

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS**

MORRIS ROUTING TECHNOLOGIES,
LLC

Plaintiff,

v.

AT&T INC., AT&T ENTERPRISES LLC,
AT&T MOBILITY LLC, AT&T
MOBILITY LLC II, and AT&T
SERVICES, INC.

Defendants.

Civil Action No. 4:24-cv-623

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Morris Routing Technologies, LLC (“MRT” or “Plaintiff”), for its Complaint against Defendants AT&T Inc., AT&T Enterprises LLC, AT&T Mobility LLC, AT&T Mobility LLC II, and AT&T Services, Inc. (individually each a “Defendant,” and collectively “AT&T” or “Defendants”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff MRT is a limited liability company organized under the laws of the State of Texas with a place of business at 1312 14TH St. Suite 204, Plano TX 75074.

3. Defendant AT&T Inc. is a Delaware corporation with a physical address at 208 S. Akard Street, Dallas, TX 75202. AT&T may be served with process through its registered agent, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201.

4. Defendant AT&T Enterprises LLC is a limited liability company organized and existing under the laws of Delaware. Since December 7, 2023, AT&T Enterprises LLC has been registered to do business in Texas under Texas SOS file number 0805330645. AT&T Enterprises LLC may be served through its registered agent for service, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201.

5. Defendant AT&T Mobility LLC is a limited liability company organized and existing under the laws of Delaware. Since November 21, 2000, AT&T Mobility LLC has been registered to do business in Texas under Texas SOS file number 0707861123. AT&T Mobility LLC may be served through its registered agent for service, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201.

6. Defendant AT&T Mobility II LLC is a limited liability company organized and existing under the laws of Delaware. AT&T Mobility II LLC is identified by the Texas Secretary of State as having an “ACTIVE” right to transact business in Texas under Texas taxpayer number 18416599704, associated with the Texas mailing address 101 N. Saint Mary’s St., Rm. 9-Y01, San Antonio, Texas 78215-2109. AT&T Mobility II LLC may be served through its registered agent for service, The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware, 19801. On information and belief, AT&T Mobility II LLC may also be served through AT&T Mobility LLC's registered agent for service, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201.

7. Defendant AT&T Services, Inc. is a corporation organized and existing under the laws of Delaware. Since April 5, 1996, AT&T Services, Inc. has been registered to do business in Texas under Texas SOS file number 0010935606. AT&T Services, Inc. may be served

through its registered agent for service, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201.

8. Upon information and belief, AT&T sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

9. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

10. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

11. Venue is proper in this judicial district under 28 U.S.C. § 1400(b).

12. Each Defendant is subject to this Court's personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

13. This Court has personal jurisdiction over the AT&T under the laws of the State of Texas, due at least to their substantial business in Texas and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals in the State of Texas. AT&T has purposefully availed itself of the privileges of conducting business in the State of Texas and in this judicial district. Venue is also proper in this district because AT&T has a regular and established place of business and has committed acts of infringement in this district.

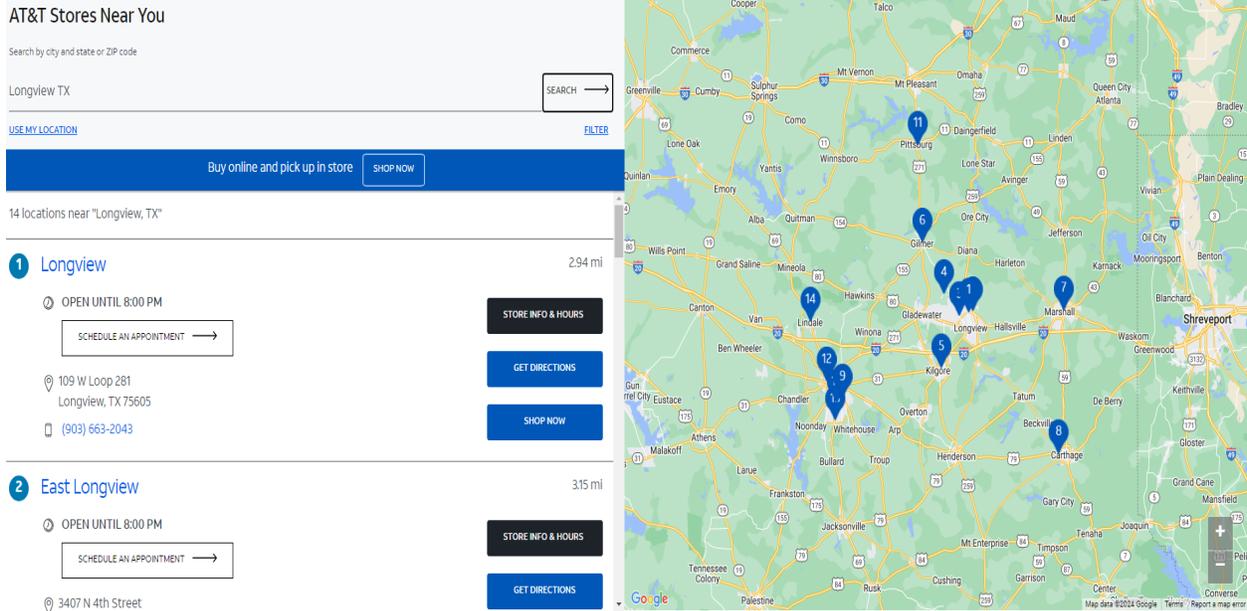
14. For example, AT&T has regular and established places of business at, among other places: in Marshall (*e.g.*, 1712 E Grand Ave, Marshall, TX 75670), Longview (*e.g.*, 3407 N

4th Street, Suite 107, Longview, TX 75605; 109 W Loop 281, Longview, TX 75605; and 2306 Gilmer Road, Longview, TX 75604), Tyler (*e.g.*, 301 N Northwest Loop 323, Tyler, TX 75702; 2028 E Southeast Loop 323, Tyler, TX 75701; 4757 South Broadway Ave, Tyler, TX 75703; and 8922 S Broadway Ave, Ste 112, Tyler, TX 75703), Beaumont (*e.g.*, 805 I10 South, Beaumont, TX 77701; and 4460 Dowlen Road, Beaumont, TX 77706), Lufkin (*e.g.*, 1905 Tulane Dr, Suite 103b, Lufkin, TX 75901; and 500 N Brentwood Dr, Lufkin, TX 75904), Sherman (*e.g.*, 301 East US Highway 82, Suite 1a, Sherman, TX 75092), Texarkana (*e.g.*, 4901 N Stateline Ave, Suite 900, Texarkana, TX 75503; 5112 Summerhill Rd, Texarkana, TX 75503; and 250 Richmond Ranch Rd, Texarkana, TX 75503), Plano (*e.g.*, 701 N Central Expy, Ste 400, Plano, TX 75075; and 6000 N Central Expressway, Plano, TX 75074), McKinney (*e.g.*, 1681 N Central Expwy, Suite 450, Mckinney, TX 75070; 1801 N Hardin Blvd, Mckinney, TX 75071; and 3050 South Central Expressway, Ste 125, Mckinney, TX 75070), and Frisco (*e.g.*, 8445 Preston Road, Suite 220, Frisco, TX 75034; 12021 Dallas Pkwy, Suite 500, Frisco, TX 75034; 6635 Cowboys Way, Ste 120, Frisco, TX 75034; 3551 Preston Rd, Frisco, TX 75034; and 2601 Preston Road #2238, Frisco, TX 75034).¹

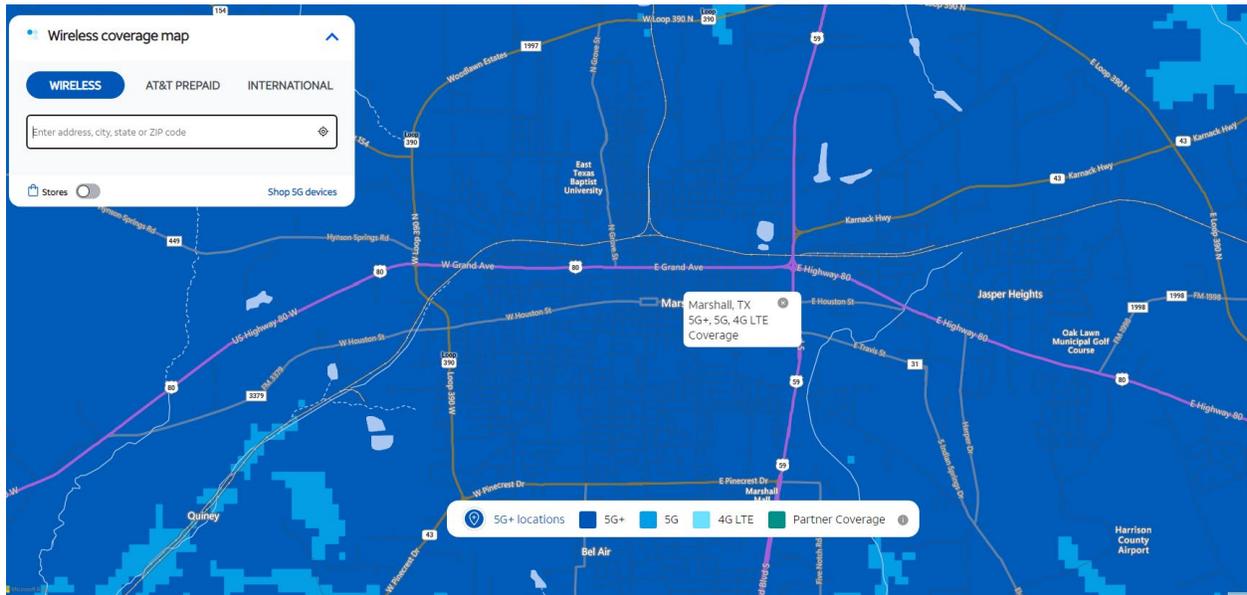
15. AT&T also operates numerous brick and mortar retail stores in the Eastern District of Texas. These retail stores are physically located within this District, are regular and established places of business of AT&T, and are used by AT&T to actively market and sell services for the AT&T Wireless Networks that infringe the Patents-In-Suit. By way of example and without limitation, AT&T's website provides an "AT&T Stores Near You" feature that shows the locations of such AT&T retail stores within this District.²

¹ See, *e.g.*, <https://www.att.com/stores/>.

² See, *e.g.*, <https://www.att.com/stores/>.



16. AT&T also advertises in the Eastern District of Texas, including but not limited to advertising the geographic coverage of the AT&T Wireless Networks within this District. By way of example and without limitation, AT&T’s website provides a “Wireless coverage map” that advertises AT&T’s current 5G wireless network coverage in and around Marshall, Texas.³



³ See, e.g., <https://www.att.com/maps/wireless-coverage.html>.

17. AT&T also maintains a regular and established place of business in this District located at 2900 W Plano Pkwy, Plano, TX 75075, which it calls the “AT&T Foundry.”⁴ AT&T states that “[a]t the AT&T Foundry in Plano, we’ve set up a new physical space encompassing all aspects of an industry environment – from manufacturing to distribution to retail. This fully integrated space showcases how AT&T’s digital technology and cybersecurity capabilities can address real-world challenges. We’ll collaborate with businesses to help them take advantage of existing and emerging technologies like 5G, artificial intelligence (AI), software-defined networking (SDN), and the Internet of Things (IoT) to drive their industry-specific digital transformation needs.”⁵ On information and belief, AT&T uses the AT&T Foundry to design, test, use, promote, and sell services for the AT&T Networks, including AT&T’s 5G Wireless Network, that infringe the Patents-In-Suit.

18. AT&T also maintains a regular and established place of business in this District that it calls the “AT&T 5G Innovation Studio,” which is also located in Plano, Texas.⁶ AT&T describes the “AT&T 5G Innovation Studio” as follows: “The studio, located in Plano, Texas, brings together the power of AT&T’s business, consumer and network organizations to accelerate the path to market for new 5G-centric product offerings and key initiatives. ... In this space, we’ll work with customers and industry collaborators to ideate, test and validate new 5G-centric applications across a variety of industries.”⁷ On information and belief, AT&T uses the AT&T 5G Innovation Studio to design, test, use, promote, and sell services for the AT&T Networks, including AT&T’s 5G Wireless Network, that infringe the Patents-In-Suit.

⁴ See, e.g., https://about.att.com/story/2018/plano_foundry.html.

⁵ *Id.*

⁶ See, e.g., https://about.att.com/pages/5g_innovation_studio.html.

⁷ (*Id.*)

19. AT&T has numerous employees who work in Texas, including within the Eastern District of Texas. In addition to its many retail stores in Texas and in this District, AT&T also has its corporate headquarters located in Dallas, Texas.⁸

20. AT&T has solicited business in the Eastern District of Texas, has transacted business within this District, and has attempted to derive financial benefit from the residents of this District, including benefits directly related to AT&T's infringement of the Patents-In-Suit. AT&T has contracted with Ericsson to purchase and use network infrastructure equipment that is manufactured in Ericsson's Lewisville, Texas factory.⁹ AT&T has also contracted with Ribbon Communication, headquartered in Plano, Texas, to purchase Neptune Routers, NPT 2300 and NPT 1100 for use in the AT&T Networks.¹⁰

21. In other recent actions, AT&T has either admitted or not contested that the Eastern District of Texas is a proper venue for patent infringement actions against AT&T and each Defendant. *See, e.g., Daingean Technologies LTC. v. AT&T Inc.*, No. 2:23-cv-00123, Dkt. 22 ¶ 24 (E.D. Tex. June 1, 2023) ("AT&T does not contest that venue is proper in this district for purposes of this litigation"); *Wireless Alliance, LLC v. AT&T Mobility LLC*, No. 2:23-cv-00095, Dkt. 11 ¶¶ 9-10 (E.D. Tex. May 26, 2023); *Innovative Sonic Ltd., et. al., v. AT&T Corp., et. al.*, No. 2:23-cv-00489, Dkt. 29 at ¶ 8 (E.D. Tex. January 18, 2024).

22. AT&T's infringement has thus caused substantial injury to MRT, including in this judicial district.

⁸ *See* <https://investors.att.com/resources/contacts>.

⁹ *See, e.g.*, <https://about.att.com/story/2023/commercial-scale-open-radio-access-network.html>; <https://www.ericsson.com/en/mobile-transport/fronthaul-gateway>; *see also* <https://about.att.com/blogs/2024/mwc-open-ran.html>; <https://about.att.com/story/2024/ericsson-cloud-ran-technology.html>.

¹⁰ *See, e.g.*, <https://www.tmcnet.com/voip/news/articles/457667-ribbons-neptune-ip-router-fuels-atts-transition-from.htm>.

BACKGROUND

The Inventions of the Patents-in-Suit

23. Mr. Robert Paul Morris is the inventor of U.S. Patent Nos. 10,397,101 (“the ’101 patent”; Exhibit A), 10,411,998 (“the ’998 patent”; Exhibit B), 10,447,575 (“the ’575 patent”; Exhibit C), 10,476,787 (“the ’787 patent”; Exhibit D), 10,498,642 (“the ’642 patent”; Exhibit E), 10,757,020 (“the ’020 patent”; Exhibit F), and 10,764,171 (“the ’171 patent”; Exhibit G) (collectively, the “Patents-in-Suit”). True and correct copies of the Patents-in-Suit are attached as Exhibits A-G.

24. The Patents-in-Suit resulted from the pioneering efforts of Mr. Morris (hereinafter “the Inventor”) in the area of segment-based routing (“SR”). These efforts resulted in the development of methods and apparatuses for improving the routing, provisioning and transport of data packets across networks in the 2012 timeframe using SR over Multiprotocol Label Switching (“MPLS”) and IPv6 data planes (*e.g.*, ’787 patent, col. 21:24-56), which are now referred to as “SR-MPLS” and “SRv6” respectively.

25. At the time of these pioneering efforts, the most widely implemented technology used to address network traffic engineering was IP-based forwarding using a distributed control plane as well as constrained shortest-path forwarding. In traditional IP/MPLS networks, routing decisions are made based on destination IP addresses, and packet forwarding decisions are determined hop-by-hop based on routing tables.

26. MPLS introduced the concept of label switching, where packets are assigned labels at ingress routers and forwarded based on these labels rather than IP addresses, which can improve forwarding efficiency and allow for traffic engineering. However, explicit state information had to be maintained at all hops along an MPLS path, leading to scalability problems in the control plane and the data plane. Additionally, per-connection traffic steering did not take

advantage of load balancing offered by equal cost multipath routing typically used in IP networks.

27. The Inventor conceived of the inventions claimed in the Patents-in-Suit as a way to improve addressing. (*E.g.*, '787 patent, col. 2:37-39.) Prior to the Inventor's efforts, Internet protocol dealt primarily with addresses and left mapping from names to addresses and mapping from local net addresses to routes to other protocol layers. The claimed inventions of the Patents-in-Suit establish new relationships between and among names, addresses and routes to improve network operations.

28. The claimed inventions of the Patents-in-Suit allow the source to choose a path and encode it in the packet header as a sequence of identifiers that identify segments. (*E.g.*, '787 patent, col. 20:1-21:56; col. 22:23-24:18; col. 34:23-35:3; Figs. 2, 9-11, 13.) Using the claimed inventions of the Patents-in-Suit, networks no longer need to maintain a per-application and per-flow state and need only obey the forwarding information provided in the packet. This results in a dramatic reduction in the per-flow state that needs to be maintained in network nodes supporting traffic engineered paths. For example, instead of relying on a complex network of label-switched paths (LSPs) established by control protocols like LDP (Label Distribution Protocol) or RSVP-TE (Resource Reservation Protocol - Traffic Engineering), the inventions claimed in the Patents-in-Suit use source routing where a packet's path through the network is identified in the packet. (*E.g.*, '787 patent, col. 26:5-30:2; col. 31:63-32:5; col. 39:53-63; col. 42:61-43:10.)

29. The Inventor conceived of different ways to implement segment-based routing, including with MPLS-based and IPv6-based networks. For example, with the claimed inventions of the Patents-in-Suit, a segment identifier can be embodied as an MPLS label and a plurality of

segment identifiers can be included in a sequence thereof. The first segment identifier of the sequence is processed and upon completion, such segment identifier is removed from the sequence. By removing reliance on label-switched paths established by control protocols, the network architecture is simplified and has greater scalability and flexibility.

30. In another example, the claimed inventions of the Patents-in-Suit extend IPv6 and allow SR over the IPv6 data plane. The claimed inventions enable use of multiple segment identifiers embodied as IPv6 addresses in headers and a plurality of segment identifiers embodied as a sequence of IPv6 addresses. A segment identifier is indicated by the destination address of the packet and a pointer indicates another segment identifier. This allows even more precise control over packet forwarding and even greater flexibility and scalability.

31. With the inventions claimed in the Patents-in-Suit, network operators can specify explicit paths for packets to travel through the network and can also leverage IPv6's larger address space to improve scalability and define and manage greater numbers of explicit paths. This also allows the inclusion of service functions directly into the header providing for servicing chaining and integration of network functions. There is reduced need for state management in routers and because packets carry their path information, it is more secure because of the difficulty attackers face manipulating or spoofing routing information now carried in the packet.

32. Using the claimed inventions, network bandwidth is used more effectively and performance is optimized. The control plane is greatly simplified and the amount of state information maintained by network nodes is reduced significantly. There is less reliance on complex configurations and protocols to control the flow of traffic through a network because operators can define explicit paths. (*E.g.*, '787 patent, col. 26:5-30:2; col. 31:63-32:5; col. 39:53-63; col. 42:61-43:10.) This facilitates service chaining where network operators define

paths that include service nodes such as firewalls and intrusion detection systems, to improve security, and load balancers, to optimize performance. This results in costs savings by reducing the need for over-provisioning of network resources and improving the overall efficiency of the network infrastructure. There is lower latency and traffic is protected against link and node failures without requiring burdensome additional signaling requirements in the network while providing optimum backup paths.

Advantage Over the Prior Art

33. The patented inventions disclosed in the Patents-in-Suits, provide many advantages over the prior art, and in particular improve the operations of networks using a path-based protocol address. (*See* '787 patent at col.1:54-2:39.) One advantage of the patented invention is that fewer nodes, in particular path nodes, are required to maintain state information for each path in a network. (*E.g.*, '787 patent at col. 31:65-32:5.)

34. Another advantage of the patented invention is that utilizing path information in the packet header to route a packet through a network reduces or eliminates the need for additional protocols. (*See, e.g.*, '787, col. 42:67-43:2.)

35. Another advantage of the patented invention is that specific network paths may be specified using path information in the packet header, which allows precise traffic control and selective routing for various purposes such as reduced power consumption, decreased processing time or other cost-saving measures. (*See* '787 patent, col. 24:36-43; col. 52:19-25; col. 53:28-44.)

36. Yet another advantage of the patented invention is dynamic routing that responds to disruptions in the network by updating the routing path through the network in response. (*See* '787 patent at col. 36:46-37:2; col. 38:29-62; col. 51:28-42.) An operation command may be

included in the header so that as the data packet is routed through a path node it is routed through a particular node capable of performing the operation identified by the command in the header.

(See '787 patent at col. 48:42-48; col. 51:36-42.)

37. Because of these significant advantages that can be achieved through the use of the patented inventions, MRT believes that the Patents-in-Suit present significant commercial value for companies like AT&T. Indeed, SRv6 has been identified as a key enabling technology for 5G. SRv6 can replace GTP-U and also any underlay transport layers and be used as the only transport layer in 5G, dramatically simplifying network operations while providing greater traffic engineering control and enabling other capabilities such as service chaining and network slicing, a main feature of 5G.¹¹ SR is a key enabler for traffic engineering and network slicing technology and makes SRv6 “the protocol of choice for backhaul networks for 5G and beyond.”¹² Network slicing is considered a critical technology. AT&T, T-Mobile and Verizon recently were awarded part of a \$2B+ contract with the Department of Defense that included a requirement for network slicing.¹³

Technological Innovation

38. The patented inventions disclosed in the Patents-in-Suit resolves technical problems related to traffic engineering in networks, particularly the complexity and scalability problems presented by the incredible growth in networking and the Internet. As the Patents-in-Suit patent explain, one of the limitations of the prior art as regards network routing was that the

¹¹ See, e.g., https://www.segment-routing.net/images/ACG_Segment_Routing_201808.pdf.

¹² See, e.g., <https://www.ericsson.com/en/blog/2023/5/bright-future-of-srv6>.

¹³ See, e.g., <https://washingtontechnology.com/contracts/2024/05/navy-chooses-7-27b-spiral-4-wireless-contract/396332/>; <https://www.govconwire.com/2024/05/navy-selects-7-vendors-for-2-7b-follow-on-wireless-mobility-services-contract/>; <https://sam.gov/api/prod/opps/v3/opportunities/resources/files/f976d6d888c843e2836fcad0e4b75483/download?&status=archived&token=> (referring to network slicing at pg. 14).

approach traditionally used for addressing and routing, and the effect on network latency. (*See* '787 patent, col. 1:54-2:39.)

39. The claims of the Patents-in-Suit do not merely recite the performance of some well-known business practice from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the Patents-in-Suit recite inventive concepts that are deeply rooted in engineering technology, and overcome problems specifically arising out of how to efficiently and effectively manage network traffic with optimum utilization of network resources. (*See, e.g.*, '787 patent, col. 52:5-25.)

40. In addition, the claims of the Patents-in-Suit recite inventive concepts that improve the functioning of network hardware such as routers for transferring data packets through a network, particularly by reducing the demand on transit nodes and egress nodes to maintain state information and reducing the number of protocols required. (*See, e.g.*, '787 patent, col. 42:61-43:2.)

41. Moreover, the claims of the Patents-in-Suit recite inventive concepts that are not merely routine or conventional use of transferring information. Instead, the patented invention disclosed in the Patents-in-Suit provides a new and novel solution to specific problems related to improving network performance and packet routing through networks that is scalable and dynamic.

42. And finally, the patented invention disclosed in the Patents-in-Suit do not preempt all the ways that packet routing may be used to improve network trafficking, nor do the Patents-in-Suit patent preempt any other well-known or prior art technology.

43. Accordingly, the claims in the Patents-in-Suit recite a combination of elements sufficient to ensure that the claims in substance and in practice amount to significantly more than a patent-ineligible abstract idea.

Internet Engineering Task Force (IETF) and Standard Setting Organizations

44. The IETF is a standards setting organization. It publishes technical documents referred to as RFCs that define technical foundations and specify application protocols.¹⁴ Each RFC is a product of the IETF and represents the consensus of the IETF community.

45. The IETF has a working group, SPRING, which has published a number of RFCs related to SR, including RFC 8402, RFC 8660, RFC 8663, RFC 8754, RFC 8986, RFC 9256 and RFC 9352 (collectively “SR RFCs”).

46. RFC 8402 is entitled “Segment Routing Architecture” and specifies an architectural framework and requirements for implementing SR, including both SR-MPLS and SRv6.¹⁵

47. RFC 8660 is entitled “Segment Routing with the MPLS Data Plane” and “specifies the forwarding behavior to allow instantiating SR over the MPLS data plane (SR-MPLS).”¹⁶

48. RFC 8663 is entitled “MPLS Segment Routing over IP” and “describes how SR-MPLS-capable routers and IP-only routers can seamlessly coexist and interoperate through the use of SR-MPLS label stacks and IP encapsulation/tunneling such as MPLS-over-UDP”¹⁷

¹⁴ <https://www.ietf.org/process/rfc/>.

¹⁵ <https://datatracker.ietf.org/doc/rfc8402/>.

¹⁶ <https://datatracker.ietf.org/doc/html/rfc8660>.

¹⁷ <https://datatracker.ietf.org/doc/html/rfc8663>.

49. RFC 8754 is entitled “IPv6 Segment Routing Header (SRH)” and “describes the SRH and how it is used by nodes that are Segment Routing (SR) capable.”¹⁸

50. RFC 8986 is entitled “Segment Routing over IPv6 (SRv6) Network Programming” and “defines the SRv6 Network Programming concept and specifies the base set of SRv6 behaviors that enables the creation of interoperable overlays with underlay optimization.”¹⁹

51. RFC 9256 is entitled “Segment Routing Policy Architecture” and “updates RFC 8402 as it details the concepts of SR Policy and steering into an SR Policy.”²⁰ “SR Policy is an ordered list of segments (i.e., instructions) that represent a source-routed policy.”²¹

52. RFC 9352 is entitled “IS-IS Extensions to Support Segment Routing over the IPv6 Data Plane” and “describes the IS-IS extensions required to support SR over the IPv6 data plane.”²²

¹⁸ <https://datatracker.ietf.org/doc/html/rfc8754>

¹⁹ <https://datatracker.ietf.org/doc/html/rfc8986>

²⁰ <https://datatracker.ietf.org/doc/html/rfc9256>

²¹ <https://datatracker.ietf.org/doc/html/rfc9256>

²² <https://datatracker.ietf.org/doc/html/rfc9352>

53. Numerous companies supply interoperable equipment and software solutions that support SR-capable networks and the requirements set forth in the SR RFCs.²³ Numerous companies also contributed to the SR RFCs^{24, 25, 26, 27, 28, 29}.

54. In the context of 5G and wireless networks, multiple standard setting organizations and industry-based open source communities are involved in creating standards and ensuring interoperability which is critical given the diversity of components and services that are interconnected. One example is the 3rd Generation Partnership Project (“3GPP”). It is a standard setting organization that develops protocols for mobile telecommunications, including the 5G standard and non-radio access to core networks and other interworking with non-3GPP networks.³⁰

55. The O-RAN ALLIANCE is another example. It is an open technical organization founded in 2018 by a group of companies including AT&T.³¹ Its “mission is to encourage the industry towards more intelligent, open, virtualized and fully inter-operable mobile networks.”³²

²³ See, e.g., https://documentation.nokia.com/html/0_add-h-f/93-0073-HTML/7750_SR_OS_Router_Configuration_Guide/appen_standards.pdf; <https://eantc.de/wp-content/uploads/2023/04/EANTC-InteropTest2023-TestReport.pdf>; <https://eantc.de/wp-content/uploads/2023/12/EANTC-MPLSSDNInterop2024-TestReport-v1.3.pdf>.

²⁴ See, e.g., <https://www.rfc-editor.org/rfc/rfc8986.html#name-contributors> (Nokia).

²⁵ See, e.g., <https://www.rfc-editor.org/rfc/rfc9256.html#name-contributors> (T-Mobile’s parent, Deutsche Telekom AG and Verizon).

²⁶ See, e.g., <https://www.rfc-editor.org/rfc/rfc8660.html#name-contributors> (Nokia).

²⁷ See, e.g., <https://www.rfc-editor.org/rfc/rfc8663.html#name-contributors> (Nokia, Verizon).

²⁸ See, e.g., <https://www.rfc-editor.org/rfc/rfc9352.html#name-contributors> (Ericsson).

²⁹ See, e.g., <https://datatracker.ietf.org/doc/html/rfc8402> (Nokia, T-Mobile’s parent, Deutsche Telekom AG).

³⁰ See, e.g., <https://www.3gpp.org/about-us/introducing-3gpp>; https://www.3gpp.org/ftp/Information/presentations/Newcomers_quick-start/Newcomers_slides.pdf.

³¹ See, e.g., <https://www.o-ran.org/about>.

³² See, e.g., https://assets-global.website-files.com/60b4ffd4ca081979751b5ed2/64bee579b5449cafb9f0f889_Governance%20of%20O-RAN%20ALLIANCE%20e.V.%20in%20Compliance%20with%20WTO%20Principles-v02.pdf.

It publishes specifications and supports integration and testing while working with other standard setting organizations to ensure compatibility.³³

56. The European Telecommunications Standards Institute (“ETSI”) is another standard setting organization that develops global standards that ensure interoperability between wireless networks, network operators and devices. ETSI is part of 3GPP.³⁴ ETSI publishes O-RAN specifications³⁵ and also publishes documents created by Industry Specification Groups (ISGs), such as Group Specifications, which provide technical requirements and explanatory material and are produced and approved by specific ISGs.³⁶ AT&T is a member of ETSI and various ISGs within ETSI.

57. AT&T has stated the following about ETSI:

AT&T admits that the European Telecommunications Standards Institute (ETSI) is an independent, non-profit standard development organization (SDO) that promulgates globally-accepted standards for the telecommunications industry. AT&T admits that ETSI is one of several organizational partners of the Third Generation Partnership Project (3GPP), and that 3GPP created the technical specifications for 3G, 4G, and 5G. AT&T admits that ETSI and its members have developed global standards and that an objective of ETSI is to “produce and perform the maintenance of the technical standards . . . which are necessary to achieve a large unified European market for telecommunications, ICT, other electronic communications networks and services and related areas.”³⁷

The European Telecommunications Standards Institute (ETSI) is a standard development organization (SDO) that promulgates globally-accepted standards for the telecommunications industry. ETSI has more than 900 members from more than 60 countries. In 1998, ETSI and other SDOs founded and became organizational partners of the Third Generation Partnership Project (3GPP). 3GPP created the technical specifications for 3G, 4G, and 5G.³⁸

³³ *Id.*

³⁴ *See, e.g.*, https://www.3gpp.org/ftp/Information/presentations/Newcomers_quick-start/Newcomers_slides.pdf.

³⁵ *Id.*

³⁶ *See, e.g.*, <https://www.etsi.org/standards/types-of-standards>.

³⁷ *Asus Technology Licensing Inc. v. AT&T Corp. et al*, No. 2:23-cv-00486, Dkt. 19 at 6-7 (¶29) (E.D. Tex. Dec. 26, 2023).

³⁸ *Id.* at 17-18 (¶10 counterclaims).

58. In May 2024, 3GPP and ETSI published a technical specification entitled “5G; Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and Stage 3” as 3GPP TS 28.541 version 18.7.0 Release 18 and ETSI TS 128 541 V18.7.0 (2024-05).³⁹ That requirements document specifies that the allowed tunnelling mechanism attribute for a network slice includes SRv6.⁴⁰

59. One ETSI ISG is the Fifth Generation Fixed Network ISG, which focuses on the “evolution of the fixed network needed to match and further enhance the benefits that 5G has brought to mobile networks and communications” and addresses, among other things, “end-to-end full stack slicing.”⁴¹

60. The Fifth Generation Fixed Network (F5G) ISG produced and approved a Group Specification that “specifies the End-to-End network architecture, features and related network devices/elements' requirements for F5G, including on-premises, Access, IP and Transport Networks.”⁴² It lists IETF RFC 8402 and IETF RFC 8986 as normative references.⁴³ ETSI Normative references are necessary for the application of the standard in which they are mentioned.⁴⁴

³⁹ See, e.g., https://www.etsi.org/deliver/etsi_ts/128500_128599/128541/18.07.00_60/ts_128541v180700p.pdf.

⁴⁰ *Id.* at pg. 396.

⁴¹ See, e.g., <https://www.etsi.org/committee/1696-f5g>

⁴² See, e.g., ETSI GS F5G 014 V1.1.1 (2023-05) available at https://www.etsi.org/deliver/etsi_gs/F5G/001_099/014/01.01.01_60/gs_F5G014v010101p.pdf at sec. 1.

⁴³ *Id.* at sec. 2.1 ([5] amd [6]).

⁴⁴ See, e.g., <https://portal.etsi.org/Services/editHelp/Search/FAQs/Normative-informative-references>.

61. The F5G Group Specification states that “Segment Routing is the preferred technology for implementing slicing in the aggregation network.”⁴⁵ It specifies that “SRv6 shall be used as the bearer connection on the IP/Ethernet fabric Underlay Plane,”⁴⁶ “[t]he OLT shall support slicing per VLAN, SRv6 and OTN on the uplink port(s),”⁴⁷ “[t]he IP Network shall support SRv6 Best Effort (BE)” and “should support SRv6 Traffic Engineering (TE).”⁴⁸

62. A different ETSI ISG, the Network Functions Virtualization (NFV) ISG, produced and approved a Group Specification specifying performance metrics and methods for benchmarking networks in NFV infrastructure.⁴⁹ It states that “[p]rotocols like VLAN, VXLAN, GRE, VXLAN-GPE, SRv6 and SFC NSH are needed in NFVI deployments.”⁵⁰ AT&T, Verizon, T-Mobile, Ericsson, Nokia and Samsung are members of the NFV ISG along with T-Mobile’s parent company, Deutsche Telekom AG.⁵¹ The Group Specification was “produced and approved by the Fifth Generation Fixed Network (F5G) ETSI Industry Specification Group (ISG) and represents the views of those members who participated in this ISG.”⁵²

⁴⁵ See, e.g., ETSI GS F5G 014 V1.1.1 (2023-05) available at https://www.etsi.org/deliver/etsi_gs/F5G/001_099/014/01.01.01_60/gs_F5G014v010101p.pdf at sec. 5.4.1.11.

⁴⁶ *Id.* at 5.4.3.1.2.

⁴⁷ *Id.* at [R-54]

⁴⁸ *Id.* at [R-89] and [R-90].

⁴⁹ See, e.g., ETSI GS NFV-TST 009 V3.4.1 (2020-12) available at https://www.etsi.org/deliver/etsi_gs/NFV-TST/001_099/009/03.04.01_60/gs_NFV-TST009v030401p.pdf.

⁵⁰ *Id.*

⁵¹ See, e.g., <https://portal.etsi.org/TB-SiteMap/NFV/NFV-List-members>

⁵² See, e.g., ETSI GS NFV-TST 009 V3.4.1 (2020-12) available at https://www.etsi.org/deliver/etsi_gs/NFV-TST/001_099/009/03.04.01_60/gs_NFV-TST009v030401p.pdf.

63. In October 2023, the NFV ISG also published a Group Report that analyzed SRv6 and SR-MPLS and discussed RFC 8402, RFC 8754, RFC 8986 and RFC 9256.⁵³

64. Verizon, T-Mobile and AT&T are also part of the Open Networking Foundation (“ONF”).⁵⁴ When Verizon joined, it stated “we hope to advance open source SDN and NFV solutions based on ONOS and to help shape the future of this ecosystem.”⁵⁵

65. The ONF SDN fabric specification, which is part of ONOS, requires the use of SR-MPLS.⁵⁶ On information and belief, ONOS also supports SR.⁵⁷ On information and belief, companies such as AT&T have implemented SR solutions according to the ONF specifications.⁵⁸

AT&T’s Networks and Accused Instrumentalities

66. AT&T operates one or more networks including fixed-line, fiber, IP, wireless and Public Safety networks (collectively the “AT&T Networks”).⁵⁹ Its networks are operated under various brand names including “AT&T”, “FirstNet” and “Cricket Wireless.” AT&T’s networks include 5G stand-alone networks. AT&T also supports multiple MVNOs, such as Cricket Wireless.

⁵³ See, e.g., ETSI GR NFV-IFA 035 V5.1.1 (2023-10) available at https://www.etsi.org/deliver/etsi_gr/NFV-IFA/001_099/035/05.01.01_60/gr_NFV-IFA035v050101p.pdf.

⁵⁴ See, e.g., <https://opennetworking.org/member-listing/> (AT&T and T-Mobile); <https://www.datacenterknowledge.com/open-source-software/verizon-latest-telco-to-join-onos-open-source-sdn-project>.

⁵⁵ <https://www.datacenterknowledge.com/open-source-software/verizon-latest-telco-to-join-onos-open-source-sdn-project>.

⁵⁶ See, e.g., <https://docs.sd-fabric.org/master/specification.html>.

⁵⁷ <https://wiki.onosproject.org/display/ONOS/Master-Segment+Routing>; <https://wiki.onosproject.org/pages/viewpage.action?pageId=39813572>.

⁵⁸ <https://www.geeksforgeeks.org/open-networking-operating-system-onos-in-software-defined-networks/>; <https://www.lightreading.com/sdn/at-t-s-fuetsch-we-really-didn-t-have-a-choice-on-open-networking>.

⁵⁹ See, e.g., <https://www.research.att.com/blogs/2023/network-ready.html>.

67. The AT&T Networks include networks complying with O-RAN and include virtualized functionality (NFV) and disaggregated functionality.⁶⁰ This includes disaggregated core routing platforms and IP edge routing platforms.⁶¹ AT&T relies on multiple vendors including Ericsson⁶², Ribbon Communications⁶³, Nokia⁶⁴ and Samsung⁶⁵ among others for network infrastructure components for the AT&T Networks that support SR and the SR RFCs.

68. On information and belief, the AT&T Networks support the functionality specified in the SR RFCs (“Accused Instrumentalities”).

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 10,397,101

69. The allegations set forth in the foregoing paragraphs are incorporated into this First Claim for Relief.

70. On August 27, 2019, U.S. Patent No. 10,397,101 (“the ’101 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS FOR MAPPING IDENTIFIERS” was duly and legally issued by the United States Patent and Trademark Office.

⁶⁰ See, e.g., <https://about.att.com/blogs/2023/satterlee-open-disaggregated-platforms.html>.

⁶¹ See, e.g., https://about.att.com/story/2020/open_disaggregated_core_router.html; <https://about.att.com/blogs/2023/satterlee-open-disaggregated-platforms.html>.

⁶² See, e.g., <https://www.ericsson.com/en/mobile-transport/fronthaul-gateway>; <https://about.att.com/story/2024/ericsson-cloud-ran-technology.html>.

⁶³ See, e.g., <https://www.tmcnet.com/voip/news/articles/457667-ribbons-neptune-ip-router-fuels-atts-transition-from.htm>.

⁶⁴ See, e.g., <https://www.nokia.com/about-us/news/releases/2020/08/24/nokia-service-aggregation-router-now-firstnet-readytm-to-support-public-safety-in-the-us/>; <https://onestore.nokia.com/asset/201523> (uses SR-OS); https://documentation.nokia.com/cgi-bin/dbaccessfilename.cgi/3HE16303AAABTQZZA01_V1_7705%20SAR%20MPLS%20Guide%2020.10.R1.pdf.

⁶⁵ See, e.g., <https://news.samsung.com/us/samsung-brings-network-innovation-atts-new-fixed-5g-trials-%E2%80%A8/>.

71. Plaintiff is the assignee and owner of the right, title and interest in and to the '101 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

72. The '101 patent valid and enforceable. A true and correct copy of the '101 patent is attached as Exhibit A.

73. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the '101 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

74. Exemplary infringement analysis showing infringement of claim 1 of the '101 patent is set forth in Exhibit H. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the '101 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '101 patent.

75. The Accused Instrumentalities infringed and continue to infringe claim 1 of the '101 patent during the pendency of the '101 patent.

76. MRT has been harmed by AT&T's infringing activities.

COUNT II – INFRINGEMENT OF U.S. Patent No. 10,411,998

77. The allegations set forth in the foregoing paragraphs are incorporated into this Second Claim for Relief.

78. On September 10, 2019, U.S. Patent No. 10,411,998 (“the '998 patent”), entitled “NODE SCOPE-SPECIFIC OUTSIDE-SCOPE IDENTIFIER-EQUIPPED ROUTING

METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office.

79. Plaintiff is the assignee and owner of the right, title and interest in and to the '998 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

80. The '998 patent is valid and enforceable. A true and correct copy of the '998 patent is attached as Exhibit B.

81. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the '998 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

82. Exemplary infringement analysis showing infringement of claim 1 of the '998 patent is set forth in Exhibit I. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the '998 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '998 patent.

83. The Accused Instrumentalities infringed and continue to infringe claim 1 of the '998 patent during the pendency of the '998 patent.

84. MRT has been harmed by AT&T's infringing activities.

COUNT III – INFRINGEMENT OF U.S. Patent No. 10,447,575

85. The allegations set forth in the foregoing paragraphs are incorporated into this Third Claim for Relief.

86. On October 15, 2019, U.S. Patent No. 10,447,575 (“the ’575 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’575 patent is attached as Exhibit C.

87. Plaintiff is the assignee and owner of the right, title and interest in and to the ’575 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

88. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’575 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

89. Exemplary infringement analysis showing infringement of claim 1 of the ’575 patent is set forth in Exhibit J. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the ’575 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’575 patent.

90. The Accused Instrumentalities infringed and continue to infringe claim 1 of the ’575 patent during the pendency of the ’575 patent.

91. MRT has been harmed by AT&T’s infringing activities.

COUNT IV – INFRINGEMENT OF U.S. Patent No. 10,476,787

92. The allegations set forth in the foregoing paragraphs are incorporated into this Fourth Claim for Relief.

93. On November 12, 2019, U.S. Patent No. 10,476,787 (“the ’787 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office.

94. Plaintiff is the assignee and owner of the right, title and interest in and to the ’787 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

95. The ’787 patent is valid and enforceable. A true and correct copy of the ’787 patent is attached as Exhibit D.

96. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’787 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

97. Exemplary infringement analysis showing infringement of claim 1 of the ’787 patent is set forth in Exhibit K. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the ’787 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’787 patent.

98. The Accused Instrumentalities infringed and continue to infringe claim 1 of the ’787 patent during the pendency of the ’787 patent.

99. MRT has been harmed by AT&T’s infringing activities.

COUNT V – INFRINGEMENT OF U.S. Patent No. 10,498,642

100. The allegations set forth in the foregoing paragraphs are incorporated into this Fifth Claim for Relief.

101. On December 3, 2019, U.S. Patent No. 10,498,642 (“the ’642 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office.

102. Plaintiff is the assignee and owner of the right, title and interest in and to the ’642 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

103. The ’642 patent is valid and enforceable. A true and correct copy of the ’642 patent is attached as Exhibit E.

104. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’642 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

105. Exemplary infringement analysis showing infringement of claim 1 of the ’642 patent is set forth in Exhibit L. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the ’642 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’642 patent.

106. The Accused Instrumentalities infringed and continue to infringe claim 1 of the ’642 patent during the pendency of the ’642 patent.

107. MRT has been harmed by AT&T’s infringing activities.

COUNT VI – INFRINGEMENT OF U.S. Patent No. 10,757,020

108. The allegations set forth in the foregoing paragraphs are incorporated into this Sixth Claim for Relief.

109. On August 25, 2020, U.S. Patent No. 10,757,020 (“the ’020 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’020 patent is attached as Exhibit F.

110. Plaintiff is the assignee and owner of the right, title and interest in and to the ’020 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

111. The ’020 patent is valid and enforceable. A true and correct copy of the ’020 patent is attached as Exhibit F.

112. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’020 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

113. Exemplary infringement analysis showing infringement of claim 1 of the ’020 patent is set forth in Exhibit M. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the ’020 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’020 patent.

114. The Accused Instrumentalities infringed and continue to infringe claim 1 of the ’020 patent during the pendency of the ’020 patent.

115. MRT has been harmed by AT&T's infringing activities.

COUNT VII – INFRINGEMENT OF U.S. Patent No. 10,75764,171

116. The allegations set forth in the foregoing paragraphs are incorporated into this Seventh Claim for Relief.

117. On September 1, 2020, U.S. Patent No. 10,764,171 (“the ’171 patent”), entitled “ROUTING METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’171 patent is attached as Exhibit G.

118. Plaintiff is the assignee and owner of the right, title and interest in and to the ’171 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

119. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’171 patent by making, using, selling, importing and/or providing and causing to be used the Accused Instrumentalities.

120. Exemplary infringement analysis showing infringement of claim 1 of the ’171 patent is set forth in Exhibit N. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by AT&T with respect to the ’171 patent. MRT reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’171 patent.

121. The Accused Instrumentalities infringed and continue to infringe claim 1 of the ’171 patent during the pendency of the ’171 patent.

122. MRT has been harmed by AT&T's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, MRT demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff MRT demands judgment for itself and against AT&T as follows:

- A. An adjudication that each Defendant has infringed the Patents-in-Suit;
- B. An award of damages to be paid by AT&T adequate to compensate MRT for AT&T's past infringement of the Patents-in-Suit, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of MRT's reasonable attorneys' fees; and
- D. An award to MRT of such further relief at law or in equity as the Court deems just and proper.

Dated: July 8, 2024

DEVLIN LAW FIRM LLC

/s/ Timothy Devlin

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