IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SPRINT COMMUNICATIONS COMPANY L.P., Plaintiff, v. CEQUEL COMMUNICATIONS, LLC D/B/A SUDDENLINK COMMUNICATIONS, CSC HOLDINGS, LLC D/B/A OPTIMUM-CABLEVISION, AND ALTICE USA, INC. Defendants.	)	C.A. No. _____ **JURY TRIAL DEMANDED**

COMPLAINT

Plaintiff Sprint Communications Company L.P. complains as follows against defendants Cequel Communications, LLC d/b/a Suddenlink Communications ("Suddenlink Communications"), CSC Holdings, LLC d/b/a Optimum-Cablevision ("CSC Holdings"), and Altice USA, Inc. ("Altice USA") (collectively, "Altice").

PARTIES

1. Plaintiff Sprint Communications Company L.P. ("Sprint") is a Limited Partnership organized and existing under the laws of the State of Delaware, with its principal place of business at 6200 Sprint Parkway, Overland Park, Kansas 66251.

2. On information and belief, defendant Suddenlink Communications is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business at 3015 S. Southeast Loop 323, Tyler, TX 75701.

3. On information and belief, defendant CSC Holdings is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business at 1111 Stewart Ave., Bethpage, New York 11714.

4. On information and belief, defendant Altice USA is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 1 Court Square W, Long Island City, New York 11101.

5. On information and belief, Altice and/or one or more of its affiliates provide or participate in providing broadband and/or packet-based telephony products or services under a number of brands, including Suddenlink Home Phone, Suddenlink Total Home®, Suddenlink Business Class Phone, Lightpath, Business Voice, Optimum Voice, and similar services marketed under other brands ("the Altice Branded Voice Services").

JURISDICTION

6. This is an action for patent infringement under the United States Patent Laws, 35 U.S.C. § 271, *et. seq.* This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338.

7. This Court has personal jurisdiction over Suddenlink Communications, CSC Holdings, and Altice USA because each is organized under the laws of the State of Delaware and therefore may be fairly regarded as at home in this Judicial District.

VENUE

8. Venue is proper in this Court pursuant to 28 U.S.C. § 1400(b). Each Defendant is organized under the laws of the State of Delaware and therefore resides in this Judicial District pursuant to 28 U.S.C. § 1400(b).

JOINDER

9. Joinder of Suddenlink Communications, CSC Holdings, and Altice USA is proper under 35 U.S.C. § 299. The allegations of patent infringement contained herein arise out of the same series of transactions or occurrences relating to the making, using, offering for sale, and/or

selling within the United States, and/or importing into the United States, of the same accused products or services.

10. Common questions of fact relating to infringement will arise in this action. For example, common questions of fact regarding the design, development, and operation of Defendants' telephone network architecture will arise in this action, as well as common questions of fact concerning infringement of the patents-in-suit. Likewise, common questions of fact exist as to profits and revenues derived by Suddenlink Communications, CSC Holdings, and Altice USA, as well as Sprint's damages for the same. On information and belief, common questions of fact will also likely exist with regard to one or more of Suddenlink Communications, CSC Holdings, and Altice USA's defenses in this litigation, if any.

FACTUAL BACKGROUND

Sprint's Voice-over-Packet ("VoP") Technology

11. In 1993, Sprint's leading technology specialists and engineers were attempting to solve a very important problem affecting Sprint's ability to expand its network to support its rapidly growing customer base. At that time, virtually all voice traffic was carried over the Public Switched Telephone Network ("PSTN"), which utilized highly complex, extremely expensive switches and other well-established components to route this traffic. One solution to Sprint's problem—a solution that Sprint had used in the past—was to simply purchase additional switches from the legacy manufacturers and install those in its network. Adding switches, however, was extremely expensive and time consuming because Sprint's entire network of switches would have to be reprogrammed for each switch addition or upgrade. In addition, voice traffic on the PSTN was transported using inherently inefficient synchronous circuit-switching. A circuit was reserved for the entire length of a call on the PSTN, which wasted significant bandwidth during periods of time when no conversation was occurring. But legacy circuit-based

systems had long been widely used to carry voice communications, and there were no viable alternatives in the marketplace available to Sprint or other carriers at the time.

12. One of Sprint's talented technologists, Joe Christie, observed that data communications between computers were handled differently. Computers communicated with each other using "packets" of data. Packet communications, unlike the synchronous communications of the PSTN, could occur "asynchronously" where the sending and receiving points could send and receive out of synch with each other. This created an opportunity to realize substantial efficiencies by transmitting voice data packets only when there is voice data to send and refraining from wasting valuable bandwidth during periods of silence. In addition, unlike the complex and expensive switches used in the PSTN, data packets could be routed using fairly inexpensive components that could be made available from a number of competing vendors. Unfortunately, the two systems were not compatible with each other. Interfacing a circuit-switched system with a packet-based system in a geographically expansive telecommunications environment was not a reality, at least not before Joe Christie.

13. Joe Christie was an expert in two dissimilar technologies: packet-based networks and SS7 signaling (which was used by the PSTN to set up voice calls). Mr. Christie proposed a solution that would ultimately revolutionize the telecommunications industry. He devised a way to leverage the efficiencies of packet-based networks to make telephone calls to and from the PSTN. To do so, Mr. Christie invented a series of architectures, components, and processes that would allow the PSTN to "talk" to packet-based networks to set up and route telephone calls across these disparate networks in a seamless and transparent manner. These calls were highly efficient and substantially decreased the need for telephone companies to rely on expensive legacy PSTN equipment.

14. Mr. Christie's Voice-over-Packet ("VoP") technology reduced or eliminated the need for service providers to rely on conventional switches and switch-to-switch call processing. Instead, Mr. Christie conceived of centralizing network control by using a call processor to orchestrate calls over his new packet-based system. The call processor acted like the brains of the network, determining where a call needed to go and then enabling routing to its destination. This call processor extracted the intelligence of expensive and complicated legacy switches and placed this intelligence on functionally separate computer platforms. By extracting call control from the switch manufacturers, Mr. Christie allowed a host of competitors to provide processing equipment and to get into the business of telephony. This innovation would eventually increase competition, drive down the costs of telephony, and greatly improve efficiency.

15. When Mr. Christie presented his innovations to Sprint executives and Sprint technical management, they recognized the importance of his innovations. Mr. Christie's inventions had the potential to render obsolete major components within the PSTN and to break the grip that switch manufacturers held on carriers and service providers. Mr. Christie's innovations could dramatically alter the way telephone calls were made and change the landscape of the relative strength and leverage of the players in the industry. They represented a sea change in telephony, and Mr. Christie's colleagues at Sprint, including upper-level executives, realized it. Sprint promptly assigned a patent agent to shadow Mr. Christie to learn as much as possible about the various aspects of his new systems and to seek patent protection. Sprint also assigned a team of some of Sprint's most talented engineers to work with Mr. Christie and to help develop concepts into tangible platforms. Due to the highly sensitive nature of the project, the team was sequestered in a Kansas City facility and instructed to maintain the project in the strictest of confidence. Few people in Sprint knew of this project at the time.

16. Joe Christie died unexpectedly in his home in February of 1996. Mr. Christie did not live to see his innovations deployed into a commercial platform. But Mr. Christie's revolutionary inventions have an enduring legacy. Mr. Christie's inventions and the related innovations made by people working with Mr. Christie have resulted in a VoP patent portfolio of over 120 issued United States Patents. Unfortunately, many companies in the industry, including Altice, have realized the great value in this technology and have misappropriated it without Sprint's permission. It is because of this unauthorized use that Sprint has taken efforts to enforce this patent portfolio against others in the industry in the past and is now enforcing its patents in this case.

Sprint's Enforcement Efforts and Licenses

17. In 2007, in the matter styled *Sprint Communications Co. L.P. v. Vonage Holdings Corp. et al.*, Case No. 05-2433-JWL (D. Kan.), a Kansas jury found that Vonage Holdings Corp. and Vonage America, Inc. ("Vonage") had infringed six patents contained in this portfolio, including patents that are at issue in this case, found that the six patents were valid, assessed a five percent (5%) reasonable royalty, and awarded Sprint $69.5 million in damages. Following the verdict, Vonage entered a settlement agreement with Sprint whereby Vonage paid Sprint $80 million for a license to Sprint's VoP portfolio. Previously, in that same matter, tglo.com, Inc. (formerly known as VoiceGlo Holdings, Inc.) and Theglobe.com Inc. ("VoiceGlo") had entered a settlement agreement in which VoiceGlo licensed Sprint's VoP patents.

18. In 2008, Sprint again sued to enforce patents from its VoP portfolio in additional lawsuits against companies engaging in the unauthorized use of Sprint's VoP technology: *Sprint Communications Co. L.P. v. Paetec Holding Corp. et al.*, Case No. 08-cv-2044-JWL/GLR (D. Kan.), *Sprint Communications Co. L.P. v. Broadvox Holdings, LLC et al.*, Case No. 08-cv-2045-JWL/DJW (D. Kan.), *Sprint Communications Co. L.P. v. Big River Telephone Co., LLC*, Case

No. 08-cv-2046-JWL/DJW (D. Kan.), and *Sprint Communications Co. L.P. v. Nuvox, Inc. et al.*, Case No. 08-cv-2047-JWL/JPO (D. Kan.). By late 2009, Sprint had entered settlement agreements resolving these lawsuits and, as a result, a number of additional companies licensed patents from Sprint's VoP portfolio.

19. During this same time frame, Sprint continued to derive substantial revenues from providing numerous cable companies with a network backbone to carry voice traffic to support those companies' digital telephone offerings, which use packet networks coupled with the PSTN.

20. In 2011, Sprint again sued to enforce patents from its VoP portfolio for the unauthorized use of its patented technology: *Sprint Communications Co. L.P. v. Cox Communications, Inc., et al.*, Case No. 11-cv-2683-JWL (D. Kan.), *Sprint Communications Co. L.P. v. Comcast Cable Communications, LLC et al.*, Case No. 11-cv-2684-JWL (D. Kan.), *Sprint Communications Co. L.P. v. Cable One, Inc.*, Case No. 11-cv-2685-JWL (D. Kan.), and *Sprint Communications Co. L.P. v. Time Warner Cable Inc., et al.*, Case No. 11-cv-2686-JWL (D. Kan.). In 2016, Sprint entered into a settlement agreement resolving the Cable One lawsuit. In March 2017, a Kansas jury found that Time Warner Cable had willfully infringed five patents in this portfolio, including patents that are at-issue in this case, awarding Sprint $139.8 million in damages. In October 2017, Sprint entered into a settlement agreement resolving the Comcast lawsuit. In December 2017, Sprint entered into a settlement agreement resolving the Cox lawsuit.

The Patents-In-Suit

21. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,343,084 ("the '084 Patent") entitled "Broadband Telecommunications System," which duly and legally issued in the name of Joseph Michael Christie on January 29, 2002. A copy of the '084 Patent is attached to the Complaint as Exhibit A.

22. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,633,561 ("the '3,561 Patent") entitled "Method, System and Apparatus for Telecommunications Control," which duly and legally issued in the name of Joseph Michael Christie on October 14, 2003. A copy of the '3,561 Patent is attached to the Complaint as Exhibit B.

23. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,463,052 ("the '052 Patent") entitled "Method, System and Apparatus for Telecommunications Control," which duly and legally issued in the name of Joseph Michael Christie on October 8, 2002. A copy of the '052 Patent is attached to the Complaint as Exhibit C.

24. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,452,932 ("the '932 Patent") entitled "Method, System and Apparatus for Telecommunications Control," which duly and legally issued in the name of Joseph Michael Christie on September 17, 2002. A copy of the '932 Patent is attached to the Complaint as Exhibit D.

25. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,473,429 ("the '429 Patent") entitled "Broadband Telecommunications System," which duly and legally issued in the name of Joseph Michael Christie on October 29, 2002. A copy of the '429 Patent is attached to the Complaint as Exhibit E.

26. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,298,064 ("the '064 Patent") entitled "Broadband Telecommunications System," which duly and legally issued in the name of Joseph Michael Christie on October 2, 2001. A copy of the '064 Patent is attached to the Complaint as Exhibit F.

27. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,330,224 ("the '224 Patent") entitled "System and Method for Providing Enhanced Services for a Telecommunication Call," which duly and legally issued in the names of Joseph Michael Christie, Joseph S. Christie, and Tracy Lee Nelson on December 11, 2001. A copy of the '224 Patent is attached to the Complaint as Exhibit G.

28. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,697,340 ("the '340 Patent") entitled "System and Method for Providing Enhanced Services for a Telecommunication Call," which duly and legally issued in the names of Joseph Michael Christie, Joseph S. Christie, Jean M. Christie, and Tracy Lee Nelson on February 24, 2004. A copy of the '340 Patent is attached to the Complaint as Exhibit H.

29. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,286,561 ("the '6,561 Patent") entitled "Method System and Apparatus for Telecommunications Control," which duly and legally issued in the name of Joseph Michael Christie on October 23, 2007. A copy of the '6,561 Patent is attached to the Complaint as Exhibit I.

30. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,505,454 ("the '454 Patent") entitled "Method, System and Apparatus for Telecommunications Control," which duly and legally issued in the name of Joseph Michael Christie on March 17, 2009. A copy of the '454 Patent is attached to the Complaint as Exhibit J.

31. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,327,728 ("the '728 Patent") entitled "Broadband Telecommunications System," which duly and legally issued in the name of Joseph Michael Christie, Albert D. Duree,

Michael Joseph Gardner, William Lyle Wiley, Manu Chand Bahl, and Daniel Charles Sbisa on February 5, 2008. A copy of the '728 Patent is attached to the Complaint as Exhibit K.

32. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,324,534 ("the '534 Patent") entitled "Broadband Telecommunications System Interface," which duly and legally issued in the name of Joseph Michael Christie, Michael Joseph Gardner, Tracy Lee Nelson, William Lyle Wiley, and Albert Daniel Duree on January 29, 2008. A copy of the '534 Patent is attached to the Complaint as Exhibit L.

33. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 7,693,131 ("the '131 Patent") entitled "Telecommunications System to Provide Analog Telephony Communications Over a Packet Connection," which duly and legally issued in the name of Martin Joseph Kaplan, Frank Anthony DeNap, John Arndt Strand, III, William Lee Edwards, Bryan Lee Gorman, Murat Bog, Michael Thomas Swink, and Harold Wayne Johnson on April 6, 2010. A copy of the '131 Patent is attached to the Complaint as Exhibit M.

34. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,563,918 ("the '918 Patent") entitled "Telecommunications System Architecture for Connecting a Call," which duly and legally issued in the name of Tracy Lee Nelson, William Lyle Wiley, Royal Dean Howell, Michael Joseph Gardner, and Albert Daniel DuRee on May 13, 2003. A copy of the '918 Patent is attached to the Complaint as Exhibit N.

35. Plaintiff Sprint is the owner by assignment of all right, title, and interest in and to United States Patent No. 6,999,463 ("the '463 Patent") entitled "Number Portability In A Communications System," which duly and legally issued in the name of Joseph Michael Christie, Joseph S. Christie, Jean M. Christie, Michael Joseph Gardner, Albert Daniel Duree,

William Lyle Wiley, and Tracy Lee Nelson on February 14, 2006. A copy of the '463 Patent is attached to the Complaint as Exhibit O.

36. The patents identified in paragraphs 21–35 and attached as Exhibits A–O are herein collectively referred to as "Sprint's Patents" or the "Asserted Patents."

Altice

37. Upon information and belief, Altice provides video, high-speed Internet, and telephone services to both residential and commercial customers under a number of different brands. Upon information and belief, Altice supports millions of customers. Upon information and belief, as part of its telephone services Altice owns or leases circuits used to connect to the Internet and the public switched telephone network.

38. Upon information and belief, Altice USA is the parent company to Suddenlink Communications, owns, and exercises control over Suddenlink Communications. Upon information and belief, Altice USA additionally provides Suddenlink with various services, including CEO, CFO, and COO services. Upon information and belief, Altice USA is also the parent company to CSC Holdings, owns, and exercises control over CSC Holdings. Upon information and belief, Altice USA additionally provides CSC Holdings with various services, including CEO, CFO, and COO services. Upon information and belief, Altice USA offers voice services under a number of different brands, including the Suddenlink brand and the Optimum brand.[1] Upon information and belief, Altice USA is a leading national telecommunications, media, and entertainment company that provides its branded residential and business services to more than 4.9 million customers, including broadband, pay television, and telephony services in

[1] *See e.g.*, *Our Brands*, Altice USA, http://alticeusa.com/our-brands/ ("[Altice] offers Suddenlink-branded digital cable television, high-speed Internet and voice services to residential and business customers across the western, midwestern and southern states."). Upon information and belief, these voice services may have previously been provided under different brands but are not materially different for the purposes of this Complaint.

21 different states.[2]

39. Upon information and belief, Altice, without Sprint's permission, has made, used, offered to sell, and/or sold, and continues to make, use, offer to sell, and/or sell broadband and/or packet-based telephony products or services, including Suddenlink Home Phone, Suddenlink Total Home®, Suddenlink Business Class Phone, Lightpath, Business Voice, Optimum Voice, and similar services marketed under other brands ("the Altice Branded Voice Services"), that infringe Sprint's patents.

40. Upon information and belief, at least Suddenlink Communications (which was acquired by Altice USA on December 21, 2015) has had knowledge of one or more of the Asserted Patents and the infringing nature of its products since at least 2007. For instance, on or around December 2007, Sprint notified Suddenlink Communications that Sprint has a portfolio of over 120 U.S. voice over packet patents and that Sprint recently obtained a patent infringement verdict against Vonage's VoIP telephony product based on a rate of 5% of Vonage's revenue. Sprint also explained that companies seeking to offer telecommunications products and services in the field related to telecommunications between packet-based networks and narrowband systems would very likely need Sprint's permission by way of a license agreement. Also on information and belief, Sprint notified Suddenlink Communications in the same letter that Sprint would aggressively enforce its intellectual property against all unauthorized use.

41. Suddenlink Communications' knowledge of certain of the Asserted Patents notwithstanding, Suddenlink Communications continued to make, use, sell, and/or offer for sale its products and services that infringe Sprint's intellectual property, all despite an objectively

[2] *See e.g.*, *Investors*, Altice USA Profile, http://investors.alticeusa.com/investors/overview/default.aspx.

high likelihood that Suddenlink Communications' actions constituted infringement of one or more valid patents. Therefore, at least Suddenlink Communications either knew or should have known of such infringement of Sprint's intellectual property rights, and Altice USA therefore either knew or should have known of its continuing infringement of Sprint's intellectual property rights subsequent to Altice USA acquiring Suddenlink Communications on December 21, 2015.

The Altice Branded Voice Services

42. On information and belief, Altice's products and services comprise Suddenlink Home Phone, Suddenlink Total Home®, Suddenlink Business Class Phone, Lightpath, Business Voice, Optimum Voice, and similar services marketed under other brands ("the Altice Branded Voice Services," *see, e.g.*, ¶39, *supra*). On information and belief, Altice's Accused Products and Services provided in the past, and continue to provide, functionality, including through the use of the PacketCable standard, that allows voice and/or data information to be transmitted over a packet communication system connected to the PSTN. On information and belief, the Accused Products and Services accomplish communication control through a processing system that processes signaling to select network characteristics and signals network elements based on the selections.

43. In particular, on information and belief and discussed above and throughout, Altice provided and provides VoIP telephony services that are capable of placing calls to, and receiving calls from, the PSTN. These services were and are provided through devices operating on Altice's network, or under Altice's direction and control, including network elements that are dedicated to call control and set-up (e.g., a softswitch), as well as interworking between packet-based/broadband formats and time-based/narrowband formats (e.g., media gateways). In particular, Altice provided and provides, to its VoIP subscribers, an IP-based, broadband connection between appropriate customer premises equipment (e.g., a Multimedia Terminal

Adapter ("MTA")) and one or more softswitches for communicating call signaling using NCS protocols, as specified by Cable Television Laboratories, Inc. (CableLabs®).

—Altice's Inbound Calls—
A Call From The PSTN To A VoIP Subscriber Through A Media Gateway[3]

44. On information and belief, during an Inbound Call, a softswitch used by Altice, referred to as a "Call Management Server" or "CMS,"[4] receives an SS7 Initial Address Message ("IAM") from a PSTN signaling point. The SS7 message is received over A- or D-links in SS7 or SIGTRAN format. The received SS7 IAM message includes, amongst other things, a Destination Point Code ("DPC"), an Origination Point Code ("OPC"), a Circuit Identification Code ("CIC"), the calling party's telephone number, the called party's telephone number (i.e., the dialed telephone number), and, if applicable, a Location Routing Number ("LRN") associated with the called party's telephone number.

45. On further information and belief, the Altice CMS processes information in the SS7 IAM message to make selections with respect to establishing and routing the call. For example, on information and belief, the Altice CMS uses, amongst other things, the OPC and CIC information included in the SS7 IAM to identify a Media Gateway ("MG") that is used to

[3] While the call flows in the paragraphs 44-66 are in the present tense, on information and belief, Altice performed these call flows in the past, including during and prior to 2014.

[4] For brevity, Sprint identifies a CMS. However, Altice's VOP network may include other components, or connect to components operated by third parties on each of the Defendants' behalf, such as a Media Gateway Controller ("MGC"), a Signaling Gateway ("SG"), and/or a Call Agent ("CA") or IP Multimedia Subsystem ("IMS") equivalents, that perform analogous functions in some instances as a CMS. Further, on information and belief, IMS implementations include Call Session Control Function ("CSCF"), which perform analogous functions to Call Management Servers and Call Agents; Media Gateway Controller Function ("MGCF"), which perform analogous functions to Media Gateway Controllers; and Signaling Gateways ("SGW"), which perform analogous functions to Signaling Gateways. *See, e.g.*, PacketCable 2.0 Architecture Framework Technical Report at pp. 7-12 (https://community.cablelabs.com/wiki/plugins/servlet/cablelabs/alfresco/download?id=be851709-5acb-42d3-ba34-3d378140da29); 3rd Generation Partnership Project Technical Specification Group Services and Systems Aspects IP Multimedia Subsystem (IMS) Stage 2 (Release 7) at p. 18 (http://www.3gpp.org/ftp/Specs/archive/23_series/23.228/23228-700.zip).

interwork bearer traffic (i.e., speech or voice on the call) between TDM and packet-based formats. Likewise, the Altice CMS also uses, amongst other things, the telephone number and/or LRN included in the SS7 IAM to identify the called party, including an IP address associated with the called party's Media Terminal Adapter ("MTA"). These selections, as well as others, are based on call routing data stored within the Altice CMS in call routing database tables that are populated by one or more Element Management Systems ("EMS") used by Altice.

46. On information and belief, during an Inbound Call, an Altice CMS sends a CRCX (create connection message) to the MG instructing the MG to create a session in inactive mode. On information and belief, an Altice MG creates the session in inactive mode and responds to the CRCX message with an acknowledgment message, which includes the MG's Session Description Protocol ("SDP") profile information. On information and belief, the SDP profile includes, among other information, the IP address and port of the MG to which voice information will be sent using Real-time Protocol ("RTP") voice packets.

47. On information and belief, during an Inbound Call, an Altice CMS sends a CRCX message to the MTA instructing the MTA to create a session. On information and belief, the CRCX includes the MG's IP address and port information. On information and belief, an Altice MTA sends a response to the CRCX to the Altice CMS that includes the MTA's own SDP profile which includes, among other information, the MTA's IP address and port information. The IP address included in the ACK from the MTA to the Altice CMS is the same IP address used by the CMS to send the CRCX message to the MTA instructing the MTA to create a session.

48. On information and belief, during an Inbound Call, when the called party answers the call, the MTA sends a NTFY (notify message) indicating an off-hook event to the Altice

CMS. The Altice CMS sends an MDCX (modify connection message) to the MG instructing the MG to modify the inactive session to become an active session to exchange two-way bearer traffic (i.e., speech or voice traffic) for the call. The MDCX includes the IP address of the MTA identified by the Altice CMS and used to communicate the above-described CRCX message to the MTA. The MDCX also includes the port information provided by the MTA in the ACK to the Altice CMS.

49. On information and belief, during an Inbound Call, voice information between Altice's MG interfacing with the PSTN is transmitted from the MG to the MTA (and *vice versa*) using RTP. On further information and belief, Altice's MG receives bearer audio from the PSTN (i.e., voice or speech audio) and places portions of the digital audio into the payloads of RTP voice packets. The bearer audio (i.e., voice or speech audio) is received by the MG from the PSTN over a DS0 connection corresponding to the OPC, DPC, and CIC values included in the SS7 IAM. The bearer audio (i.e., voice or speech audio) is received by the MG at a data rate of 64 kilobits per second, and is not packetized.

50. The MG creates voice packets containing the bearer audio (i.e., voice or speech audio) received over the DS0 connection according to specified packetization period (e.g., 10 milliseconds, 20 milliseconds) using a specified encoding scheme, such as G.711 for Pulse Code Modulation ("PCM"). As a result, on information and belief, all RTP voice packets created for any particular Inbound Call will be of an identical size (e.g., 210 bytes).

51. While creating the RTP voice packets, on information and belief, the MG includes the MTA's IP address received from the Altice CMS in the destination field of the RTP voice packets' IP headers. On information and belief, Altice's MG then sends the RTP voice packet to Altice's IP network to eventually reach the Cable Modem Termination System ("CMTS") that is

local to the called party's MTA. The RTP voice packets between the MG and the CMTS are not transmitted according to a shared timing relationship, such as Stratum Level clock that ensures packets are delivered synchronously. On information and belief, the CMTS then sends the RTP voice packet to the MTA over the local coaxial cable network.

52. On further information and belief, the called party's MTA receives the RTP voice packets transmitted by the MG. The MTA removes the bearer traffic (i.e., voice or speech audio) from the RTP packets, transcodes the bearer traffic from digital to analog, and transfers the analog audio in non-packet format to an analog telephone connected to the MTA.

53. On information and belief, during an Inbound Call, an MTA similarly receives analog voice from the analog telephone connected to the MTA, transcodes the voice into digital format, and places portions of the digital voice into the payloads of RTP voice packets. On information and belief, the MTA puts the MG's IP address received from the Altice CMS in the destination address field of the RTP voice packets' IP headers. On information and belief, the MTA then sends the RTP voice packet to its local CMTS via the local coaxial cable network. On information and belief, the CMTS forwards the RTP voice packet to Altice's IP network to eventually reach the MG.

A Call From The PSTN To Voicemail Through A Media Gateway

54. On information and belief, during an Inbound Call to Voicemail, a call from the PSTN is attempted to be connected to a called party's MTA as detailed above (*see* ¶¶44-47). If the called party does not answer the call, either because the called party is already connected to a different call ("call forward, busy") or because the called party is not available ("call forward, no answer"), the CMS forwards the call to voicemail.

55. For example, on information and belief, in a "call forward, no answer" scenario, an Altice CMS communicates with the MTA to direct the MTA to ring the called party's phone.

If a predetermined number of rings or a predetermined amount of time has elapsed before the called party answers the call, a call forward condition is triggered in the CMS. If the called party has the call forwarding to voicemail feature enabled, the CMS performs additional processing to forward the call to voicemail.

56. On information and belief, the CMS uses internal routing tables and data associated with the called party to determine where the call should be forwarded. On information and belief, upon determining that a "call forward, no answer" scenario is occurring, the call can be forwarded to a voicemail platform associated with a trunk group. On information and belief, the CMS generates a SIP message directed toward the voicemail platform, the SIP message containing, among other data, the dialed digits of the called party. The voicemail platform responds to the CMS with a 200 OK message which includes the IP address and port information of the voicemail platform. The CMS updates the MG with the IP address and port number of the voicemail platform.

57. On information and belief, after the MG receives updated IP address and port information of the voicemail platform, a call can be established between the voicemail platform and the PSTN calling party via the MG in a manner that is functionally similar to a call connected to a MTA as detailed above (*see* ¶¶ 48-52).

—Altice's Outbound Calls—
A Call From A VoIP Subscriber To The PSTN Through A Media Gateway

58. On information and belief, during an Outbound Call, when an analog telephone connected to an MTA is picked up, the MTA sends a NTFY indicating an off-hook event to an Altice CMS by sending the message to the MTA's local CMTS through the local coaxial cable network, which the CMTS forwards to the Altice CMS. On information and belief, the Altice CMS sends an ACK in response to the NTFY and a RQNT (notification request message)

instructing the MTA to provide a dial-tone and notify the CMS of dialed digits. On information and belief, after the calling party has dialed digits, the MTA sends a NTFY to the CMS with the dialed digit information.

59. On information and belief, the Altice CMS processes information included in the NTFY message, including the dialed digits, according to a defined dial plan, such as a dial plan associated with the calling subscriber and/or least cost routing procedures. The Altice CMS processes the dialed digits using call routing data stored in a relational call routing database in the CMS, which, on information and belief, is populated with data from an EMS.

60. On information and belief, during an Outbound Call involving a dialed number that has been ported, Altice's CMS sends an SS7 IAM to the PSTN with the LRN returned in response to a Local Number Portability ("LNP") query as a called party number, which includes the actual dialed number in the IAM's Generic Address Parameter ("GAP") field. If the number has not been ported, the dialed digits are used for further call processing by the Altice CMS. In either scenario, the Altice CMS will identify a trunk to connect the call to the PSTN using the dialed digits and/or an LRN. The selected trunk connects an Altice MG, on one side, and a switch on the PSTN, on the other, and has an associated CIC value uniquely identifying the selected trunk between the MG and PSTN switch.

61. Once a trunk is selected, the Altice CMS identifies the MG associated with one end of the selected trunk using call routing data stored in relational call routing database tables in the Altice CMS. Likewise, on information and belief, the Altice CMS identifies a signaling Point Code for the PSTN switch on the other side of the selected trunk based call routing data stored in relational call routing database tables in the Altice CMS.

62. Using the DPC of the PSTN switch, on information and belief, the Altice CMS

will send an SS7 IAM message to the PSTN switch associated with the selected Point Code. In particular, the SS7 IAM includes the PSTN switch Point Code in the Destination Point Code field of the SS7 IAM message, along with the Point Code (OPC) of the Altice CMS, the CIC associated with the trunk, and the dialed number and/or LRN. The SS7 IAM is sent over A- or D-links in native SS7 or SIGTRAN formats.

63. On information and belief, during an Outbound Call, Altice's CMS will send a CRCX instructing the MTA to create a session in inactive mode. On information and belief, in response to the CRCX, the MTA sends an ACK to the CMS and includes its SDP profile in the ACK. On information and belief, the MTA's SDP profile contains, among other information, the MTA's IP address and port information.

64. On information and belief, during an Outbound Call, Altice's CMS also sends a CRCX to the selected MG associated with the identified trunk, including the MTA's SDP profile, instructing the MG to create a session. On information and belief, in response to the CRCX the MG creates a session and sends an ACK, which includes the MG's own SDP profile. On information and belief, the MG's SDP profile includes, among other information, the MG's IP address and port number to which the MTA should send RTP voice packets.

65. On information and belief, during an Outbound Call, after the PSTN called party answers the phone, voice information between the calling party's MTA and the MG interfacing with the PSTN is then transmitted from the MTA to the MG (and *vice versa*) using RTP, as generally discussed above (*see* ¶¶ 48–53). On information and belief, the MTA receives analog audio from the connected telephone, transcodes it to digital format, and places portions of the digital audio into the payloads of RTP voice packets. On information and belief, the MTA puts the MG's IP address, which it received from the MG, in the destination address field of the RTP

voice packets' IP headers. On information and belief, the MTA then sends the RTP voice packet to its local CMTS via the local coaxial cable network. On information and belief, the CMTS then sends the RTP voice packet to Altice's IP network where it reaches the MG.

66. On information and belief, during an Outbound Call, the MG similarly receives analog audio from the PSTN and places portions of the digital audio into the payloads of RTP voice packets, as detailed above (*see* ¶¶48–53). On information and belief, the MG puts the MTA's IP address, which it received from the MTA, in the destination address field of the RTP vice packets' IP headers. On information and belief, the MG then sends the RTP voice packet to Altice's IP network, where it reaches the CMTS local to the called party's MTA. On information and belief, the CMTS then sends the RTP voice packet to the MTA over the local coaxial cable network.

COUNT 1: PATENT INFRINGEMENT
Infringement of the '084 Patent

67. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–66 above.

68. Upon information and belief, Altice directly infringed the '084 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, that infringed the '084 Patent. These broadband and/or packed-based telephony products and/or services were capable of receiving and did receive telephone calls originating from a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '084 Patent under 35 U.S.C. § 271(a).

69. For example, on information and belief, Altice implemented a method of operating an interworking unit to handle a plurality of calls. *See, e.g.*, ¶¶ 44-66, *supra*. On further

information and belief, Altice received messages into the interworking unit on a call-by-call basis where the messages indicated one of a plurality of synchronous connections and a corresponding one of a plurality of identifiers. *See, e.g.*, ¶ 46, *supra*. On further information and belief, Altice received user communications for the calls from the synchronous connections indicated in the messages into the interworking unit. *See, e.g.*, ¶¶ 49-53, *supra*. On further information and belief, Altice, in response to the messages, converted the user communications from the synchronous connections into asynchronous communications including the corresponding identifiers. *See, e.g.*, *id.* On further information and belief, Altice transferred the asynchronous communications for subsequent routing based on the identifiers. *See, e.g.*, *id.*

70. On information and belief, Altice has willfully infringed at least claim 1 of the '084 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

71. As a direct and proximate consequence of Altice's infringement of the '084 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 2: PATENT INFRINGEMENT
Infringement of the '3,561 Patent

72. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–71 above.

73. Upon information and belief, Altice directly infringed the '3,561 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, that infringed the '3,561 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the

PSTN, in a manner that directly infringed at least claims 1 and 24 of the '3,561 Patent under 35 U.S.C. § 271(a).

74. For example, on information and belief, Altice implemented a method of operating a processing system to control a packet communication system for a user communication. *See, e.g.*, ¶¶ 44-53, *supra*. On further information and belief, Altice received a signaling message for the user communication from a narrowband communication system into the processing system. *See, e.g.*, ¶ 44, *supra*. On further information and belief, Altice processed the signaling message to select a network code that identified a network element to provide egress from the packet communication system for the user communication. *See, e.g.*, ¶¶ 44-45. On further information and belief, Altice generated a control message indicating the network code. *See, e.g.*, ¶¶ 46-47, *supra*. On further information and belief, Altice transferred the control message from the processing system to the packet communication system. *See, e.g.*, *id.* On further information and belief, Altice received the user communication in the packet communication system and used the network code to route the user communication through the packet communication system to the network element. *See, e.g.*, ¶¶ 49-53, *supra*. On further information and belief, Altice transferred the user communication from the network element to provide egress from the packet communication system. *See, e.g.*, *id.*

75. Furthermore, on information and belief, Altice implemented a method of operating a processing system to control a packet communication system for a user communication. *See, e.g.*, ¶¶ 59-66, *supra*. On further information and belief, Altice selected a network code that identified a network element to provide egress for the user communication from the packet communication system to a narrowband communication system. *See, e.g.*, ¶¶ 58-64, *supra*. On further information and belief, Altice generated a control message indicating the

network code and transferred the control message from the processing system to the packet communication system. *See, e.g.*, ¶ 64, *supra*. On further information and belief, Altice generated a signaling message for the user communication and transferred the signaling message from the processing system to the narrowband communication system. *See, e.g.*, ¶¶ 60-64, *supra*. On further information and belief, Altice received the user communication in the packet communication system and used the network code to route the user communication through the packet communication system to the network element. *See, e.g.*, ¶¶ 65-66, *supra*. On further information and belief, Altice transferred the user communication from the network element to the narrowband communication system to provide egress from the packet communication system. *See, e.g., id.*

76. On information and belief, Altice has willfully infringed at least claims 1 and 24 of the '3,561 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

77. As a direct and proximate consequence of Altice's infringement of the '3,561 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 3: PATENT INFRINGEMENT
Infringement of the '052 Patent

78. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–77 above.

79. Upon information and belief, Altice directly infringed the '052 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '052 Patent. These broadband and/or packet-based telephony products and/or services were capable of receiving and did receive telephone calls originating from a non-packet

network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '052 Patent under 35 U.S.C. § 271(a).

80. For example, on information and belief, Altice implemented a method of transferring a user communication to a packet communication system. *See, e.g.*, ¶¶ 44-53, *supra*. On further information and belief, Altice received the user communication into a device. *See, e.g.*, ¶¶ 49-53, *supra*. On further information and belief, Altice received signaling formatted for a narrowband system into a processing system. *See, e.g.*, ¶¶ 44-45, *supra*. On further information and belief, Altice processed, in the processing system, the signaling to select a network code that identified a network element to provide egress for the user communication from the packet communication system. *See, e.g., id.* On further information and belief, Altice transferred an instruction indicating the network code from the processing system to the device. *See, e.g.*, ¶¶ 46-47, *supra*. On further information and belief, Altice transferred a packet including the network code and the user communication from the device to the packet communication system in response to the instruction. *See, e.g.*, ¶¶ 49-53, *supra*.

81. On information and belief, Altice has willfully infringed at least claim 1 of the '052 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

82. As a direct and proximate consequence of Altice's infringement of the '052 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 4: PATENT INFRINGEMENT
Infringement of the '932 Patent

83. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–82 above.

84. Upon information and belief, Altice directly infringed the '932 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '932 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '932 Patent under 35 U.S.C. § 271(a).

85. For example, on information and belief, Altice implemented a method of handling a call having a first message and communications. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice operated a processing system external to narrowband switches that received and processed the first message to select one of the narrowband switches. *See, e.g.*, ¶¶ 58-62, *supra*. On further information and belief, Altice generated a second message in the processing system based on the selected narrowband switch and transmitted the message from the processing system. *See, e.g.*, ¶¶ 58-64, *supra*. On further information and belief, Altice received the second message and communications and transferred the communications to the narrowband switch in response to the second message. *See, e.g.*, ¶¶ 65-66, *supra*.

86. On information and belief, Altice has willfully infringed at least claim 1 of the '932 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

87. As a direct and proximate consequence of Altice's infringement of the '932 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 5: PATENT INFRINGEMENT
Infringement of the ‘429 Patent

88. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–87 above.

89. Upon information and belief, Altice directly infringed the ‘429 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the ‘429 Patent. These broadband and/or packet-based telephony products and/or services were capable of receiving and did receive telephone calls originating from a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the ‘429 Patent under 35 U.S.C. § 271(a).

90. For example, on information and belief, Altice implemented a communication method for transferring telecommunication signals for a call. *See, e.g.*, ¶¶ 44-53, *supra*. On further information and belief, Altice received information associated with a user communication into a processing system. *See, e.g.*, ¶¶ 44-45, *supra*. On further information and belief, Altice processed the information in the processing system to select an identifier. *See, e.g.*, *id.* On further information and belief, Altice generated a message containing the identifier. *See, e.g.*, ¶¶ 45-47, *supra*. On further information and belief, Altice transmitted the message from the processing system. *See, e.g.*, *id.* On further information and belief, Altice received the message into an interworking unit. *See, e.g.*, *id.* On further information and belief, Altice received the user communication into the interworking unit from a DS0 connection. *See, e.g.*, ¶¶ 49-51, *supra*. On further information and belief, Altice, in the interworking unit, converted the user communication into an asynchronous communication with the identifier in a header in response to the message. *See, e.g.*, *id.* On further information and belief, Altice transferred the

asynchronous communication from the interworking unit. *See, e.g.*, *id.*

91. On information and belief, Altice has willfully infringed at least claim 1 of the '429 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

92. As a direct and proximate consequence of Altice's infringement of the '429 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 6: PATENT INFRINGEMENT
Infringement of the '064 Patent

93. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1-92 above.

94. Upon information and belief, Altice directly infringed the '064 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '064 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminate on a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '064 Patent under 35 U.S.C. § 271(a).

95. For example, on information and belief, Altice implemented a method for a call. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice received set-up signaling associated with the call into a processing system. *See, e.g.*, ¶ 58, *supra*. On further information and belief, Altice processed the set-up signaling in the processing system to select a DS0 connection. *See, e.g.*, ¶¶ 58-62. On further information and belief, Altice generated a message identifying the DS0 connection. *See, e.g.*, *id.* On further information and belief, Altice transmitted the message from the processing system. *See, e.g.*, ¶¶ 61-64, *supra*. On further

information and belief, Altice received the message and an asynchronous communication associated with the call into an interworking unit. *See, e.g.*, ¶¶ 65-66. On further information and belief, Altice, in the interworking unit, converted the asynchronous communication into a user communication. *See, e.g., id.* On further information and belief, Altice transferred the user communication from the interworking unit to the DS0 connection in response to the message. *See, e.g., id.*

96. On information and belief, Altice has willfully infringed at least claim 1 of the '064 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

97. As a direct and proximate consequence of Altice's infringement of the '064 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 7: PATENT INFRINGEMENT
Infringement of the '224 Patent

98. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–97 above.

99. Upon information and belief, Altice directly infringed the '224 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '224 Patent. These broadband and/or packet-based telephony products and/or services were capable of providing and did provide enhanced services in a manner that directly infringed at least claim 1 of the '224 Patent under 35 U.S.C. § 271(a).

100. For example, on information and belief, Altice implemented a method for operating a communication system. *See, e.g.*, ¶¶ 44-57, *supra*. On further information and belief, Altice received information into a processing system wherein the information is related to a user

communication in a first communication format. *See, e.g.*, ¶¶ 44-45, 54, *supra*. On further information and belief, Altice, in the processing system, selected a service and a service node to provide the service based on the information. *See, e.g.*, ¶¶ 54-57, *supra*. On further information and belief, Altice, in the processing system, generated and transmitted a first message from the processing system. *See, e.g., id.* On further information and belief, Altice, in the processing system, generated and transmitted a second message from the processing system to the service node wherein the second message indicated the selected service and a user. *See, e.g., id.* On further information and belief, Altice received the user communication in the first communication format and the first message into an interworking unit. *See, e.g., id.* On further information and belief, Altice, in the interworking unit, converted the user communication from the first communication format to a second communication format and transmitted the user communication in the second communication format to the service node in response to the first message. *See, e.g., id.*

101. On information and belief, Altice has willfully infringed at least claim 1 of the '224 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

102. As a direct and proximate consequence of Altice's infringement of the '224 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 8: PATENT INFRINGEMENT
Infringement of the '340 Patent

103. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–102 above.

104. Upon information and belief, Altice directly infringed the '340 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or

services, including the Accused Products and Services, and other related telephony services, that infringed the '340 Patent. These broadband and/or packet-based telephony products and/or services were capable of providing and did provide enhanced services in a manner that directly infringed at least claim 11 of the '340 Patent under 35 U.S.C. § 271(a).

105. For example, on information and belief, Altice implemented a method of operating a communication system. *See, e.g.*, ¶¶ 44-57, *supra*. On further information and belief, Altice, in a signaling processor, received and processed Signaling System #7 (SS7) signaling for a call, and in response, generated and transferred control messaging indicating identifiers that are used for routing. *See, e.g.*, ¶¶ 44-45, 54, *supra*. On further information and belief, Altice, in a service platform system, received the control messaging, and in response, exchanged communications that included the identifiers to interact with a caller to provide a service. *See, e.g.*, ¶¶ 54-57, *supra*.

106. On information and belief, Altice has willfully infringed at least claim 11 of the '340 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

107. As a direct and proximate consequence of Altice's infringement of the '340 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 9: PATENT INFRINGEMENT
Infringement of the '6,561 Patent

108. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–107 above.

109. Upon information and belief, Altice directly infringed the '6,561 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services,

that infringed the '6,561 Patent. These broadband and/or packet-based telephony products and/or services were capable of receiving and did receive telephone calls originating from a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 11 of the '6,561 Patent under 35 U.S.C. § 271(a).

110. For example, on information and belief, Altice implemented a method of operating a communication network. *See, e.g.*, ¶¶ 44-53, *supra*. On further information and belief, Altice, in a processing system, processed one of a Signaling System #7 (SS7) signaling message and a Q.931 signaling message for a call to select packet routing information for the call and transferred a control message indicating packet routing information. *See, e.g., id.* On further information and belief, Altice, in a communication system, received a user communication for the call and the control message, and in response, converted the user communication into a packet format including the packet routing information selected by the processing system and transferred the user communication in the packet format to a packet system that routed the user the packet routing information selected by the processing system. *See, e.g.*, ¶¶ 44-53, *supra*.

111. On information and belief, Altice has willfully infringed at least claim 11 of the '6,561 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

112. As a direct and proximate consequence of Altice's infringement of the '6,561 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 10: PATENT INFRINGEMENT
Infringement of the '454 Patent

113. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–112 above.

114. Upon information and belief, Altice directly infringed the '454 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '454 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '454 Patent under 35 U.S.C. § 271(a).

115. For example, on information and belief, Altice implemented a method of operating a telecommunication system. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice received a first signaling from customer premises equipment into a communication control processor. *See, e.g.*, ¶¶ 58-59, *supra*. On further information and belief, Altice processed the first signaling in the communication control processor to select an address of a network element. *See, e.g.*, ¶¶ 58-60. On further information and belief, Altice transferred second signaling indicating the address from the communication control processor. *See, e.g.*, ¶¶ 64-65, *supra*. On further information and belief, Altice transferred third signaling from the communication control processor to a narrowband network. *See, e.g.*, *id.* On further information and belief, Altice received a voice communication from the customer premises equipment into a broadband network. *See, e.g.*, ¶ 65, *supra*. On further information and belief, Altice transferred the voice communication in the broadband network to the network element. *See, e.g.*, *id.* On further information and belief, Altice transferred the voice communication from the network element to the narrowband network. *See, e.g., id.*

116. On information and belief, Altice has willfully infringed at least claim 1 of the '454 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

117. As a direct and proximate consequence of Altice's infringement of the '454 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 11: PATENT INFRINGEMENT
Infringement of the '728 Patent

118. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–117 above.

119. Upon information and belief, Altice directly infringed the '728 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '728 Patent. These broadband and/or packet-based telephony products and/or services were capable of receiving and did receive telephone calls originating from a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '728 Patent under 35 U.S.C. § 271(a).

120. For example, on information and belief, Altice implemented a method of operating a communication system. *See, e.g.*, ¶¶ 44-53, *supra*. On further information and belief, Altice received telecommunication signaling for calls into a signaling processor, and responsively on a call-by-call basis, selected routing information based on the telecommunication signaling and transferred control messages indicating the routing information. *See, e.g.*, ¶¶ 44-45, *supra*. On further information and belief, Altice received the control messages and user communications for the calls into a communication unit, and responsively on the call-by-call basis, converted the user communications from a first communication format into a second communication format having headers that included the routing information selected by the signaling processor and transferred the user communications

in the second communication format. *See, e.g.*, ¶¶ 46-53, *supra*.

121. On information and belief, Altice has willfully infringed at least claim 1 of the '728 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

122. As a direct and proximate consequence of Altice's infringement of the '728 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 12: PATENT INFRINGEMENT
Infringement of the '534 Patent

123. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–122 above.

124. Upon information and belief, Altice directly infringed the '534 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '534 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 1 of the '534 Patent under 35 U.S.C. § 271(a).

125. For example, on information and belief, Altice implemented a method of operating a communication system. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice transferred a dial tone from a bearer interface for a caller. *See, e.g.*, ¶ 58, *supra*. On further information and belief, Altice received Dual Tone Multi-Frequency (DTMF) signals from the caller into the bearer interface. *See, e.g.*, ¶¶ 58-59. On further information and belief, Altice processed the DTMF signals in the bearer interface to determine a called number. *See, e.g., id.* On further information and belief, Altice transferred a first message indicating the called number

from the bearer interface to a processing system. *See, e.g., id.* On further information and belief, Altice processed the called number in the processing system to select an identifier. *See, e.g.*, ¶¶ 59-64, *supra*. On further information and belief, Altice transferred a second message indicating the identifier from the processing system to the bearer interface. *See, e.g., id.* On further information and belief, Altice received the user communications into the bearer interface, and in response to the second message, converted the user communications into a packet format including the identifier and transferred the user communications in the packet format including the identifier to a communication network, wherein the communication network routed the user communications based on the identifier. *See, e.g.*, ¶¶ 65-66, *supra*.

126. On information and belief, Altice has willfully infringed at least claim 1 of the '534 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

127. As a direct and proximate consequence of Altice's infringement of the '534 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 13: PATENT INFRINGEMENT
Infringement of the '131 Patent

128. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–127 above.

129. Upon information and belief, Altice directly infringed the '131 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '131 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet

network, such as, for example, the PSTN, in a manner that directly infringed at least claim 11 of the '131 Patent under 35 U.S.C. § 271(a).

130. For example, on information and belief, Altice implemented a method of operating a communication system to provide Public Switched Telephone Network (PSTN) access to a residential communication hub. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice, in the residential communication hub that is coupled to a packet network over a packet connection, exchanged telephony control signaling and telephony user communications in a PSTN format with an analog telephone, converted the telephony control signaling and the telephony user communications in the PSTN format to a packet format, exchanged the telephony control signaling in the packet format with a service node over the packet connection, wherein the service node comprised a call manager and a voice mux, exchanged the telephony user communications in the packet format with the service node over the packet connection, and exchanged Internet communications with the service node over the packet connection. *See, e.g.*, *id.* On further information and belief, Altice, in the call manager that is coupled to the packet network, processed the telephony control signaling to select a PSTN connection of the PSTN, transferred a control message indicating the selected PSTN connection, converted the telephony control signaling between the packet format and the PSTN format, and exchanged the telephony control signaling in the PSTN format with the PSTN over a signaling interface of the PSTN. *See, e.g.*, *id.* On further information and belief, Altice, in the voice mux that is coupled to the packet network, received the control message from the call manager, and in response, exchanged the telephony user communications in the packet format with the residential communication hub, converted the telephony user communications between the packet format and the PSTN format, and exchanged the telephony user communications in the PSTN format over the selected PSTN

connection. *See, e.g., id.*

131. On information and belief, Altice has willfully infringed at least claim 11 of the '131 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

132. As a direct and proximate consequence of Altice's infringement of the '131 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 14: PATENT INFRINGEMENT
Infringement of the '918 Patent

133. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–132 above.

134. Upon information and belief, Altice directly infringed the '918 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '918 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the PSTN, in a manner that directly infringed at least claim 11 of the '918 Patent under 35 U.S.C. § 271(a).

135. For example, on information and belief, Altice implemented a method of operating a communication system. *See, e.g.*, ¶¶ 44-66, *supra*. On further information and belief, Altice's control system, which includes control system data tables, received and processed call routing data to fill the control data tables with the call routing data and also transferred the call routing data from the control system data tables to call processor data tables. *See, e.g.*, ¶¶ 44-45, 58-64, *supra*. On further information and belief, Altice, in a call processor including the call processor data tables, processed signaling information for a call based on the call routing data in

the call processor data tables to transfer a control message for the call indicating a first connection and a second connection. *See, e.g.*, *id.* On further information and belief, Altice, in an interworking unit, received the control message, and in response to the control message, received user communications in a first format from a first connection, converted the user communications to a second format, and transferred the user communications in the second format over the second connection. *See, e.g.*, ¶¶ 49-53, 65-66, *supra*.

136. On information and belief, Altice has willfully infringed at least claim 11 of the '918 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

137. As a direct and proximate consequence of Altice's infringement of the '918 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

COUNT 15: PATENT INFRINGEMENT
Infringement of the '463 Patent

138. Sprint realleges and incorporates by reference the allegations set forth in paragraphs 1–137 above.

139. Upon information and belief, Altice directly infringed the '463 Patent by making, using, selling, and offering for sale broadband and/or packet-based telephony products or services, including the Accused Products and Services, and other related telephony services, that infringed the '463 Patent. These broadband and/or packet-based telephony products and/or services were capable of placing and did place telephone calls that terminated on a non-packet network, such as, for example, the PSTN, through LNP querying in a manner that directly infringed at least claim 1 of the '463 Patent under 35 U.S.C. § 271(a).

140. For example, on information and belief, Altice implemented a method of operating a call signaling processor for a call having a signaling message and a user

communication. *See, e.g.*, ¶¶ 58-66, *supra*. On further information and belief, Altice received the signaling message for the call indicating a called number. *See, e.g.*, ¶¶ 58–60, *supra*. On information and belief, Altice processed the called number to transfer a number portability query. *See, e.g.*, ¶ 60, *supra*. On further information and belief, Altice received a number portability response indicating a route number. *See, e.g.*, *id.* On further information and belief, Altice processed the route number to select an identifier for routing the user communication. *See, e.g.*, ¶¶ 58–66, *supra*. On further information and belief, Altice transferred a control message indicating the user communication and the identifier to a communication system, wherein the communication system, in response to the control message, added the identifier to a header of the user communication and routed the user communication based on the identifier in the header. *See, e.g.*, ¶¶ 60–66, *supra*.

141. On information and belief, Altice has willfully infringed at least claim 1 of the '463 Patent. *See, e.g.*, ¶¶ 40-41, *supra*.

142. As a direct and proximate consequence of Altice's infringement of the '463 Patent, Sprint has suffered damages in an amount not yet determined for which Sprint is entitled to relief.

PRAYER FOR RELIEF

Wherefore, Sprint requests entry of judgment in its favor and against Altice as follows:

A. Judgment that Altice has directly infringed one or more claims of Sprint's Patents;

B. An award of damages to compensate Sprint for Altice's infringement, including damages pursuant to 35 U.S.C. § 284, as well as pre-judgment and post-judgment interest;

C. An award of costs and expenses in this action, including an award of Sprint's reasonable attorneys' fees pursuant to 35 U.S.C. § 285;

D. A finding that Altice has willfully infringed one or more claims of one or more of the Asserted Patents;

E. A finding that this is an exceptional case, award treble damages due to Altice's deliberate and willful conduct, and order Altice to pay Sprint's costs of suit and attorneys' fees; and

F. For such other and further relief as the Court may deem just, proper, and equitable under the circumstances.

DEMAND FOR JURY TRIAL

Sprint respectfully demands a trial by jury on all claims and issues so triable.

POLSINELLI PC

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