

The '369 Patent claims priority to March 31, 2008. EX1001, cover. It issued on April 8, 2014. *Id.* Petitioner does not dispute that the priority date of the '369 Patent is March 31, 2008. Pet., 8.

C. Level of Ordinary Skill in the Art

For purposes of this Preliminary Response, Patent Owner does not contest Petitioner's recitation of the level of skill in the art, because even under Petitioner's proposed level of skill (Pet., 14), Petitioner has failed to demonstrate a reasonable likelihood of success. Patent Owner reserves the right to propose its own definition of a person of ordinary skill in the art in the future if necessary.

D. Petitioner's References

Petitioner asserts five grounds of invalidity based on combinations of five references: (1) Biswas; (2) Kumar; (3) Fangman; (4) King; and (5) RFC 791.

Ground	Claims	Statute	References
1	7-14 and 16-17	§ 103	Biswas and Kumar
2	1-3, 5-6, and 15	§ 103	Fangman and Kumar
3	1-3, 5-6, and 15	§ 103	King and Kumar
4	4	§ 102	Fangman, Kumar and RFC 791
5	4	§ 103	King, Kumar and RFC 791

Pet., 4.¹

¹ For the purposes of this preliminary response, Monarch has addressed independent Claims 1, 5, 6, 7, 10, 11, and 14 because Petitioner has failed to demonstrate a reasonable likelihood of success of showing unpatentability of those claims (and therefore dependent Claims 2-4, 8, 9, 12, 13, and 15-17 as well). If the Petition is

1. Biswas [EX1022]

Biswas is U.S. Patent No. 8,019,889, titled “Method and apparatus for making end-host network address translation (NAT) global address and port ranges aware.” EX1022, cover. It generally describes methods for handling packets with embedded or translated IP addresses. *Id.*, 2:23-33; EX2001 ¶ 50.

Like the ’369 Patent, Biswas recognizes the imminent exhaustion of public IPv4 addresses. EX2001 ¶ 51; EX1022, 1:22-2:19. Biswas also recognizes the drawbacks of existing address conservation techniques, such as NAT. EX2001 ¶ 51; EX1022, 2:3-19. To avoid these drawbacks, Biswas describes an edge router that can assign a “Global Address,” and, optionally, a “Global Port Range” to a host device of a private network. EX2001 ¶ 51; EX1022, 2:23-33. The global address and port from the global port range can be used by the host device as an embedded or translated source address and port for a packet that is transmitted to another device on a public IP network. EX2001 ¶ 51; EX1022, 2:23-33.

Petitioner acknowledges that Biswas does not describe port masks or their use, unlike the claims of the ’369 Patent. Pet., 22; EX2001 ¶ 53. Biswas also does not

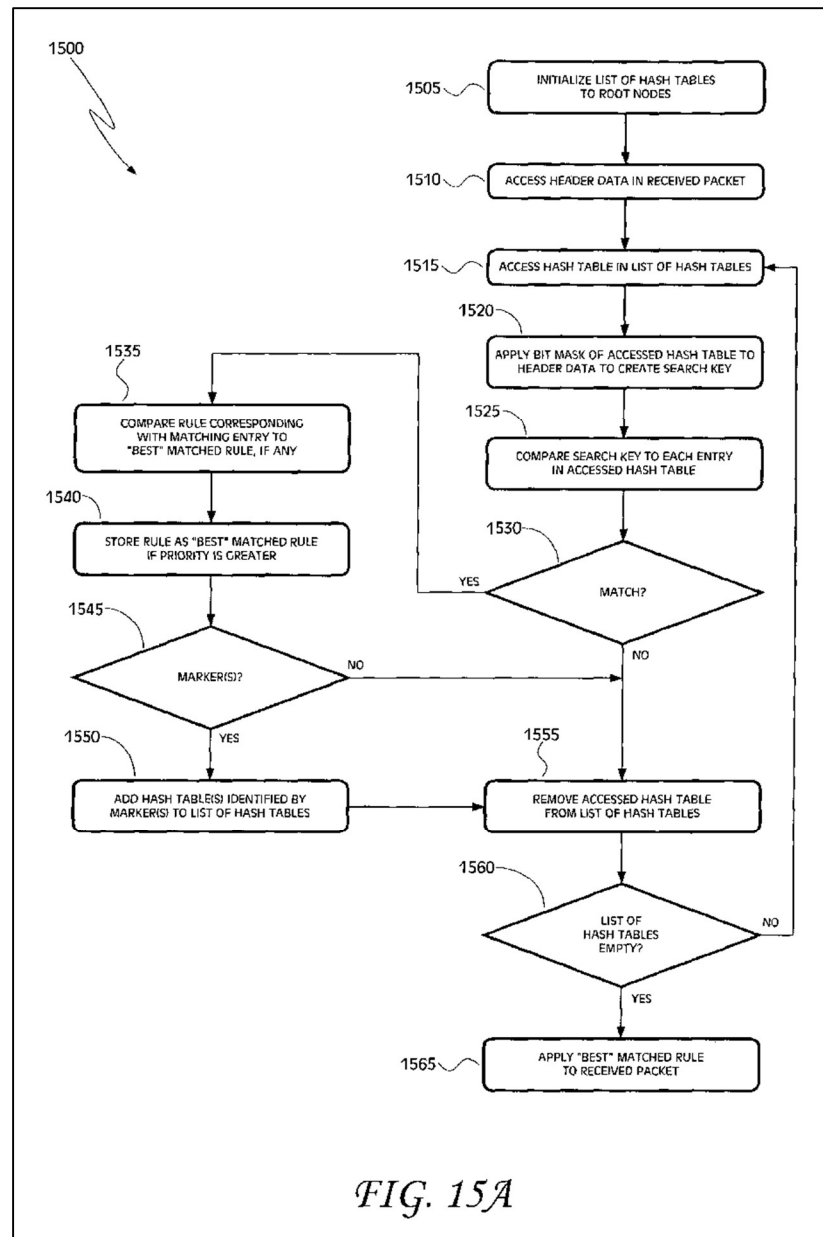
instituted, then Monarch reserves the right to further address the deficiencies in Petitioner’s theories, including deficiencies regarding the dependent claims.

describe “how [an] edge router [] determines whether a destination port is within one of its stored port ranges.” Pet., 24.

2. Kumar [EX1023]

Kumar is U.S. Patent No. 7,394,809, titled “Method and apparatus for packet classification using a forest of hash tables data structure.” EX1023, cover. Kumar generally relates to methods of classifying packets in a “packet classifier” for the purpose of managing Quality of Service (“QoS”) or security considerations. *Id.*, 1:20-24, 2:57-66; EX2001 ¶ 54. More specifically, Kumar describes methods of creating a “forest of hash tables data structure” using bit masks corresponding to rules and using those rules to classify packets into various categories. EX1023, Abstract; EX2001 ¶ 54.

Kumar describes a process for generating a database for sets of rules and identifying a “best” match for an arriving packet, illustrated by Fig. 15A:



EX2001 ¶ 55; EX1023, 7:4-14, Fig. 15A.

Unlike the '369 Patent, Kumar does not discuss IP address conservation. EX2001 ¶ 57. Instead, Kumar focuses on “classifying packets.” *Id.* ¶ 60; EX1023, 1:35-65. Moreover, Kumar does not directly compare a port number in a received packet to a port mask. EX2001 ¶ 56. Instead, Kumar creates a “search key” by

applying a bit mask of a hash table to header data of a packet and comparing the key to each entry of each relevant hash table until a best match is found. EX2001 ¶ 56; 1023, 19:2-27.

3. Fangman [EX1024]

Fangman is U.S. Patent No. 7,068,647, titled “System and method for routing IP packets.” EX1024, cover. It describes systems and methods for routing voice packets between IP Telephones over a telecommunications network, an environment also known as IP telephony or Voice over IP (“VoIP”). *Id.*, Abstract, 1:14-15; EX2001 ¶ 58. In particular, Fangman describes a network address persistent port translation (“NAPPT”) technique for translating packets to or from a public IP address to a private IP address. EX1024, Abstract, 4:9-17; EX2001 ¶ 58.

To address the problems identified with previous NAT techniques, see EX2001 ¶¶ 59-60, Fangman describes several alternative techniques for initiating IP Telephony connections, in particular the aforementioned NAPPT technique. *Id.* ¶ 61; EX1024, 3:3-10, 4:28-33. In NAPPT, the private source address is translated to a public address, but the source port is unchanged. EX2001 ¶ 62; EX1024, 18:23-30. The public source address and the “persistent” port can then be used to identify the device corresponding to a packet sent back to the private network. EX2001 ¶ 62; EX1024, 18:23-39.

Notably, Fangman does not teach routing a packet based on determining a port range (or port mask) for a packet received at a router. EX2001 ¶ 63. Instead, Fangman only uses the port number in the packet to identify a destination device, similar to traditional NAT or PAT. *Id.*; EX1024, 18:23-39.

4. King [EX1025]

King is U.S. Patent No. 8,032,639, titled “Apparatus and method for providing data session source device information.” EX1025, cover. It describes a system and methods for providing session source device information within a community (i.e., a group) of devices. *Id.*, 4:34-35, 4:52-57; EX2001 ¶ 64. King describes systems to implement policies as dictated by an Authentication, Authorization and Accounting (“AAA”) administrator or server on packet flows. EX2001 ¶ 64. Specifically, King focuses on a device that can aggregate source host sessions (a “service aggregation device”) to manage connections between a “community” and a wide area network such as the internet. EX2001 ¶ 64; EX1025, 1:45-59, 5:8-19.

King focuses on the connection and interaction between user devices, customer premises equipment (“CPE”), and the aggregation device. EX2001 ¶ 65. User devices typically access wider networks, such as the Internet, through CPEs. *Id.*; EX1025, 1:22-25. The CPE in turn communicates with an aggregation device, which serves as a gateway to the wider network. EX2001 ¶ 65; EX1025, 1:25-28. To manage the data traffic from the user devices, the aggregation device often needs

to apply a “policy” to the traffic from each user device. EX2001 ¶ 65; EX1025, 1:28-30. These policies can take numerous forms, such as ensuring a device is authorized or a billing method. EX2001 ¶ 65; EX1025, 1:30-33. These policies can be obtained from a management device. EX2001 ¶ 66; EX1025, 2:22-24, 2:40-48.

To obtain the appropriate policy from a management device, the aggregation device needs to be able to identify the correct user device. EX2001 ¶ 66; EX1025, 2:16-18. According to King, this can present challenges, especially when port translation is used at the CPE before a packet is sent to the aggregation device. EX2001 ¶¶ 66-67; EX1025, 3:42-44, 3:53-4:2.

So, King describes a system where the CPE and aggregation device are both able to access a common database assigning public IP addresses and a range of usable ports to the user device. EX2001 ¶ 68; EX1025, 5:28-42. By referencing this table, the aggregation device is able to identify the source user device of a packet (in the form of “source identifier information”) and obtain correct policy information from the management device. EX2001 ¶ 68; EX1025, 5:36-56.

Unlike the ’369 Patent, King does not describe the transmission of a packet based on the derived identity of the destination device. EX2001 ¶ 69. Instead, the identity of the source user device is sent (without the corresponding packet) to the management device, which returns policy information based on the user information.

Id. King also does not use destination addresses or ports in its method, nor does it describe port masks. *Id.*

5. RFC 791 [EX1026]

RFC791 is entitled “DARPA Internet Program Protocol Specification.” EX1026, 1, 3. It specifies that Standard Internet Protocol developed for the Department of Defense. EX2001 ¶70; *id.*, 5 (Preface). It describes a model of the Internet transmission path and provides the general specification for the IP, such as the header format. EX2001 ¶70; EX1026, 17 (“3.1. Internet Header Format”).

III. Claim Construction

Petitioner contends that no terms require construction. Pet., 14. For the purposes of this preliminary response, Monarch agrees.

IV. Arguments

The Petition should be denied for multiple independent reasons, as described below. Each of petitioner’s grounds fail for failing to disclose each and every element of the independent claims of the ’369 Patent. Ground 1 fails because neither Biswas nor Kumar teach transmitting port masks to a user device. A POSITA would not have been motivated to combine Biswas with Kumar, as they are directed to different aspects of packet handling, address assignment for Biswas and packet classification for Kumar.

Grounds 2 and 4 fail because Fangman does not disclose determining a port mask assigned to a user device or selecting an identifier based on the port mask.

Specifically, Fangman does not teach using port masks or port ranges to route packets to a destination device. Moreover, Fangman and Kumar are directed to different aspects of network transmissions, and a POSITA would not have been motivated to combine them.

Grounds 3 and 5 fail because King does not disclose determining a port mask assigned to a destination device or selecting an identifier of the destination device based on the port mask. King also does not disclose routing a packet using an identifier of a destination device. Specifically, King's teachings focus on identifying a source device, rather than a destination device. Moreover, A POSITA would not be motivated to combine the teachings of King with Kumar, in part because there is no suggestion to combine Kumar's rules database with King's methods to obtain a transmission policy.

A. Ground 1: Biswas In View Of Kumar Does Not Disclose Or Render Obvious The Use Of A Port Mask To Define Or Assign A Range Of Numbers (7[b], 7[c], 10[b], 10[c], 11[pre], 11[b], 14[pre], 14[b])

Independent claims 7, 10, 11, and 14 all claim that a port mask is used to define a port range, and that the port mask is transmitted to a terminal device. EX2001 ¶ 71. Specifically, claim 7 claims a method that comprises "assigning to said piece of terminal equipment a port mask defining a range of numbers dedicated to it." EX1001, 15:10-12 (element 7[b]). Claim 10 recites essentially the same thing in the context of a configuration server. *Id.*, 15:33-35 (element 10[b]). Independent

claims 7 and 10 both include elements related to sending the port mask to a piece of terminal equipment. *Id.*, 15:13-15, 15:36-38 (elements 7[c] and 10[c]). Independent claims 11 and 14 both recite similar elements in their preambles, specifically receiving a configuration message comprising “a port mask defining a range of port numbers that is dedicated to [the piece of client terminal equipment].” *Id.*, 15:39-44, 16:20-27. Additionally, claims 11 and 14 require that, before a packet is sent “a port number in the range of port numbers defined by the port mask” is selected. *Id.*, 16:1-6, 16:29-34 (elements 11[b] and 14[b]).

Petitioner alleges that Biswas discloses these elements to the extent that a port range is similar to a port mask, and that Kumar discloses port masks, together rendering these claims obvious. *See, e.g.*, Pet. 18-27 (with respect to claim 7). However, Petitioner acknowledges that Biswas does not disclose using a port mask to define a range of port numbers. *Id.*, 22. Instead, Petitioner contends that a POSITA would have combined Kumar’s bit masks with Biswas’ DHCP reply. *Id.*, 23-24. Petitioner has not met its burden to show that a POSITA would combine these references. EX2011 ¶75.

Biswas describes an edge router that can assign a “Global Address,” and, optionally, a “Global Port Range” to a host device of a private network. EX2001 ¶ 75; EX1022, 2:23-33. The assigned global address and global port range can be transmitted to a host device in a dynamic host configuration protocol (“DHCP”)

reply or similar transmission. EX2001 ¶ 75; EX1022, 2:52-59. The global address and port from the global port range can then be used by the host device as either an embedded or translated source address and port for a packet that is transmitted to another device on a public IP network. EX2001 ¶ 75; EX1022, 2:23-33.

On the other hand, Kumar describes methods to organize and use databases of rules for policy-based packet classification in a “packet classifier.” EX2001 ¶ 76; EX1003 ¶ 73; EX1023, 2:66-3:17. These rules are placed in “forests of hash tables” used to create “search keys” that must then be used to identify a “best match.” EX2001 ¶ 76; EX1023, 9:37-46, 19:11-27. But Kumar’s tools are used exclusively within the packet classifier.

Biswas and Kumar are directed to separate aspects of networking, namely, assigning addresses and ports to a host device via a DHCP message in Biswas, and categorizing packets based on header information in Kumar. EX2001 ¶ 77. Nothing Petitioner or its expert point to in Biswas addresses extracting or categorizing data from a packet header, such that a POSITA would be motivated to look to Kumar. *Id.* Petitioner also has not identified anything in Kumar that suggests transmitting parts of its categorization system to a terminal device in a DHCP request. Indeed, Kumar does not mention DHCP request or any related aspects. *Id.* Unsurprisingly, nothing in Kumar addresses IP address management or IP address conservation, and nothing

in Kumar suggests this method would have been used to send port ranges to a terminal device. *Id.*

As explained above Kumar's description applies to a packet classifier, such as in a firewall. EX1023, 1:35-65; EX2001 ¶¶ 54, 78. Firewall packet handling deals with traffic flow management, not IP address mapping or distributing address and port assignments to terminal devices. At the time of the invention of the '369 Patent (circa 2008), this was a significant distinction. EX2001 ¶ 78. For example, Kumar never provides any teaching on how routing is supported by its classification system. *Id.* There also is no discussion of the type of topology management routing protocols that are supported by Kumar's system. *Id.* Thus, Kumar does not address the additional complexities or processes involved with routing a packet that would arise trying to combine the teachings of Kumar with Biswas. *Id.* A POSITA would not look to Kumar when seeking to improve the system of Biswas for the purpose of IP address conservation, much less for the purposes of sending a port mask to a terminal device. *Id.*

Nor would Petitioner's proposed combination provide any benefits to the system of Biswas. EX2001 ¶ 79. Kumar describes a complex search system where packet headers are converted into search keys. EX2001 ¶ 79. *See also* EX1023, 18:65-19:10. Kumar's methods comprise a "forest of hash tables," with first and second rules, where "first rule is a 'descendant' of a second rule if the second rule—

i.e., the ‘ancestor’ of the first rule.” EX1023, Abstract, 10:27-47; EX2001 ¶ 79. A received IP packet header, rather than a port number or range, is converted to a “search key” using an “AND” operation with the bit mask of a hash table. EX1023, 19:2-10; EX2001 ¶ 79. This search key is then compared to each entry in the hash tables. EX1023, 19:11-18; Fig. 15A; EX2001 ¶ 79. This process continues with each hash table until a match is found. EX1023, 19:36-40; EX2001 ¶ 79. As a result, the combination of Kumar with Biswas would add significant processing demands to Biswa’s methods for assigning embedded and translated addresses and ports. EX2001 ¶ 79. Thus, a POSITA would not think to implement the Kumar system in Biswas. *Id.*

Moreover, both Kumar and Biswas are silent with respect to transmitting a port mask to a terminal device. *Id.* ¶ 80. Kumar only teaches the internal use of masks to manage its packet handling rules. *Id.* ¶ 80. Biswas does not address port masks at all. *Id.* ¶ 80. Nothing in either reference suggests that a port mask would ever be transmitted to a terminal device.

Accordingly, Petitioner has not shown that a POSITA would combine Biswas and Kumar to render obvious “assigning to said piece of terminal equipment a port mask defining a range of numbers dedicated to it” and the related claim elements. *Id.* ¶ 81. Moreover, neither Biswas nor Kumar discloses sending a configuration message to a terminal device that includes a port mask. *Id.*

B. Grounds 2 and 4: Fangman Does Not Teach Or Suggest All Elements Of Independent Claims 1, 5, and 6 Of The '369 Independent Claims

Both Grounds 2 and 4 rely on Fangman (in view of Kumar) to allege obviousness of certain claims of the '369 Patent. Pet., 38-53, 66-69. Specifically, the Petition alleges “Fangman’s teachings disclose an edge router that implements a method for configuring a piece of terminal equipment connected to a telecommunications network, including by assigning a piece of terminal equipment a shared primary address, a range of port numbers dedicated to it, and a routing identifier.” Pet., 41. But, Fangman does not teach using port masks or port ranges to route packets to a destination device. So, Fangman does not disclose several elements of independent claims 1, 5, and 6 of the '369 Patent, specifically, determining a port mask assigned to a user device or selecting an identifier based on the port mask. Moreover, Fangman and Kumar are directed to different aspects of network transmissions, and a POSITA would not have been motivated to combine them.

1. Fangman Does Not Disclose “Determining A Port Mask Assigned To The Destination Equipment…” And “Selecting At Least One Identifier…Based On The Port Mask” (1[A], 1[B], 5[A], 5[B], 6[A], 6[B])

Independent claims 1, 5, and 6 claim, in part, a process where a packet is received at an edge router, and the router determines whether or not the destination port number in the packet falls within one of the ranges of port numbers assigned to

terminal devices connected to the router. This determination is made using port masks that correspond to the assigned ranges. Specifically, element 1[a] recites “determining a port mask assigned to the destination equipment, the port mask defining a range of port numbers to which the destination port number belongs.” EX1001, 14:20-22. Claim element 1[b] further requires “selecting at least one identifier of the destination equipment of the packet . . . based on the port mask”. *Id.*, 14:23-26. Claims 5 and 6 include similar limitations from the perspective of “a device for routing an IP data packet . . .” and “telecommunications network equipment” *Id.*, 14:46-53, 14:60-67. Petitioner’s analysis for claims 5 and 6 primarily refers back to the analysis for claim 1. *See* Pet., 52-53.

Petitioner focuses on Fangman’s description of the routing functions of a service gateway. Pet., 43-45. As Fangman explains, the service gateway can assign a range of ports to an IP telephone (i.e., a terminal device). EX2001 ¶ 84; EX1024, 16:64-17:3, 17:21-25 (discussing port allocation in the context of a DHCP process). The majority of Fangman’s disclosure focuses on the initial setup of an IP Telephony connection. EX2001 ¶¶ 84; EX1024, 16:64-17:3, 17:21-25.

On the other hand, Fangman only briefly discusses how packets received at the service gateway:

Conversely, when the SG **170** receives a data packet from the IP device destined for the IP telephone **120**, the data packet may include a public destination IP address, a destination port number; and source information associated with the IP device, where the destination port

number is in the assigned range of port numbers for the IP telephone **120**. In one embodiment, the public destination IP address and the destination port number may be used to uniquely identify the IP telephone **120**. Performing a NAPPT on the data packet may include using the public destination IP address and the destination port number to uniquely identify the IP telephone **120**, and changing the public destination IP address to a private destination IP address while leaving the destination port number unchanged. Note that in this embodiment, the private IP address may be an IP address of the IP telephone **120**. After NAPPTing the data packet, the SG **170** may send the data packet to the IP telephone **120**.

EX1024, 18:31-47; EX2001 ¶ 85. This disclosure first describes the contents of a packet received at service gateway 170 (i.e., that it may include “[1] a public destination IP address, [2] a destination port number; and [3] source information associated with the IP device, where the destination port number is in the assigned range of port numbers for the IP telephone **120**.”). EX1024, 18:31-36; EX2001 ¶ 85. Fangman then explains how a packet with these contents may be handled: “In one embodiment, the public destination IP address and the destination port number may be used to uniquely identify the IP telephone **120**.” EX1024, 18:37-39; EX2001 ¶ 85. Focusing on the destination port number, Fangman teaches that the packet includes a port number with in the range assigned to the destination IP telephone, and that the port number may be used to identify the destination IP telephone. EX2001 ¶ 85.

But this section does not teach that the destination port range (or a port mask) is used to identify the destination IP telephone as required by these elements of the ’369 Patent. EX2001 ¶ 85. Instead, Fangman’s disclosure suggests that the service

gateway checks that the port number in the destination packet matches the port number used by the IP telephone in a prior outgoing transmission. EX2001 ¶¶ 87-89; EX1024, 18:31-47.

Fangman calls this process Network Address Persistent Port Translation (“NAPPT”), as explained above, and it relies on a “persistent” port number to transmit packets between networks. *Supra* § II.D.3; EX2001 ¶ 86. But this does not describe “determining a port mask assigned to the destination equipment, the port mask defining a range of port numbers to which the destination port number belongs” claimed by the ’369 Patent.

Despite this, Petitioner points to several statements in Fangman that it contends disclose these claim elements. Pet., 44-45. However, each of these representations misstates or misquotes Fangman. EX2001 ¶¶ 88-90. In each instance, Petitioner conflates Fangman’s treatment of outgoing packets or initial setup (dealing with source addresses and source ports) with an incoming packet (where the focus is on the handling of destination addresses and destination port).

In the first, Petitioner and its expert state that “Fangman explains that to perform NAPPT on received data packets, the service gateway ‘maintain[s] a table’ that ‘map[s]’ the port range assigned to an IP telephone to its internal (or “private”) IP address.” Pet. 44 (citing EX1024, 8:45-58, 10:66-67, 11:14-15). Based on this, Petitioner and its expert conclude that a POSITA would understand that Fangman’s

“service gateway 170 consults its mapping table to determine ‘the assigned range of port number’ to which the ‘destination port number’ in the IP packet belongs....” Pet., 44. This is a misreading of Fangman. EX2001 ¶¶ 88-89.

The cited section explains that the service gateway 170 “may allocate a range of port number for each IP telephone 120 as it acquires its lease during a DHCP process....” EX1024, 8:45-48; EX2001 ¶ 89. In the next sentence, Fangman suggests that this table is separate from the NAPPT process, which “maintain[s] a table of semi-permanent mapping of the external IP address and ports to the internal hosts and ports.” EX1024, 8:49-51; EX2001 ¶ 89. Fangman then states the port information may be validated “to ensure the correct internal host is using its assigned port range.” EX1024, 8:55-56; EX2001 ¶ 89. The validation occurs on packets sent by IP telephone **120** and validates the *source* port number. EX2001 ¶ 89; *see* EX1024, 8:51-56 (similar). But nothing in Fangman suggests this validation process would be applied to the *destination* port number. EX2001 ¶ 89; *see also* EX1024, Fig. 6C (illustrating that NAPPT does not change the source port in step 638). So, this disclosure cannot teach “determining a port mask assigned to the *destination equipment*, the port mask defining a range of port number to which the *destination port number* belongs.” EX2001 ¶ 89; EX1001, 14:20-22.

Petitioner and its expert also point to columns 10 and 11 of Fangman. Pet. 44. But those sections only describe capabilities in the service gateway that are used in

the initialization and DHCP process. EX2001 ¶ 90; EX1024, 10:20-11:67. They say nothing about how Fangman's service gateway routes incoming packets to their destination.

In sum, nothing in Fangman teaches to use a destination port range (or mask) to determine a destination for a packet as required by claims 1, 5, and 6. EX2001 ¶ 91. To the extent that Fangman discusses port ranges, it is in the context of assigning source ports for outgoing transmissions. Petitioner and its expert never acknowledge the difference in Fangman's treatment of source and destination ports. Nor do they explain why a POSITA would be motivated to modify Fangman's handling of destination ports to apply Fangman's teachings related to source port. As illustrated above, when handling a return packet, Fangman teaches consulting the port number stored in its NAPPT table to identify a destination device. Nothing in Fangman suggests that a port range (or mask) is used in the NAPPT process to identify a destination device for a packet. *Id.* In fact, Fangman confirms that it uses only a port number for this purpose. *Id.*; EX1024, 18:39-42 ("Performing a NAPPT on the data packet may include using the public destination IP address and the destination port number to uniquely identify the IP telephone 120...." (emphasis added)).

2. Fangman In View Of Kumar Does Not Render Obvious The Use of Port Masks

Grounds 2 and 4 fail for the additional reason that Fangman does not disclose the use of port masks at all, and a POSITA would not combine the teachings of Fangman with those of Kumar. As noted above, claims 1, 5, and 6 each include similar limitations that require the use of port masks. Petitioner's analysis for claims 5 and 6 primarily refers back to the analysis for claim 1. Pet., 52-53.

Petitioner acknowledges that Fangman does not describe using a port mask to define a range of ports. Pet., 45. Instead, Petitioner contends that Fangman would be combined with the teaching of Kumar to render the element obvious. *Id.* But, Petitioner fails to show that a POSITA would combine the two references.

As an initial matter, Fangman does not use port ranges to identify the destination of a packet. *See supra* § IV.B.1; EX2001 ¶ 94. Petitioner and its expert have not provided any no reason to replace a single port number with a port mask. EX2001 ¶ 94.

Regardless, Petitioner has not shown a POSITA seeking to implement the routing method of Fangman would look to Kumar. Unlike Fangman, which as explained above, describes techniques for establishing IP telephone connections, Kumar addresses policies in a packet classifier, such as in a firewall. *Id.* ¶ 95. As noted above, Firewall packet handling deals with traffic flow management, not IP telephony or connection setup and management. *Id.* Kumar does not address the

additional complexities or processes involved with IP telephony. *Id.* Accordingly, a POSITA would not look to Kumar when seeking to improve the system of Fangman for the purpose of IP address conservation. *Id.*

Petitioner has also not explained how the system of Kumar would provide any benefit to the IP telephony system of Fangman. *Id.* ¶ 96. As noted above, Kumar describes a complex hierarchical data structure comprised of a “forest of hash tables.” EX1023, Abstract, 10:27-47; EX2001 ¶ 96. When a packet arrives at Kumar’s packet classifier, the header of an IP packet, rather than only the port number is converted to a “search key” using an “AND” operation with the bit mask of a hash table. EX1023, 19:2-10; EX2001 ¶ 96. This search key is then compared to every hash table. EX1023, 19:11-18; EX2001 ¶ 96. This process continues with each hash table until a match is found. EX1023, 19:36-40; EX2001 ¶ 96. As a result, Kumar adds significant processing demands that would place additional burdens on Fangman’s NAPPT system. EX2001 ¶ 96. Thus, a POSITA would not seek to implement the Kumar system in Fangman and increase the complexity of Fangman. Accordingly, Petitioner has not shown that a POSITA would combine Fangman and Kumar to render claims 1, 5, and 6 obvious.

C. Grounds 3 and 5: King Does Not Teach Or Suggest All Elements Of Independent Claims 1, 5, and 6 Of The '369 Independent Claims

Both Grounds 3 and 5 rely on King (in view of Kumar) to allege obviousness of certain claims of the '369 Patent. Pet., 53-66, 69-70. Specifically, the Petition alleges “King’s teachings disclose intermediary devices that assign user devices a shared primary address, a range of port numbers dedicated to it, and a routing identifier.” *Id.*, 55. However, King fails to disclose several elements of independent claims 1, 5, and 6 of the '369 Patent. King’s teachings do not rely on the identification of a destination device. Rather, King focuses on identifying a source device. So, Kumar does not disclose determining a port mask assigned to a destination device and selecting an identifier of the destination device based on the port mask. King also does not disclose routing a packet using an identifier of a destination device. Moreover, A POSITA would not be motivated to combine the teachings of King with Kumar, because a POSITA would not look to Kumar to improve the teachings of Kumar.

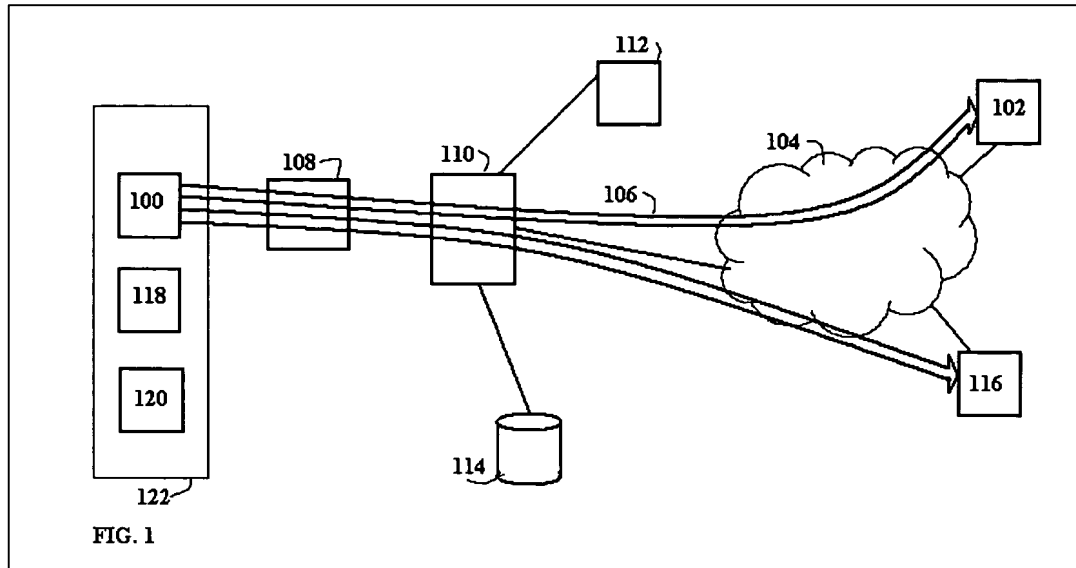
1. King Does Not Disclose “Determining A Port Mask Assigned To The Destination Equipment…” And “Selecting At Least One Identifier…Based On The Port Mask” (1[A], 1[B], 5[A], 5[B], 6[A], 6[B])

Petitioner’s analysis with respect to King is fundamentally flawed for at least two reasons. First, Petitioner conflates source port processing with destination port processing. And second, Petitioner proposes to combine King’s method of obtaining

a policy with its method of routing a packet. However, these are two fundamentally different processes and Petitioner has not alleged why a POSITA would be motivated to make the proposed modifications. As a result, King fails to disclose the same elements as Fangman for similar reasons. *See supra* § IV.B.1. As with Fangman, Petitioner’s analysis for claims 5 and 6 primarily refers back to the analysis for claim 1. Pet., 65-66.

As explained above, King describes a system to improve the ability of an aggregation device to obtain user policy information from a management device, such as an authorization, authentication and accounting (“AAA”) server. *Supra* § II.D.4. One aspect of this system is a table of source address and source port assignments accessible by both the customer premises equipment (“CPE”) and the aggregation device. EX2001 ¶ 100. By knowing the source port range assigned to each device by the CPE, the aggregation device can identify the user device and use that identification to obtain policy information from an AAA server. *Id.*

The system described by King is illustrated in Figure 1:



EX1025, Fig. 1; EX2001 ¶ 101. Figure 1 shows a packet flowing from a first user device **100** to a CPE device **108**, then an aggregation device **110**, and onward to remote devices **102** and/or **116**. EX1025, 1:34-59; EX2001 ¶ 101. When aggregation device **110** receives the packet, aggregation device **110** must know what policy to apply to the packet, such as a QoS policy or parental control policy. EX1025, 1:28-33; EX2001 ¶ 101. Since aggregation device **110** includes a table with *source* port ranges assigned by CPE device **108**, it can use the *source* port to identify the *source* device and obtain a policy for that device from AAA server **114**. EX1025, 5:63-65, Figs. 6, 7; EX2001 ¶ 101. The packet can then be transmitted using that policy. EX1025, 5:51-57; EX2001 ¶ 101.

In this process, the *destination* port (i.e., a “port [] assigned to the destination equipment”) required by the ’369 claims is never used. EX2001 ¶ 102. And, nothing Petitioner or its expert points to in King suggests that this method would be

implemented in reverse, i.e., to identify a policy for a packet transmitted from destination device **102** to user device **100** by using the destination port. *Id.*

The very language that Petitioner and its expert point to explicitly uses ports associated with *source* equipment rather than destination ports:

“[T]he CPE may assign TCP port numbers 1024 to 1039 to data sessions **associated with the first user or source device 100** and TCP port numbers 1040 to 1055 to data sessions **associated with the second user or source device 118.**”

“[I]ncoming packets can then be classified ... **based on source port range.**”

“In particular on receipt of a packet with (translated) *source* address IPCPE and (translated) TCP port in the range **1024 to 1039** the aggregation device derives corresponding **source device information.**”

EX1025, 5:28-32, 5:36-37, 5:42-46. *See also* Pet., 55, 58; EX1003 ¶¶ 185, 193-194 (citing EX1025, 5:28-32, 5:32-35, 5:36-42, 5:26-46); EX2001 ¶ 104. Petitioner and its expert never articulate a reason why these teachings based on the source port would be applied to a destination port. *See* EX2001 ¶ 103.

Accordingly, Petitioner has not shown that King discloses “determining a port mask assigned to the *destination* equipment, the port mask defining a range of port numbers to which the *destination* port number belongs” or “selecting at least one identifier of the *destination* equipment of the packet . . . based on the port mask”. EX2001 ¶ 104.

2. King Does Not Disclose “Routing The Packet To The Destination Equipment Based On Said Identifier” (1[C], 5[C], 6[C])

Independent claims 1, 5, and 6 also claim that a packet is routed to its destination based on the identifier (identified using the destination port mask). Specifically, claim element 1[c] recites “routing the packet to the destination equipment based on said identifier.” EX1001, 14:27-28. Claims 5 and 6 include similar limitations from the perspective of a “a device for routing an IP data packet . . .” and “telecommunications network equipment . . .” *Id.*, 14:54-55, 15:1-2.

Petitioner dedicates only a single paragraph to this element in claim 1 and refers back to this one paragraph for claims 5 and 6. Pet., 63, 65-66. As with above, Petitioner, and its expert, mis-state King’s teachings to argue that King discloses this element.

King never states that the device identifier information (identified based on the port mask) would be used to route a packet to the destination equipment. EX2001 ¶ 107. Nonetheless, Petitioner and its expert argue that King’s IP address of a user device would be used to route the packet. Pet., 63. This analysis focuses entirely on King’s description of a prior art system that does not implement the techniques of King. *Compare* EX1003 ¶ 204 (citing EX1025, 2:49-61, 3:2-6, Fig. 5) *with*

(EX1025, 1:34-36, 1:60-61, 2:25-28); EX2001 ¶ 107. King's entire description of this process is found in columns 2 and 3:

In particular at step **500** the user device initiates a service session with its IP address as source identifier and a native data session identifier such as a TCP source port as data session identifier. At step **502** the CPE translates the source address to its own overloaded IP address. At step **504** the CPE additionally translates the TCP source port to its own TCP port in a Port Address Translation (PAT) step as described in more detail below. Then, as step **506**, the CPE forwards returning traffic with the translated overloaded IP address and TCP port to the user device, reinstating the user device IP address as destination address and the user device assigned TCP port number.

EX1025, 2:62-3:6. Petitioner and its expert point to the last step in that prior art process that explains that return traffic can be translated and sent to a local device.

EX1003 ¶ 304; EX2001 ¶ 107. This return traffic is not otherwise discussed in King. EX2001 ¶ 107.

Nothing in this process teaches the use of port ranges or the identifier that is identified in earlier elements of claims 1, 5, and 6. Indeed, King teaches away from using this method: it is the prior PAT technique that proved problematic when trying to identifying source devices. EX1025, 3:42-53; EX2001 ¶ 107. Petitioner and its expert did not explain why a POSITA would combine this technique with the policy identification method of King, or how the source identifier used to obtain policy information from a AAA device would be used to route a packet to its destination equipment. EX2001 ¶ 107.

In sum, King does not teach or suggests “routing the packet to the *destination* equipment based on said identifier [of the *destination* equipment].” EX2001 ¶ 108.

3. King In View Of Kumar Does Not Render Obvious The Use Of Port Masks

Grounds 3 and 5 fail for the additional reason that King does not disclose the use of port masks at all, and a POSITA would not combine the teachings of King with those of Kumar. As noted above, claims 1, 5, and 6 each include similar limitations that require the use of port masks. Petitioner’s analysis for claims 5 and 6 primarily refers back to the analysis for claim 1. Pet., 65-66.

Petitioner acknowledges that King does not describe using a port mask to define a range of ports. Pet., 59. Instead, Petitioner contends that King would be combined with the teaching of Kumar to render the element obvious. *Id.* But, Petitioner’s analysis is insufficient to support the conclusion that a POSITA would combine the two references. In particular, Petitioner’s analysis cherry-picks Kumar’s discussion of masks without acknowledging the complexity of implementing Kumar’s search methods in King’s policy management system. EX2001 ¶ 112.

For example, Petitioner has not shown a POSITA seeking to implement the methods of King would look to Kumar. EX2001 ¶ 112. Unlike King, which concerns obtaining a policy from a AAA server, Kumar addresses applying rules in a packet classifier, such as in a firewall. EX2001 ¶ 112. As noted above, firewall packet

handling deals with traffic flow management, not IP policy acquisition or routing. Thus, Kumar does not address obtaining policy information from an outside source. EX2001 ¶ 112. Accordingly, a POSITA would not look to Kumar when seeking to improve the system of King for the purpose of obtaining policy information. EX2001 ¶ 112.

Petitioner has also failed to consider the complexity Kumar's teachings would impose of King. As noted above, Kumar uses a search system where packet headers are converted into search keys. *See, e.g.*, EX1023, 18:65-10. This system would add considerable processing demands to King steps that a POSITA would realize increases the complexity of King's method of obtaining a policy from a AAA serve. EX2001 ¶ 113. Thus, a POSITA would not implement the Kumar's system in King. EX2001 ¶ 113.

Petitioner's analysis also fails to explain how King and Kumar would be combined or how a POSITA would have a reasonable expectation of success. For example, the petition never explains how the complex forest of hash tables of Kumar would be implemented in King's translation table or policy management system.

Accordingly, Petitioner has not shown that a POSITA would combine Fangman and Kumar to render claims 1, 5, and 6 obvious.

V. The Board Should Deny The Petition Under §325(D)

The Board should deny the Petition because the same art and arguments were previously presented to the Office and patentability of the challenged claims was confirmed over that art and those arguments.

A. §325(d) Legal Standard

“Section 325(d) provides that the Director may elect not to institute[] a proceeding if the challenge to the patent is based on matters previously presented to the Office.” *Advanced Bionics, LLC, v. Med-el Elektromedizinische Geräte GMBH*, IPR2019-01469, Paper 6 at 7 (Feb. 13, 2020) (precedential):

[U]nder § 325(d), the Board uses the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

If petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute inter partes review. If reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability. At bottom, this framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.

Id. at 8-9 (footnote omitted).

In evaluating whether to deny institution when the same or substantially the same prior art was previously presented to the Office, the Board considers:

- (1) the similarities and material differences between the asserted art and the prior art involved during examination;
- (2) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (3) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (4) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (5) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (6) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson and Company v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17-18 (Dec. 15, 2017) (precedential).

B. The §325(d) Factors Favor Denial

The § 325(d) factors favor denial in this proceeding. The Petition here is heavily reliant on art and arguments previously presented to the Office, and the Petitioner has offered no more than a few conclusory statements as to how the Office purportedly erred. As a result, the Petition should be denied.

1. The Same Or Substantially The Same Art Previously Was Presented To The Office

First, as the Office has already recognized, this Petition raises art which is substantially the same as the art presented in the parallel reexamination request. In the January 18, 2024 Decision Ordering Reexam, the Office noted “the prior art and

arguments presented in the [90/015,315] reexamination request and the later filed [IPR2024-00175] petition indicates that at least [the] ground presented in the reexam request is based on substantially the same prior art that was presented in the IPR petition.” EX2008, 20. The Office declined to exercise its discretion to deny reexamination in that proceeding, largely because it was the earlier filed challenge combined with the fact that “[t]he PTAB has yet to make any decision on institution with respect the prior art prior art presented in the pending IPR petition.” EX2008, 21-22. These same factors counsel in favor of denial of institution here, where the reexamination unit has already considered Petitioner’s first two primary references and made a decision to grant the request for reexamination based on the same art and the IPR Petition was the later filed challenged.

Petitioner challenges Claims 1-17 based on Biswas (EX1022), Kumar (EX1023), Fangman (EX1024), King (EX1025), and RFC 791 (EX1026).

Ground	Claims	References
1	7-14, 16-17	Biswas+Kumar
2	1-3, 5-6, 15	Fangman+Kumar
3	1-3, 5-6, 15	King+Kumar
4	4	Fangman+Kumar+RFC 791
5	4	King+Kumar+RFC 791

Pet., 4.

The granted reexamination also addresses Claims 1-17² based on the same Fangman primary reference and another primary reference heavily related to the Biswas reference³ which Petitioner relied on for the majority of its grounds. Furthermore, Petitioner concedes that Fangman was presented to the USPTO during prosecution, and it can be seen on the face of the patent. Pet., 73; EX1001, cover (References Cited).

Petitioner argues that § 325(d) should not apply at step 1 because: (1) the first Office Action might not issue in the reexamination prior to the Board's institution decision, (2) its Petition "challenges claims 1-17, whereas the Unified EPR challenges only claims 1- 3 and 5-17," and (3) the grounds in the reexamination are not identical in part because "Biswas . . . is not the same patent relied upon in this petition" and the reexamination "does not include any arguments based on the King, Kumar and RFC 791 references in this petition." Pet., 74-75.

First, Petitioner appears to argue that, because the first Office Action *might* not issue by the time of the Institution Decision, that supports denial. Notably, Petitioner's estimate (purportedly indicating an upper range of 7.46 months from filing to Office Action) is based on statistics from 2021-2022 rather than the most recently issued statistics. Pet., 74 (citing EX1033). In the most recently issued

² The Examiner added Claim 4 to the reexamination *sua sponte*. EX2008, 18-19.

³ U.S. Patent No. 7,624,195 (same lead inventor). EX2008, 3.

statistics, for the quarter ending 12/31/2023, the average time to a FAOM was 6.82 months. EX2009, 2. That means any Office Action would likely issue by the middle of May, 2024,⁴ while the statutory deadline for an institution decision in this proceeding would not be until May 26, 2024.⁵ Thus, to the extent the timing of the first Office Action affects the Board's analysis, this point supports denial of institution.

Second, Petitioner argues that § 325(d) should not apply because its Petition “challenges claims 1-17, whereas the Unified EPR challenges only claims 1-3 and 5-17.” The Examiner negated that argument, instituting review on claim 4 *sua sponte*. EX2008, 19. Thus, even if the minor difference in challenged claims was relevant, that difference no longer exists.

Third, while Petitioner asserts that the Petition Biswas reference it relies on (EX1022) is different than the Reexamination Biswas reference that the reexamination relies on (EX1015), it ignores the fact that the later filed Reexamination Biswas reference is so similar that it expressly refers to the teachings of the earlier filed Petition Biswas reference by application number. *See* EX1015, 5:45-50 (referring to teachings of Application No. 10/160,321, from which EX1022

⁴ Approximately 6.82 Months after the October 23, 2023, filing. EX2008, 1; EX2009 at 2.

⁵ Three Months after the Feb. 26, 2024, preliminary response filing. *See* 35 U.S. Code § 314(b)(1).

issued). While Petitioner suggests there are differences in the specifications, it tellingly made no attempt to identify any material differences between the two references. Furthermore, the Examiner in the reexamination found that the references were “substantially the same prior art.” *See* EX2008, 20-21 (stating that “SNQ Ground #1 in the reexamination request” is a “subset” of “[IPR] ground #1”).

Additionally, King (the only primary reference relied on in the Petition that was not relied on in the reexamination) is merely cumulative of Biswas and Fangman. This is demonstrated by the fact that the Petition concedes that Biswas, Fangman, and King all have the same deficiency—none of them teach “a port mask to define the range of port numbers assigned to the terminal equipment,” and all of Petitioner’s grounds rely on Kumar in the same manner to purportedly provide the same missing limitation. *See* Pet., 17-18 (Biswas+Kumar), 41 (Fangman+Kumar), 55-56 (King+Kumar).

Petitioner’s argument that the reexamination does not include arguments based on Kumar or RFC 791 also does not support its bid to avoid denial. The PTAB rejected a similar argument in its “Informative” designated decision in *Kayak Software Corp. v. International Business Machines Corp.*, CBM2016-00075, Paper 16 at 7-12 (P.T.A.B. December 15, 2016) (noting “[the PTAB’s] discretion as to whether to institute a covered business method review under 35 U.S.C. § 324(a) is guided, in part, by the further language of 35 U.S.C. § 325(d).”) (informative). There,

the PTAB found that when the primary references relied on had been previously used to reject the challenged claims, the inclusion of additional secondary references to challenge the same claims did not overcome the prior consideration of the primary references. *See id.* at 10-11 (“Given that the Examiner did not need any prior art to reject the additional subject matter recited in each of dependent claims 2, 9, 15, and 22, we are persuaded that *any* prior art or arguments now presented for that additional subject matter would be substantially similar to that already presented to and considered by the Examiner.”). Because the examiner considered (and ordered reexamination) of the same claims based on Biswas and Fangman even in the absence of Kumar and RFC 791, Petitioner’s inclusion of those secondary references does not overcome the past consideration of the primary references addressing the same topics.

2. The Petitioner Has Not Demonstrated That The Office Erred In A Manner Material To The Patentability Of Challenged Claims

Petitioner identifies the following supposed errors that the Office made previously, suggesting (1) the “Examiner’s failure to apply Fangman was material error” because “during prosecution the Examiner relied upon disclosures pertaining to physical ports,” and the Examiner “overlooked” references like Biswas, Fangman, and King and their teachings, and (2) “it would be material error for the Examiner to find the Challenged Claims patentable [in the reexamination].” Pet., 73-

74, 77-78. However, these supposed “errors” do not support the institution of this proceeding.

The first point does not support a finding of material error. For example, Petitioner’s characterization of Fangman as being overlooked and merely being “cited in an IDS” is incorrect. *Id.*, 73, 77-78. The published patent application version of Fangman was identified as a “document of particular relevance” in the International Search Report filed with the application, which specifically identified Fangman paragraphs 19-22 (corresponding to EX1024, 3:53-4:33), 63 (corresponding to EX1024, 8:45-58), and 274 (corresponding to EX1024, 18:31-47) as being relevant. EX1002, 289. *See also* EX2010 ¶¶ 19-22, 63, 274 (the published patent application version of Fangman cited by the Examiner). Petitioner relies heavily on largely the same cites for Fangman’s discussion of ports. *See, e.g.*, Pet. at 43-45 (citing, e.g., EX1024, 4:17-33, 8:45-58, and 18:31-47). Petitioner’s assertion that the Examiner somehow ignored these same portions of Fangman (despite being told they were of particular relevance and being cited directly to them) is unsupported by the record.

Furthermore, Petitioner’s assertion that the Examiner erred because she considered (and issued rejections based on) disclosures relating to physical ports does not support the conclusion that she ignored disclosures relating to other types of ports. Petitioner identifies nothing in the record which suggests such an “error”

was made, but instead appears to suggest that the since the Examiner did not issue the precise rejection which it proposes here must necessarily mean a mistake was made. Such a speculative (and unsupported) “error” is insufficient to avoid denial.

Second, Petitioner’s statement that “it would be material error for the Examiner to find the Challenged Claims patentable [in the reexamination]” is also insufficient to demonstrate clear error. Pet., 77-78. As an initial matter, the Examiner in the reexamination considered the asserted references and *granted* the reexamination request based on them. Petitioner’s statement that any patentability finding by the Examiner would necessarily constitute material error is too speculative and non-specific to support its argument.

3. Other Factors Favor Denial

While the Office’s Decision Ordering Reexam in the parallel reexamination suggests that there may have been additional reasons not to exercise its discretion to deny the reexamination in *that* proceeding, none of them support the argument not to exercise discretion in this proceeding.

First, the Order suggests “[t]he is no evidence that petitioner and third-party requester are the same real party-in-interest.” EX2008, 21. Yet, that is incorrect. Even the Federal Circuit recognized that Unified Patents (the reexamination requester) appears to be an entity whose “entire business model is to challenge patents on behalf of others.” *Fall Line Patents, LLC v. Unified Patents, LLC*, 818 F.

App'x 1014, 1018 n.1 (Fed. Cir. 2020) (vacated on other grounds in *Iancu v. Fall Line Patents, LLC*, 141 S. Ct. 2843 (2021)). While Petitioner suggests it was not “involved” in the reexamination, it conspicuously avoids addressing what relationship it does have with Unified Patents, who conveniently decided to challenge the '369 Patent around the same time as Petitioner on substantially the same grounds. Thus, this point would not support a decision not to exercise the Board's discretion under § 325(d).

The Order also suggests “[t]here has been no finding of serial abusive Office challenges to the '369 Patent.” EX2008, 22. However, neither the statute nor the Office's precedent require a specific finding of serial abusive challenges to the patent in order to deny institution under § 325(d). Rather, the statutory inquiry is whether “the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d). As discussed above, this condition has been met.

Finally, the Order suggests that the arguments between the two proceedings are not identical because “in the pending IPR, petitioner presents arguments that a secondary reference, Kumar, discloses some of the limitations.” EX2008, 22. As discussed above, the fact that a SNQ was found for all claims even in the absence of secondary reference Kumar suggests it is likely substantially similar to other art considered and does not support institution in this proceeding. *Supra* § V.B.1; *see Kayak Software.*, CBM2016-00075, Paper 16 at 9-12.

Thus, Patent Owner respectfully requests that the Board exercise its discretion under § 325(d) to deny institution.

VI. Conclusion

Monarch respectfully requests that the Board deny institution of the Petition for the reasons stated herein.

Dated: February 26, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing Patent Owner's Preliminary Response was served via email to lead and backup counsel of record for Petitioners as follows:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 10,408 words as calculated by Microsoft Word, excluding the items exempted under 37 C.F.R. § 42.24.

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