IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

KONINKLIJKE KPN N.V., Plaintiff, v. TCL COMMUNICATION, INC., TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, and TCT MOBILE, INC., TCT MOBILE (US) INC., Defendants.	C.A. No. 18-cv-928-LPS-CJB **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

This is an action for patent infringement in which Plaintiff Koninklijke KPN N.V. ("KPN") makes the following allegations against TCL Communication, Inc., TCL Communication Technology Holdings Limited, TCT Mobile, Inc., and TCT Mobile (US) Inc. (collectively "TCL"):

BACKGROUND

1. KPN's extensive research and development efforts have led to hundreds of issued patents in the United States and across the world. These patents have been licensed in turn by leading global telecommunications companies, including many of TCL's mobile technology competitors.

2. KPN has made its patents available for license on an individual basis through bilateral negotiations and, at the licensee's option, collectively through joint licensing or patent pool licensing arrangements.

3. Prior to filing this action, KPN provided TCL with notice of the patents at issue and engaged in negotiations with TCL to try to resolve this dispute.

4. Despite these efforts, TCL has not agreed to license the patents described herein on mutually agreeable terms. KPN thus files this suit against TCL seeking the Court's protection of its valuable intellectual property rights.

PARTIES

5. Plaintiff KPN is a telecommunications and ICT solution provider (including fixed, mobile, television and internet) headquartered at Maanplein 55, NL-2516 CK, The Hague, The Netherlands.

6. Defendant TCL Communication, Inc. has represented that it is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California, 92618. TCL Communication, Inc. can be served with process through its registered agent for service of process – Corporation Service Company (d/b in California as CSC - Lawyers Incorporating Service) at 2710 Gateway Oaks Drive Suite 150N, Sacramento, California 95833. On information and belief, TCL Communication, Inc. is a subsidiary of TCL Corporation.

7. Defendant TCL Communication Technology Holdings Limited has represented that it is a corporation organized and existing under the laws of the Cayman Islands with its principal place of business at 5th Floor, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong SAR, China. On information and belief, TCL Communication Technology Holdings Limited is a wholly owned subsidiary of TCL Corporation. TCL Communication Technology Holdings Limited can be served with process pursuant to the Delaware Long Arm Statute, 10 Del. C. § 3104.

8. Defendant TCT Mobile, Inc. has represented that it is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite

200, Irvine, California, 92618. TCT Mobile, Inc. can be served with process through its registered agent for service of process – James Wodach, 25 Edelman, Suite 200 Irvine, California, 92618. On information and belief, TCT Mobile, Inc. is a subsidiary of TCL Corporation.

9. Defendant TCT Mobile (US) Inc. has represented that it is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California, 92618. TCT Mobile (US) Inc. can be served with process through its registered agent for service of process – Daisy Tuen Yi Chan, 25 Edelman, Suite 200 Irvine, California, 92618. On information and belief, TCT Mobile, Inc. is a subsidiary of TCL Corporation.

JURISDICTION AND VENUE

10. This action arises under the patent laws of the United States, Title 35 of the United States Code.

11. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

12. This Court has personal jurisdiction over each TCL Defendant because, directly or through intermediaries, each has committed acts within Delaware giving rise to this action and/or has established minimum contacts with Delaware such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

13. For example, TCL has represented to Plaintiff "that TCL Communication, Inc., TCL Communication Technology Holding[s] Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., and TCT Mobile (US) Holdings, Inc. … make, sell, offer to sell, or import into the United States" products like "the TCL OneTouch Go Play and related or similar communication

devices." Further, TCL and TCT Mobile (US) Holdings, Inc, have stipulated that, to the extent TCT Mobile (US) Holdings, Inc., had a connection to any TCL product, each of TCL Communication, Inc., TCT Mobile, Inc., and TCT Mobile (US) Inc. had an equal connection such that each bears equal liability for any infringement. Further, on information and belief, each TCL Defendant has placed or has contributed to placing infringing products into the stream of commerce via an established distribution channel with the knowledge and/or understanding that such products would be made, used, or sold in the United States, including in this District.

14. On information and belief, each TCL Defendant also has derived substantial revenues from its infringing acts in the State of Delaware and this District, including from the sale or use of infringing devices in the United States, including in this District.

15. In addition, on information and belief, each TCL Defendant has and continues to knowingly induce infringement by others within this District by advertising, marketing, offering for sale, and/or selling devices containing infringing functionality within this District to consumers, customers, manufacturers, distributers, resellers, partners, and/or end users, and by providing instructions, user manuals, advertising, and/or marketing materials which facilitate, direct, or encourage the use of infringing functionality with knowledge thereof.

16. Venue is proper under 28 U.S.C. § 1391(b) and (c) and 28 U.S.C. § 1400.

THE ASSERTED PATENTS

17. This lawsuit asserts causes of action for infringement of United States Patent Nos. 9,014,667 ("'667 patent"); 9,667,669 ("'669 patent"); and 9,654,330 ("'330 patent") (collectively, the "Asserted Patents").

18. TCL has been on notice of the Asserted Patents and of KPN's contention that TCL mobile telecommunication products like the TCL OneTouch Go Play infringe the Asserted Patents, but TCL has yet to license the Asserted Patents.

19. Koenraad Wuyts, KPN's Chief Intellectual Property Officer, first contacted Guo Aiping of TCL Communication Technology Holdings Limited in a letter dated August 23, 2012. In that letter, Mr. Wuyts informed Mr. Guo that TCL's handset and data module products required a license under KPN's patents, including European Patent EP 1 280 279 B1, and that such patents were available for licensing on terms and conditions to be agreed upon. Mr. Wuyts requested a meeting to discuss TCL's need for a license with it and requested a response by October 7, 2012. Mr. Wuyts subsequently forwarded this letter on October 17, 2012, to others at TCL, including Stephen Chiang, Vivian Lau, and Yves Morel at TCT Mobile.

20. TCL responded to Mr. Wuyts's October 17, 2012 email on May 16, 2013. Mr. Wuyts subsequently spoke with TCL representatives about licensing in June 2013 and also emailed various TCL representatives, including Stephen Chiang and Vivian Lau, about licensing on multiple occasions in 2013 and 2014. KPN representatives subsequently met with Kay Kasper, counsel for TCL, on January 29, 2014, and March 11, 2014, to further discuss TCL obtaining a license.

21. For example, following the March 11, 2014 meeting, Mr. Wuyts sent Mr. Kasper a claim chart on April 2, 2014, for JP 4987126, which he identified as a counterpart to United States Patent No. 8,549,151—the patent from which the '330 patent continues. Mr. Wuyts further informed Mr. Kasper that KPN believed this patent family to be essential for 3G/LTE release 9 handsets.

22. The parties continued to meet and negotiate through 2016 regarding TCL's need to obtain a license to various KPN's patents.

23. For example, on March 14, 2016, Mr. Wuyts sent Stephen Chiang and Kasper Kay an email to which he attached a letter to TCL's chief executive officer, in which he stated: "Between 2012 and 2015, KPN introduced to and discussed with TCL several of the patents included in KPN's Intellectual Property licensing program, which encompassed a number of technologies." He further stated: "Unfortunately, TCL appeared to be unwilling to license these patents. Therefore, at this junction, KPN had no other choice than to start judicial proceedings against TCL in order to ensure the necessary respect for its intellectual property rights"—noting cases filed against TCL in China and Germany. Mr. Wuyts also stated that "[w]hile TCL is in need to license more of KPN's patent rights, we wish to offer TCL the opportunity to solve all these matters amicably instead of that a further escalation of court procedures would be needed" and "invite[d] TCL to confirm its willingness to license KPN's patent rights, and to set a meeting with KPN for negotiating and concluding a fair license agreement."

24. In his March 14, 2016 letter, Mr. Wuyts also specifically identified the '667 patent and informed TCL that its "UMTS and LTE handsets" infringed the '667 patent and that TCL needed to obtain a license to the '667 patent for such products.

25. In the same letter, Mr. Wuyts also specifically identified the respective European counterpart to the '669 and '330 patents, as well as United States Patent Nos. 8,549,151—the United States patent from which the '330 patent continues—as relevant at least to TCL's LTE and W-CDMA products. Mr. Wuyts also informed TCL of the United States application that resulted in the '669 patent—explaining: "This patent is relevant for WebRTC. WebRTC (Web Real-Time Communication) enables browser-to-browser applications for voice calling, video

chat, and P2P file sharing. WebRTC is incorporated in every terminal comprising Android version 5 and higher. It is KPN's opinion that user equipment supporting WebRTC makes use of the patent." In an attachment to this letter, Mr. Wuyts also identified the number of the patent application that resulted in the '330 patent—telling TCL it was relevant to TCL's LTE and W-CDMA products.

26. Further, on or about May 24, 2016, Mr. Wuyts provided Stephen Chiang and Kasper Kay with a claim chart for EP 2 250 835—identifying the '667 patent as one of its United States counterparts.

27. Further, Mr. Wuyts notified TCL of its infringement of the '669 and '330 patents specifically at least by February 13, 2018, when he sent an email to Steven Zhouxing enclosing an "Updated License proposal to TCL." That proposal identified each of the Asserted Patents (along with their previously identified foreign counterparts) and stated that TCL needed to obtain a license to such patents at least for TCL's LTE and W-CDMA capable products. Mr. Wuyts further stated that KPN was willing to license such patents to TCL for "the payment of … a lump sum fee as compensation for past practice; and a running royalty for period 2018–2020 of US $ 0,05 per technology per handset." Mr. Wuyts further indicated KPN's desire for a meeting in Dusseldorf in March 2018 to discuss TCL's need for a license and KPN's proposal.

28. Despite KPN offering TCL a license to the '669 and '330 patents—and describing TCL's need for such a license—TCL has yet to obtain such a license.

COUNT 1
INFRINGEMENT OF U.S. PATENT NO. 9,014,667

29. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further state:

30. On April 21, 2015, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,014,667 ("'667 patent), which is entitled, "Telecommunications Network and Method for Time-Based Network Access." A true and correct copy of the '667 patent is attached as Exhibit A.

31. KPN is the owner of the '667 patent and holds all rights, title, and interest in the '667 patent, including the sole right to sue and recover for any and all infringement.

32. Claim 35 of the '667 patent teaches an improved terminal device for use in a telecommunications network—one capable of, among other things, (1) receiving an instruction from the network that the terminal is being denied access to one or more network resources and that the terminal should not attempt to re-request access to such resources for a specified period of time (for example, for the next 10 minutes) and (2) acting in accordance with that instruction so that the terminal does not attempt to re-request access to such resources until the specified time period has expired.

33. This new terminal represented a marked improvement over the terminal devices that existed in the technological art at the time—particularly as related to one of the primary purposes of the invention: to provide a better mechanism for influencing or managing client/terminal behavior in order to manage the use of finite network resources.

34. Specifically, at the time of invention, there were two known approaches for managing such behaviour: (1) to "allow access to the network at all times but charge a (very) high rate for data sent outside the off-peak time" and (2) "blocking access to the terminal during peak hours as a rule in a RADIUS server." '667 Patent at 7:29-58. Both had drawbacks. The first approach provided "no incentive for the user to tear down the connection (i.e. the PDP context) to the network. It only provides an incentive to not send data during the expensive peak hour." It

also requires a more complicated billing system that allows charging higher rates at certain times." And because the second approach provided no mechanism for instructing a telecommunications terminal not to make an access request in the first place, "network resources would already be consumed before access [to the external network ultimately] is blocked by the RADIUS server." In other words, because this prior art mechanism contemplated that access would be blocked only *after* both network attachment had occurred and a data connection (PDP context) had been established, it was unable to mitigate or limit the network resources needed (and ultimately wasted) performing such processes. Moreover, it was understood that a terminal might respond to such blocking/denial by immediately making another access request—resulting in the need for the continued expenditure (and ultimately wasting) of network resources.

35. The terminal recited in claim 35 was directed to improving over these inherent limitations in the prior technological art. In particular, the inventors recognized that it would be more efficient not only to regulate the behavior of terminals directly, but to do so in a manner that eliminated the load on the network caused by repeated access requests.

36. The '667 patent thus disclosed a telecommunications terminal that could receive and act in accordance with an instruction from a telecommunications network that the terminal was not to attempt to (re-)request network access for a particular transmission for a set period of time. Further, the inventors disclosed that such a terminal be capable of being denied access on a terminal-by-terminal basis such that access for certain machine-to-machine applications could be denied when the load on the network had peaked such that network resources were being utilized at an above average level:

> **35**. A terminal for use in a telecommunications network, wherein the telecommunications network is configured for providing access to a plurality of terminals, each terminal being associated with a unique identifier for accessing the telecommunications network,
>
> wherein the terminal comprises a message receiver configured for receiving a message from the telecommunications network, the message comprising information relating to a deny access time interval, the deny access time interval being a time period during which telecommunications network access for the terminal is denied,
>
> * * *
>
> and wherein the terminal further comprises one or more processors, and memory storing processor instructions that, when executed by the one or more processors, cause the one or more processors to carry out operations including:
>
> an access request operation for transmitting an access request to the telecommunications network in accordance with the deny access time interval,
>
> wherein machine-to-machine applications are executed in the telecommunications network, and wherein the terminal for the machine-to-machine applications are denied access to the telecommunications network during peak load time intervals, the time period being within peak load time intervals.

37. Accordingly, as claim 35 contemplates, such improved functionality meant that a network could be configured such that it could limit access to some network resources on a terminal-by-terminal basis and could be further configured to limit such access when the load on the network had peaked such that management of the behavior of at least some terminals is needed to preserve remaining network resources:

> wherein the terminal comprises a message receiver configured for receiving a message from the telecommunications network, the message comprising information relating to a deny access time interval, the deny access time interval being a time period during which telecommunications network access for the terminal is denied, wherein the time period is adapted by the telecommunications network depending on a monitored network load,

38. Thus, for example, in cases where a telecommunications network otherwise might become so overloaded that it might fail completely, the improved claim 35 terminal would enable that telecommunications network to instruct one or more specific terminals to back-off and cease attempting to access the telecommunications network for a defined period of time—thereby improving control over and regulation of the network resources by the terminals and restricting/limiting the load on the network for at least the specified time period

39. Further, the telecommunications terminal of claim 35, which is capable of receiving and acting in accordance with an instruction from the network not to attempt to access the network to send or re-send a particular request for a defined period of time, was not routine or conventional. Not only was such a telecommunications terminal not previously contemplated in the art (forcing network operators to resort to billing at increased rates to attempt to influence client behavior and/or accepting that repeated access requests would be made and that network resources ultimately would have to be expended to deny them), but it also was not contemplated that such a terminal could be configured such that it could receive and act in accordance with an instruction not to request access to the telecommunications network during periods of above average network load.

40. Consistent with the recognition of its importance to the telecommunications field, the ’667 patent has been licensed by many of TCL’s mobile technology competitors.

41. The ’667 patent also has been the subject of other litigation, including in *3G Licensing S.A., et al. v. BlackBerry Ltd., et al.*, Civil Actions Nos. 17-cv-82, 17-cv-83, 17-cv-84, and 17-cv-85 (D. Del.), and *Koninklijke KPN N.V. v. Samsung Electronics Co., Ltd.*, Civil Action No. 2:14-cv-1165 (E.D. Tex.). In each of these actions, the terms of the ’667 patent were construed as follows: (1) “deny access time interval” was construed to mean “time slot, bounded by particular (albeit potentially variable) beginning and end times, during which access to the telecommunications network is denied” and (2) “machine-to-machine applications” was construed to mean “applications that allow for data communication between devices and that normally operate without human intervention.” Further, Chief Judge Stark construed “unique identifier” to mean “information enabling unique identification at a particular moment in time of the terminal in the telecommunications network” and construed “peak load time intervals” to mean “time periods during which there is or is expected to be a higher than average quantity of network traffic”—rejecting the argument that the term was indefinite. In addition, the court in *Koninklijke KPN N.V. v. Samsung Electronics Co., Ltd.*, Civil Action No. 2:14-cv-1165 (E.D. Tex.), rejected the argument that claims 31 and 35 of the ’667 patent are “invalid mixed apparatus and method claim[s].” KPN relies on these constructions and conclusions in support of its allegations against TCL.

42. Each TCL Defendant has infringed and continues to infringe the ’667 patent in violation of 35 U.S.C. § 271(a) by selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, products that practice at least claim 35 of the ’667 patent literally or under the doctrine of equivalents (hereafter “’667 Accused Products”). At a minimum, such ’667 Accused Products include all TCL smartphones and other devices and technology capable of transmitting data over an LTE network and making use of or incorporating

back-off timers and machine-to-machine applications as described in Ex. A. This includes products like the TCL OneTouch Go Play, which, on information and belief, is capable of transmitting data over an LTE data network and making use of back-off timers and machine-to-machine applications.

43. For example, as detailed below, on information and belief, the TCL OneTouch Go Play is an LTE compatible device that meets every element of claim 35 of the '667 patent literally or under the doctrine of equivalents.[1] Further, on information and belief, the identified components and functionality of the TCL OneTouch Go Play are representative of components and functionality present in all '667 Accused Products.

44. Claim 35 of the '667 patent claims a terminal for use in a telecommunications network, wherein the telecommunications network is configured for providing access to a plurality of terminals, each terminal being associated with a unique identifier for accessing the telecommunications network. The terminal comprises a message receiver configured for receiving a message from the telecommunications network, the message comprising information relating to a deny access time interval, the deny access time interval being a time period during which telecommunications network access for the terminal is denied, wherein the time period is adapted by the telecommunications network depending on a monitored network load. The terminal further comprises one or more processors, and memory storing processor instructions that, when executed by the one or more processors, cause the one or more processors to carry out operations including: an access request operation for transmitting an access request to the telecommunications network in accordance with the deny access time interval, wherein machine-to-machine applications are executed in the telecommunications network, and wherein the

[1] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which each '667 Accused Product infringes the '667 patent.

terminal for the machine-to-machine applications are denied access to the telecommunications network during peak load time intervals, the time period being within peak load time intervals.

45. As recited in claim 35 of the ’667 patent, the TCL OneTouch Go Play provides access a telecommunication network that is configured to provide access to multiple terminals/devices. Each OneTouch Go Play device is associated with a unique identifier for connecting to a network, including, for example, an International Mobile Subscriber Identity, Globally Unique Temporary Identity, and/or a Temporary Mobile Subscriber Identity. The OneTouch Go Play device comprises a message receiver configured for receiving a message from the telecommunications network. For instance, the TCL OneTouch Go Play contains at least a cellular modem and/or one or more processors (such as the Qualcomm MSM8996 Snapdragon 821) that receive messages from the telecommunication network that receives the message(s) from the telecommunications network. The TCL OneTouch Go Play receives a message comprising information relating to a time slot during which at least some access to the telecommunications network is denied, the time slot during which such access to the telecommunications network is denied comprising a time period during which telecommunications network access for the terminal is denied.

46. For instance, on information and belief, each ’667 Accused Product is capable of receiving an ATTACH REJECT, TRACKING AREA UPDATE REJECT, and/or SERVICE REJECT message from a telecommunications network that includes a back-off timer value like, a T3346 timer value. This back-off timer value indicates a time during which the telecommunications network may deny further requests from the ’667 Accused Products due to the network being in a “congestion” condition, i.e., a time period during which there is or is expected to be a higher than average quantity of network traffic. For instance, on information

and belief, each '667 Accused Product is similarly capable of receiving a PDN CONNECTIVITY REJECT, BEARER RESOURCE ALLOCATION REJECT, and/or BEARER RESOURCE MODIFICATION REJECT message from a telecommunications network that includes a back-off timer value like a T3396 timer value). This back-off timer value indicates a time during which the telecommunications network may deny further requests from the '667 Accused Products due to the network having "insufficient resources," i.e., a time period during which there is or is expected to be a higher than average quantity of network traffic.

47. This time period is adapted by the telecommunications network depending on the network load, which is monitored, including, for example, as a part of MME congestion control in the telecommunications network. The OneTouch Go Play device includes a processor (such as the Qualcomm MSM8996 Snapdragon 821) that executes instructions stored in the memory to interact with the telecommunication network. The processor in the OneTouch Go Play device executes instructions to transmit a request to the telecommunications network to access its resources in accordance with the back-off timer's time interval such that, for example, the TCL OneTouch Go Play will not attempt to resend its request until the expiration of the received back-off timer.

48. The TCL OneTouch Go Play device also is capable of executing one or more machine-to-machine applications. For example, the TCL OneTouch Go Play may request access to the telecommunications network for mail or application updates. Such machine-to-machine applications can be executed in the telecommunications network. The TCL OneTouch Go Play device is denied access by the telecommunications network during peak load time intervals and/or as the telecommunications network has insufficient resources. During such peak load time intervals, the TCL OneTouch Go Play will receive a "Reject" message response with a back-off

timer value. The TCL OneTouch Go Play is denied the resource request during the time period within the back-off timer value.

49. On information and belief, TCL Communication, Inc., therefore has directly infringed, and continues to directly infringe, each element of claim 35 of the '667 patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '667 Accused Products like the TCL OneTouch Go Play. In fact, by way of example, TCL Communication, Inc., has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

50. On information and belief, TCL Communication Technology Holdings Limited therefore also has directly infringed, and continues to directly infringe, each element of claim 35 of the '667 patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '667 Accused Products like the TCL OneTouch Go Play. In fact, by way of example, TCL Communication Technology Holdings Limited has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

51. On information and belief, TCT Mobile, Inc., therefore also has directly infringed, and continues to directly infringe, each element of claim 35 of the '667 patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '667 Accused Products like the TCL OneTouch Go Play. In fact, by way of example, TCT Mobile, Inc., has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

52. On information and belief, TCT Mobile (US) Inc. therefore also has directly infringed, and continues to directly infringe, each element of claim 35 of the ’667 patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, ’667 Accused Products like the TCL OneTouch Go Play. In fact, by way of example, TCT Mobile (US) Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States “the TCL OneTouch Go Play and related or similar communication devices.”

53. In addition, TCL has indirectly infringed and continues to indirectly infringe the ’667 patent in violation 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including OEMs, partners, service providers, manufacturers, importers, resellers, customers, and/or end users, in this District and elsewhere in the United States, through the dissemination of the ’667 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts will result in the direct infringement of the ’667 patent.

54. For example, on information and belief, each TCL Defendant has taken, or participated in taking, active steps to encourage end users of the TCL OneTouch Go Play to use the product in the United States in a manner it knows will directly infringe each element of at least claim 35 of the ’667 patent as described above, including by encouraging users to utilize the TCL OneTouch Go Play to transmit data over LTE data networks despite knowing of the ’667 patent and the fact that the TCL OneTouch Go Play infringes the ’667 patent.

55. Such active steps include, for example, advertising and marketing the TCL OneTouch Go Play as a smartphone capable of transmitting data on an LTE data network,

publishing TCL OneTouch Go Play manuals and promotional literature describing and instructing the configuration and operation by its customers of the TCL OneTouch Go Play in an infringing manner, and offering support and technical assistance to its customers that encourage use of the TCL OneTouch Go Play in ways that directly infringe at least claim 35 of the '667 patent. For example, the product manual for the TCL OneTouch Go Play instructs TCL OneTouch Go Play users how to utilize the TCL OneTouch Go Play to transmit data on such data networks, despite TCL's knowledge of the '667 patent and the fact that the TCL OneTouch Go Play infringes the '667 patent. *See, e.g.*, https://support.alcatelonetouch.us/hc/en-us/article_attachments/115004485327/Manual.GoPlay.pdf (instructing users at pages 52-60 on the use of syncing email, calendars, and social media accounts, for example). On information and belief, each TCL Defendant has participated in assisting TCL Communication Technology Holdings Limited and/or TCT Mobile prepare and/or distribute such manuals and promotional literature.

56. Further, each TCL Defendant undertook and continues to undertake the above identified active steps after receiving notice of the '667 patent and how such sales, importation, and use infringe the '667 patent.

57. In addition, TCL has indirectly infringed and continues to indirectly infringe the '667 patent in violation 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, the '667 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '667 patent and despite the fact that the infringing technology or aspects of each '667 Accused Products are not a staple article of commerce suitable for substantial non-infringing use.

58. For example, on information and belief, prior to undertaking the above identified acts, each TCL Defendant knew the functionality included in the '667 Accused Products that

enabled each to receive back-off timers and machine-to-machine communications infringes the ’667 patent. Further, on information and belief, each TCL Defendant knew that the ’667 Accused Products, including the TCL OneTouch Go Play, were designed to ensure that they would be capable of operating in an infringing manner.

59. Further, on information and belief, the infringing aspects of the ’667 Accused Products can be used only in a manner that infringes the ’667 patent and have no substantial non-infringing uses. Again using the TCL OneTouch Go Play as an example, the product includes the components and functionality described above specifically so that it can be capable of utilizing back-off timers and machine-to-machine applications in a manner that infringes the ’667 patent. The infringing aspects of the TCL OneTouch Go Play otherwise have no meaningful use—let alone any meaningful non-infringing use.

60. In addition, TCL’s infringement of the ’667 patent was willful. On information and belief, each TCL Defendant received notice of the ’667 patent and at least one representative claim chart claim for the European counterpart for the ’667 patent showing how TCL’s LTE and UMTS devices infringed. On information and belief, each TCL Defendant also was told that the ’667 patent had been declared to be essential to telecommunications standards related to the use of back-off timers in LTE and UMTS communications. Nevertheless, without authorization, each TCL Defendant infringed and continues to infringe the ’667 patent in the manners described above, including by, on information and belief, selling and offering to sell in the United States, and importing into the United States, ’667 Accused Products like the TCL OneTouch Go Play, in order to market such products as capable of utilizing LTE data networks to promote their sale.

61. TCL's acts of infringement have caused damage to KPN, and KPN is entitled to recover from TCL the damages it has sustained as a result of TCL's wrongful acts in an amount subject to proof at trial.

COUNT 2
INFRINGEMENT OF U.S. PATENT NO. 9,667,669

62. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further state:

63. On May 30, 2017, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,667,669 which is entitled "Managing associated sessions in a network." A true and correct copy of the '669 patent is attached as Exhibit B.

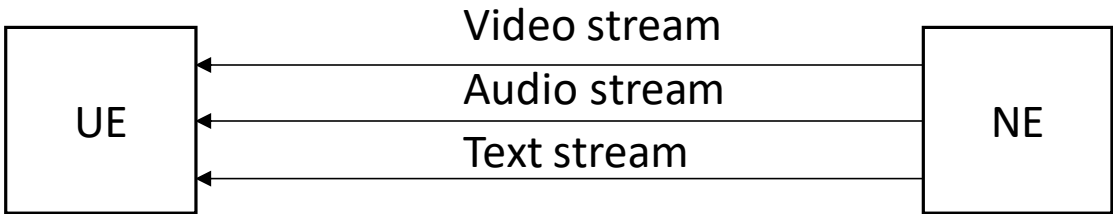
64. KPN is an owner of the '669 patent and holds all substantial rights, title, and interest to the '669 patent, including the sole right to sue and recover for any and all infringements.

65. On November 4, 2016, KPN declared the application that eventually issued as the '669 patent to be essential to the following standards: 3GPP TS 23.228 v12.4.0 Annex U.1.0, U.1.2, U.2.2, Fig. U.1.2-1, 3GPP TS 24.371 v12.9.0, Sections 1, 2, 4.1 5D.1, 5D.2 and 7.1.

66. The '669 patent—particularly claim 1—teaches an improvement to then-existing existing technological processes related to the use and management of multiple media streams (also known as media sessions).

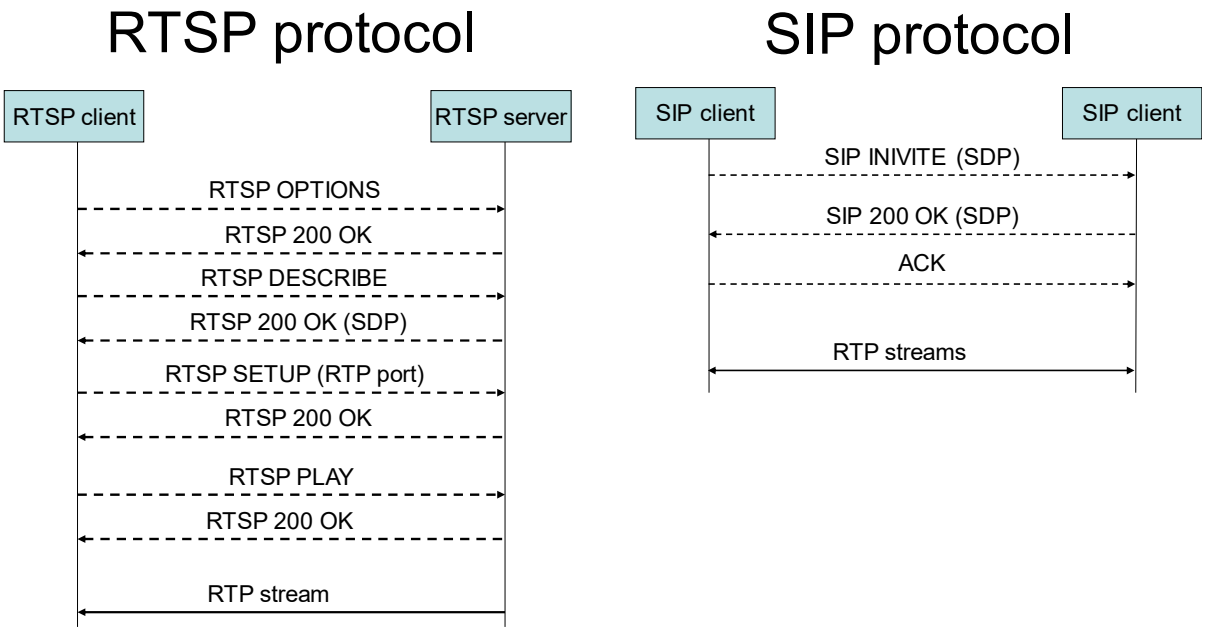
67. In particular, it was known in the art at the time of invention that a multimedia session can comprise several "elementary streams" (also known as "media streams" or "media sessions"). For example, the user device ("UE") of a user watching a television show might be receiving video, audio, and subtitle media from a network element ("NE"). In such a case, the video media may be transmitted via one elementary media stream, the audio media may be

transmitted via another elementary media stream, and the subtitle media may be transmitted via yet another elementary media stream. This is depicted below:



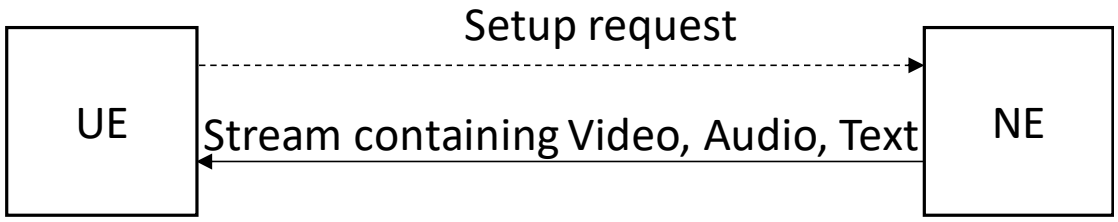
Additional elementary media streams also may be transmitted. For example, there may be a separate stream for each video camera angle, audio language, or subtitle option. There also may be a separate stream for each technical format for the video and/or audio media, including different codecs, different quality levels, different resolutions, and different distribution protocols.

68. Notably, it was understood in the art at the time of invention that, to set up the transmission of multimedia streams, session control protocols, including SIP (Session Initiation Protocol) or RTSP (Real-Time Streaming Protocol), are used. These protocols allow a user device to initiate media sessions with a network element and typically require the exchange of multiple signaling messages, including a handshake, codec negotiations, etc., before the media streams are delivered. Examples of such signaling are depicted below:



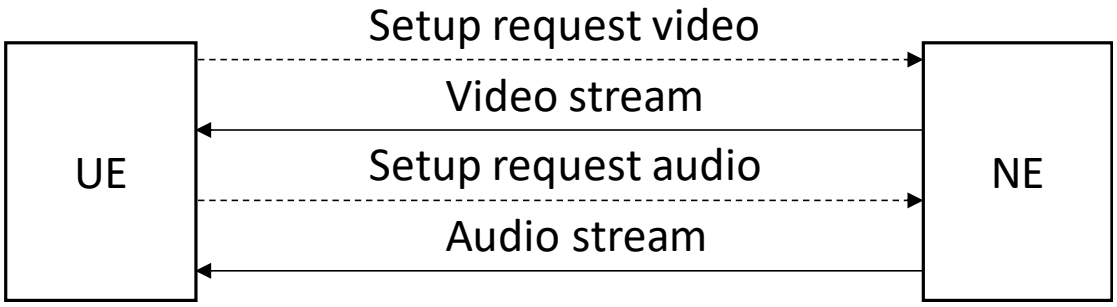
69. Equally important, however, was that there was no mechanism in such prior art processes to associate multiple elementary media streams such that a network or network element could recognize that such streams comprised a single composite multimedia experience.

70. As such, under the prior art technological processes, one way to request the transmission of multiple media streams that collectively comprised a single composite multimedia experience was to request all streams at once. A single session would be initiated, and the various media streams that comprised the desired multimedia experience would be bundled into a single media stream. The bundled media then would be transmitted to the user device, which then would have to choose which of these bundled media streams to utilize.



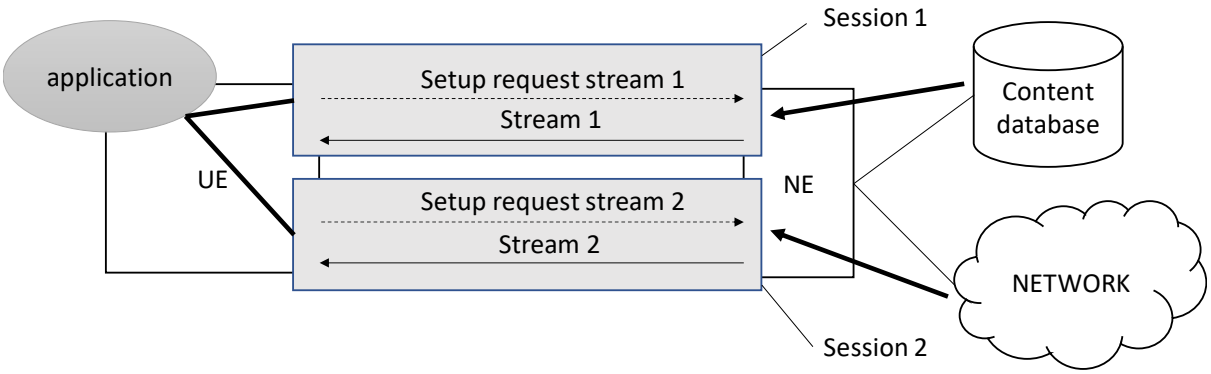
71. This prior art solution was inefficient. Because all potential media streams were requested, bundled, and transmitted, elementary media streams were delivered that might never or were never used (e.g. alternate camera angles or alternate audio languages or subtitles)—wasting data transmission resources.

72. Alternatively, another prior art technique was to individually request each desired elementary stream:



73. This technique likewise had drawbacks, though. In particular, because the network element is unaware of the association between the various elementary media streams, it may not treat each stream uniformly or in a manner conducive to the integrity of the overall composite multimedia experience.

74. Moreover, the situation could be even more complex. As depicted in the below figure, the network element may not be the source of the media streams. It may operate simply as a conduit for elementary media streams from external sources like a content database present on or connected to the network equipment or an external network and thus, again, would not know the relationship between the two media streams and thus could not, for example, pause both streams simultaneously:



75. Another problem with this prior art technique was quality of service control. As explained above, the elementary media streams generally are valuable to the user only when associated with each other such that, for example, the video media stream is associated with the audio media so that both are received in concert. Nevertheless, because such elementary video streams were setup individually under the prior art technological process, it was possible for a device or element to set up and allocate bandwidth for a video stream only to learn that there was insufficient bandwidth for the corresponding audio elementary media stream.

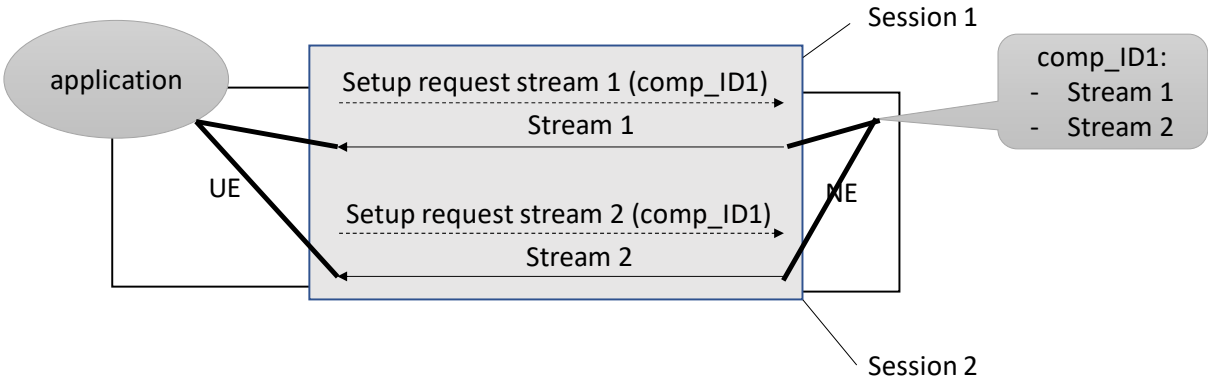
76. The method of claim 1 was directed to improving over these limitations. In particular, the inventors recognized that the problems in the prior technological art processes for multimedia data transmission could be alleviated if such processes were improved to incorporate a mechanism that enabled both the user device and the network element to associate two or more elementary media streams as comprising a single multimedia experience, i.e., a composite media session. The inventors also recognized, however, that the technique for enabling such recognition needed to be efficient in terms of delays (time to set up) and processing and bandwidth used, and that, in general, such efficiency is increased when less signaling messages are utilized.

77. As such, one of the innovations of the claim 1 invention is its use of a new "composite session identifier" that is exchanged between a user device ("UE") and the network. In particular, as incorporated in the exchange sequence disclosed in claim 1 of the '669 patent,

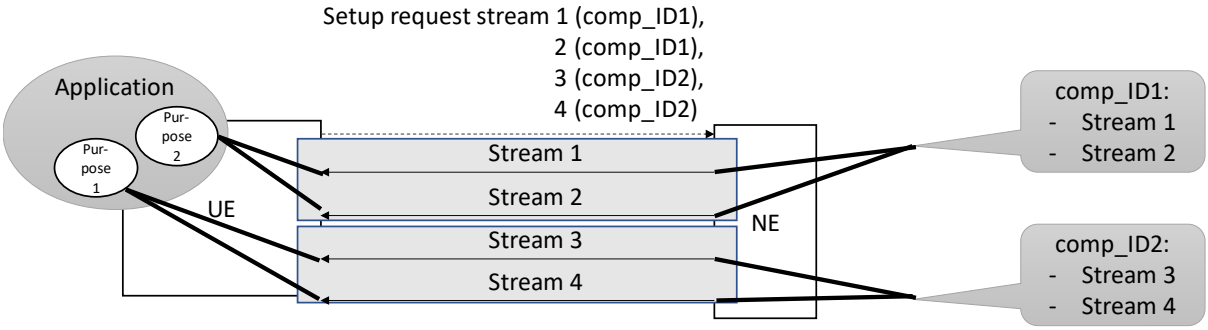
the identifier enables the UE and the NE to associate and recognize multiple elementary media streams as comprising a single composite session, which in turn allows for the streams to be acted upon by the NE collectively—thereby improving the multimedia transmission process as a whole:

> 1. A method for managing associated sessions in a network, the network having a network element configured for managing associated sessions between the network and at least one user equipment, the method comprising:
>
> providing a composition session identifier for associating sessions in the network;
>
> after providing the composition session identifier, exchanging the composition session identifier between a user equipment and the network element a first time;
>
> associating two or more sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment;

78. For example, the incorporation of the disclosed composite session identifier in the specified sequence enables the network element to make decisions that take into account the needs of the overall composite multimedia experience—not just the individual elementary media streams. The use of such a composite session identifier to associate two or more individual elementary media streams is demonstrated below. In the below example, stream 1 and stream 2 each comprise a single elementary stream, each of which is associated as belonging to the same composite session via application of the composite session identifier "comp_ID1":



79. Likewise, the invention contemplates that one overall session may be comprised of a number of elementary media streams that are associated with multiple composite sessions, including composite sessions associated with different application sessions. By utilizing multiple composite session identifiers (e.g., "comp_ID1" and "comp_ID2"), the streams that belong together can be distinguished by the network element from those that do not:



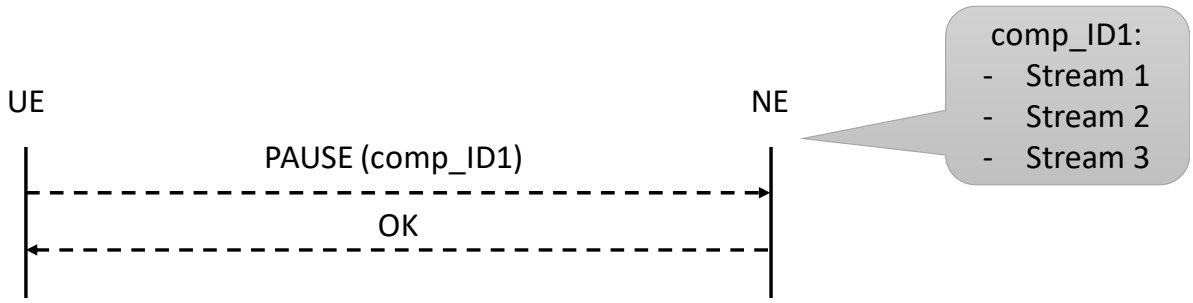
80. The improvement disclosed by the claim 1 invention is not limited to its use of a new composite session identifier, however. The second inventive aspect of the claim 1 invention is its further use of a new composition session, which the claim identifies as a signaling session for facilitating the management of two or more sessions:

initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, the composition session being different from the two or more sessions; and

modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions.

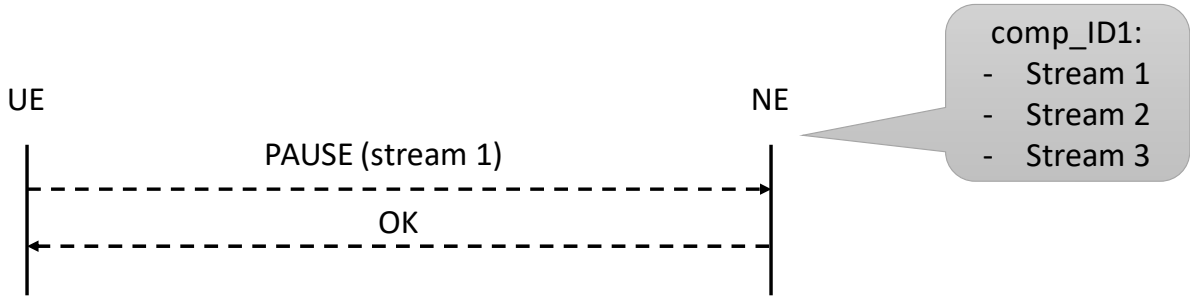
81. The incorporation of such a composition session further improved over existing technological processes by enabling the user device or the network element to efficiently inform its counterpart of the composite session and to manage such session thereafter.

82. For example, incorporation of this separate "composition session" signaling session further improved over the existing technological processes because it enabled multiple elementary media streams to be managed, utilizing less signaling for certain operations (see examples below) and thus was more efficient (because less signaling in turn requires less processing and less bandwidth) and minimizes delay. This is demonstrated in the context of the pausing of streams. The composition session enables the pausing of all associated elementary media streams through the pausing of the composition session associated with such streams:



A) With a composition session

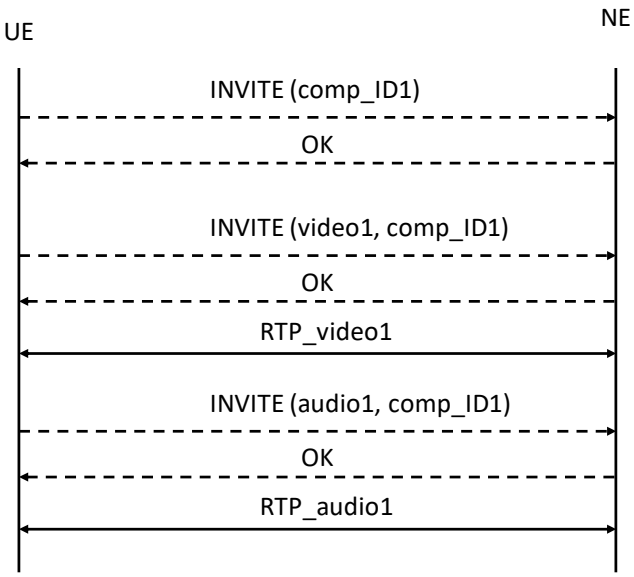
83. Absent such a composite session, separate signaling would have to be sent for each individual media stream, which is less efficient than sending a single message that applies to the complete composition:



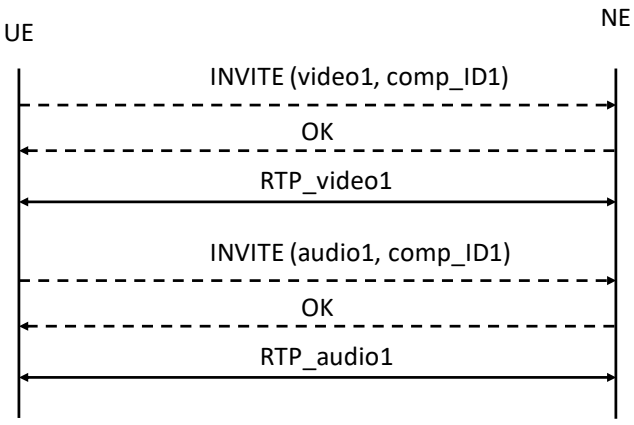
B) Without a composition session

84. Incorporation of such a composition session also improved over existing technological processes by eliminating processing that otherwise would be required on the receiver end as the receiver does not have to screen (as it otherwise would) all session management signals to see if they include a composition session identifier. Moreover, incorporation of a composition session in the manner recited by claim 1 further allows a network element to distinguish between operations on the entire composite session (i.e. atomic-operations) and operations on individual elementary media sessions within a composite session.

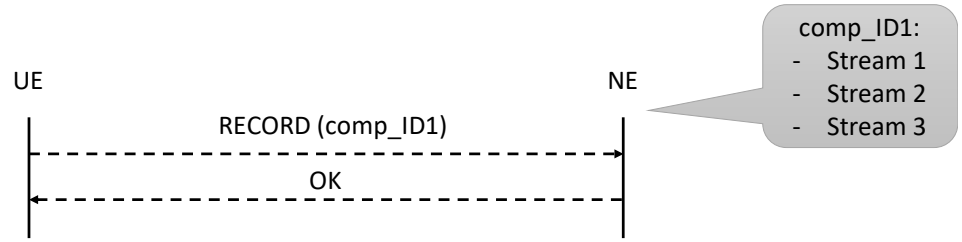
85. Accordingly, one example of the contemplated operation of the claim 1 invention is as follows: First, a composition session can be set up, after which two distinct elementary media streams can be associated to that session utilizing the composition session identifier "comp_ID1":



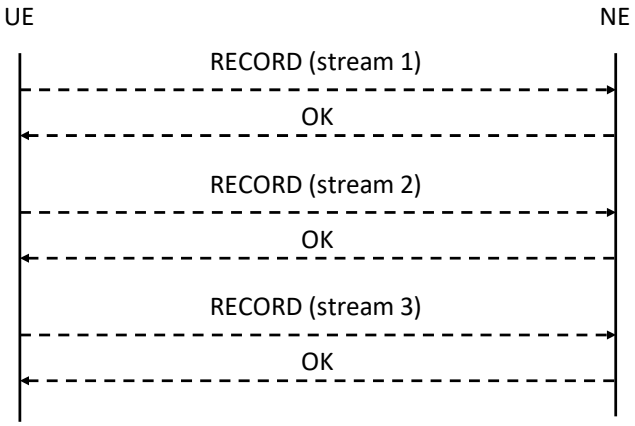
Alternatively, the setup of the composition session can be combined with the association of the first elementary media stream, after which additional elementary media streams can be associated to the session:



86. Once the composition session is created, operations can be performed on all associated elementary media streams collectively. Thus, in the below example, the user device instructs the network element to record the composition session:



87. Again, absent such a composition session, such an instruction would need to be sent for each separate media stream:



88. Not only is this less efficient, but the need for separate signaling may result in the loss of synchronization between the various media streams. For example, the network element may record all streams, but does not keep them synchronized because it is unaware that each of these individual streams comprise a portion of a single composite multimedia session (e.g., that the audio stream accompanies video media that is further accompanied by subtitles). The recording thus may start at different times or content timestamps may not be kept aligned (e.g., a new random content timestamp may be inserted during recording). Not only is such a technique less efficient than the improved method recited in claim 1 of the ’669 patent, but the end result is less desirable.

89. Further, the method of claim 1, including its incorporation and use of composite session identifiers and composite sessions in the recited manner, was not routine or conventional.

At the time of invention SIP and RTSP sessions like those described above were self-contained. They could be used to manage one or more elementary media streams but did not account for or consider elementary media streams outside of their particular session context. Composite session identifiers were not even contemplated in the art—much less contemplated to be utilized to manage multiple separate media streams. Further, use of a composition session as a separate signaling session also was not routine or conventional. To the contrary, use of a single signaling session to manage different separate media sessions (i.e., across session management versus within session management) had not previously been contemplated in the field of media streaming technology.

90. Each TCL Defendant has infringed and continues to infringe the ’669 patent in violation of 35 U.S.C. § 271(b) and (c) by selling and/or offering for sale in the United States, and/or importing into the United States, without authorization, products that, when used, practice or cause to be practiced at least claim 1 of the ’669 patent literally or under the doctrine of equivalents (“’669 Accused Products”). At a minimum, such ’669 Accused Products include all TCL smartphones and other devices and technology configured to exchange multimedia content, such as by providing a composition session identifier for associating sessions in a network; exchanging the composition session identifier between a user equipment and the network element; and associating two or more sessions with the composition session identifier by exchanging the composition session identifier as described in Ex. B, including through their incorporation of pre-loaded Google Chrome applications. This includes products like the TCL OneTouch Go Play, which, on information and belief, is configured to exchange multimedia content and provide a composition session identifier and to associate the device with a session in a network, such as for multimedia streams in the LTE data network.

91. For example, as detailed below, on information and belief, each TCL OneTouch Go Play is an LTE compatible device that, when used, infringes or causes the infringement of every element of claim 1 of the '669 patent literally or under the doctrine of equivalents.[2] Further, on information and belief, the identified components and functionality of each TCL OneTouch Go Play are representative of components and functionality present in all '669 Accused Products.

92. Claim 1 of the '669 patent claims a method for managing associated sessions in a network, the network having a network element configured for managing associated sessions between the network and at least one user equipment, the method comprising: providing a composition session identifier for associating sessions in the network; after providing the composition session identifier, exchanging the composition session identifier between a user equipment and the network element a first time; associating two or more sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment; initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, the composition session being different from the two or more sessions; and modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions.

[2] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which each '669 Accused Product infringes the '669 patent. Plaintiffs reserve the right to chart additional bases for infringement in their initial and final infringement charts.

93. As recited in claim 1 of the '669 patent, each TCL OneTouch Go Play, when used, performs or causes to be performed a method for managing associated sessions in a network, the network having a network element configured for managing associated sessions between the network and at least one user equipment. Each TCL OneTouch Go Play device can utilize WebRTC to set up a connection to a network element, such as a gateway, router, server, or the like to initiate a composition session, and exchange the composition session identifier between each TCL OneTouch Go Play and the network element a first time. Each TCL OneTouch Go Play operates an application that can, but is not required to, use one or more application programming interfaces ("API") to initiate an RTCPeerConnection, which may include one or more media streams. Each TCL OneTouch Go Play also provides a composition session identifier for associating sessions in the network. For instance, the application on each TCL OneTouch Go Play receives the appropriate Session Description Protocol ("SDP") parameters, such as via an API, application, or otherwise. Each TCL OneTouch Go Play sends this SDP as an offer to at least the gateway, router, or server, using any available signaling protocol, thereby exchanging the composition session identifier between a user equipment and the network element a first time. A server process on the network element (such as the gateway, router, or server) also starts the session, including all MediaStreams and the server process receives the SDP parameters, and sends this as an answer to the first application operating on the TCL OneTouch Go Play. Accordingly, each TCL OneTouch Go Play associates two or more media sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment. Subsequently, each TCL OneTouch Go Play exchanges media with the

network element, such as a gateway, router, or server, using RTP, thereby initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, the composition session being different from the two or more sessions. The session can be terminated, thereby modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions.

94. Further, to the extent any steps are not performed directly by the user of the TCL OneTouch Go Play, such steps must be performed by the network provider as a known and expected technological prerequisite to (1) the activity in which such method is utilized, including, for example creation of a WebRTC session, and (2) the user of the TCL OneTouch Go Play or the network provider realizing the benefit of such activity, i.e., the successful performance of multimedia streaming in compliance with WebRTC protocols. Further, from the perspective of either the user or the network provider, performance of the specified activity and realization of the intended benefit can occur only if each performs their respective steps in the manner established by TCL via the configuration, protocols, and instructions included with the '669 Accused Products, such as the WebRTC and other signaling protocols. For example, on information and belief, a user's ability to stream multimedia content from and/or to one or more network servers is conditioned on the network elements being configured for managing associated sessions. Specifically, the user is required to connect the TCL OneTouch Go Play to a telecommunications network, and a composition session identifier for associating sessions in the network is provided. The benefit of being able to exchange multimedia content is further

conditioned on exchanging the composition session identifier between the TCL OneTouch Go Play and the network element a first time, associating two or more sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment; and the initiation of a connection to a network element, thereby initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, and the composition session being different from the two or more sessions; and modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions. Further, the exchange of a composition session identifier as described above must be performed in the manner of the predetermined WebRTC standards in order for any user of the TCL OneTouch Go Play to receive the benefit of streaming multimedia content from one or more network servers.

95. On information and belief, TCL Communication, Inc. therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the ’669 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, ’669 Accused Products like the TCL OneTouch Go Play. By way of example, TCL Communication, Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States “the TCL OneTouch Go Play and related or similar communication devices.”

96. On information and belief, TCL Communication Technology Holdings Limited therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '669 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '669 Accused Products like the TCL OneTouch Go Play. By way of example, TCL Communication Technology Holdings Limited has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

97. On information and belief, TCT Mobile, Inc. therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '669 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '669 Accused Products like the TCL OneTouch Go Play. By way of example, TCT Mobile, Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

98. On information and belief, TCT Mobile (US) Inc. therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '669 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '669 Accused Products like the TCL OneTouch Go Play. By way of example, TCT Mobile (US) Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

99. In addition, TCL has indirectly infringed and continues to indirectly infringe the '669 patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including at least service providers, customers, and/or end users, in this District and elsewhere in the United States, through the dissemination of the '669 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts will result in the direct infringement of the '669 patent.

100. For example, on information and belief, each TCL Defendant has taken, or participated in taking, active steps to encourage end users of the TCL OneTouch Go Play to use the product in the United States in a manner it knows will directly infringe each element of at least claim 1 of the '669 patent as described above, including by encouraging users to utilize the TCL OneTouch Go Play to operate the device to retrieve and/or stream multimedia content from and/or to one or more network servers despite knowing of the '669 patent and the fact that such retrievals will cause an end user to use the TCL OneTouch Go Play in a manner that infringes the '669 patent.

101. Such active steps include, for example, advertising and marketing the TCL OneTouch Go Play as a smartphone capable of transmitting data on an LTE data network, publishing TCL OneTouch Go Play manuals and promotional literature describing and instructing the configuration and operation by its customers of the TCL OneTouch Go Play in an infringing manner, and offering support and technical assistance to its customers that encourage use of the TCL OneTouch Go Play in ways that directly infringe at least claim 1 of the '669 patent. For example, the product manual for the TCL OneTouch Go Play instructs TCL

OneTouch Go Play users how to utilize the TCL OneTouch Go Play to stream multimedia data on such data networks, despite TCL's knowledge of the '669 patent and the fact that such streaming causes TCL OneTouch Go Play users to directly infringe the '669 patent. *See, e.g.*, https://support.alcatelonetouch.us/hc/en-us/article_attachments/115004485327/Manual.GoPlay.pdf (instructing users at page 89 on the use of streaming videos and instructing users at page 58 on the use of Google Hangouts – which on information and belief incorporates WebRTC and allows for video chatting through communication with network elements – for example). On information and belief, each TCL Defendant has assisted TCL Communication Technology Holdings Limited and TCT Mobile in the preparation and/or distribution of such manuals and promotional literature.

102. Further, each TCL Defendant undertook and continues to undertake the above identified active steps after receiving notice of the '669 patent and of how such sales, importation, and use infringe the '669 patent.

103. In addition, TCL has indirectly infringed and continues to indirectly infringe the '669 patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, without authorization, the '669 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '669 patent and despite the fact that the infringing technology or aspects of each '669 Accused Products are not a staple article of commerce suitable for substantial non-infringing use.

104. For example, on information and belief, prior to undertaking the above identified acts, each TCL Defendant knew the functionality included in the '669 Accused Products that enabled each to exchange multimedia content infringes the '669 patent. Further, on information and belief, each TCL Defendant knew that the '669 Accused Products, including the TCL

OneTouch Go Play, were designed to ensure that they were capable of retrieving and/or streaming multimedia content in an infringing manner.

105. Further, on information and belief, the infringing aspects of the ’669 Accused Products can be used only in a manner that infringes the ’669 patent and have no substantial non-infringing uses. Again using the TCL OneTouch Go Play as an example, the product performs the method described above specifically so that it can exchange multimedia content in accordance with the invention claimed in the ’669 patent. The infringing aspects of the TCL OneTouch Go Play otherwise have no meaningful use, let alone any meaningful non-infringing use.

106. In addition, TCL’s infringement of the ’669 patent was willful. On information and belief, each TCL Defendant received notice of the ’669 patent. Nevertheless, without authorization, each TCL Defendant infringed and continues to infringe the ’669 patent in the manners described above, including by, on information and belief, selling and offering to sell in the United States, and importing into the United States, without authorization, ’669 Accused Products like the TCL OneTouch Go Play, in order to market such products as capable of exchanging multimedia content in order to promote the sale of those products.

107. TCL’s acts of infringement have caused damage to KPN, and KPN is entitled to recover from TCL the damages KPN has sustained as a result of TCL’s wrongful acts in an amount subject to proof at trial.

COUNT 3
INFRINGEMENT OF U.S. PATENT NO. 9,654,330

108. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further state:

109. On May 16, 2017, the U.S. Patent and Trademark Office duly and legally issued U.S. Patent No. 9,654,330 ("'330 patent"), which is entitled "Method and System for Transmitting a Multimedia Stream." A true and correct copy of the '330 patent is attached as Exhibit C.

110. KPN is the owner of the '330 patent and holds all rights, title, and interest to the '330 patent, including the sole right to sue and recover for any and all infringements.

111. The '330 patent—particularly claim 1—teaches an improvement to then-existing technological processes related to the mechanism for distributing multimedia content to groups of users. In particular, at the time of the invention, several technological processes existed for the distribution of multimedia content. Such processes included "Broadcast" (e.g., DVB), in which pre-determined content is indiscriminately sent via broadcast channels; "Multicast" (e.g., IP multicast), which is similar to broadcast except that the pre-determined content is sent only to particular users; "Content-on-Demand" (e.g., RTSP), in which a user requests that particular content be sent to it; "Video call" (e.g., SIP), in which a user could set up a multimedia session with a second user who was notified of the incoming session; and "Videoconferencing (e.g., SIP), in which multiple users dial-in to a gateway to exchange multimedia content.

112. The inventors realized that each of the aforementioned content delivery mechanisms had important limitations. While the first three of the above-described technological processes enabled mass distribution of multimedia content to users, none permitted an individual user to distribute individually and/or locally generated multimedia content (e.g., live user-

generated content). And while the fourth and fifth technologies enabled distribution of such content, each required that all recipients be previously known or identified, to previously know when the distribution will begin, and without the need to previously know the media to be exchanged (e.g., audio, video, codecs)—precluding mass distribution of such content. Hence, at the time of invention, no technological process existed that allowed for the mass distribution of individually and/or locally generated multimedia content from a user device.

113. To overcome this inherent limitation in the prior technological art, claim 1 of the '330 patent recites a method that provides a user device the ability to mass distribute individually and/or locally generated multimedia content without the need for all recipients to be previously known or identified, without the need to previously know when the distribution will begin, and without the need to previously know the media to be exchanged (e.g., audio, video, codecs).

114. As depicted below, this improvement is accomplished in part through the use of new terminal devices, a new combination of such terminal devices and protocols, and a new gateway device that is able both to receive a setup message from a content generating user device (i.e., the "first terminal) and, following its receipt of that message, to transmit a message to one or additional user devices (i.e., "second terminals") to inform such second terminals that new multimedia content is available (i.e., the "trigger"):

115. Specifically, as set forth below, the claim 1 invention overcame the limitations in the prior technological art through its use of this new gateway in the manner set forth in the series of steps it recites—steps that, when performed by the specified components in the specified order, enable a user device to transmit individually or locally generated multimedia

content for mass reception by other devices to receive. In particular, in step 1 of the claimed method, the first content-generating terminal communicates with this new gateway to exchange multimedia session information using a first protocol:

> The invention claimed is:
> 1. A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:
> the gateway or the first terminal using a first protocol to exchange first multimedia session information between the first terminal and the gateway, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media;

116. Further, the claim 1 invention teaches that, in steps 2 and 3 of the claimed method, the gateway communicates to the one or more second content-receiving terminal(s) that a new multimedia stream is available, such message being received using a second protocol and treated by the one or more second content-receiving terminal(s) as a trigger that initiates a subsequent exchange of second multimedia session information between such second terminal(s) and the gateway using a third protocol, such exchange setting up a second media stream between the gateway and one or more second content-receiving terminal(s):

> the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second multimedia session information between the gateway and the second terminal, and wherein the trigger serves to inform the second terminal of availability of a new multimedia stream;
> in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second multimedia session information between the gateway and the second terminal, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates; and

117. The claimed invention further teaches that the one or more second content-receiving terminal(s) thereafter receives the second media stream, such stream being associated with the first media stream being transmitted by the first content-generating terminal to the gateway:

> the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

118. Such steps also are demonstrated below in the context of an exemplary implementation in which the first content-generating terminal utilizes a SIP protocol and the one or more second content-receiving terminals utilize an RTSP protocol.

119. Notably, such protocols were known in the art at the time of invention. However, they could not be used to facilitate the transmission of individually and/or locally generated multimedia content for mass distribution due to their respective inherent limitations. In particular, while the SIP protocol enables a user device to conduct multimedia calls, it cannot be used to mass distribute individually and/or locally generated multimedia content. Similarly, while the RTSP protocol enables mass distribution of multimedia content, it does not allow a user device to set up a multimedia session to mass distribute such multimedia content because it requires the broadcasting element to know the identity and/or location of each receiving terminal, and is designed to control the receiving of multimedia content rather than its (mass) distribution.

120. As demonstrated in Figures 5(a) and 5(c) of the ’330 patent, however, using the method recited by claim 1 of the ’330 patent, including use of the new terminal devices and a new combination of such terminal devices and protocols, as well as a new gateway and “trigger” message, a first content-generating terminal utilizing a SIP protocol could transmit individually

and/or locally generated multimedia content for mass distribution and such content could be received by a second content-receiving terminals utilizing an RTSP protocol:

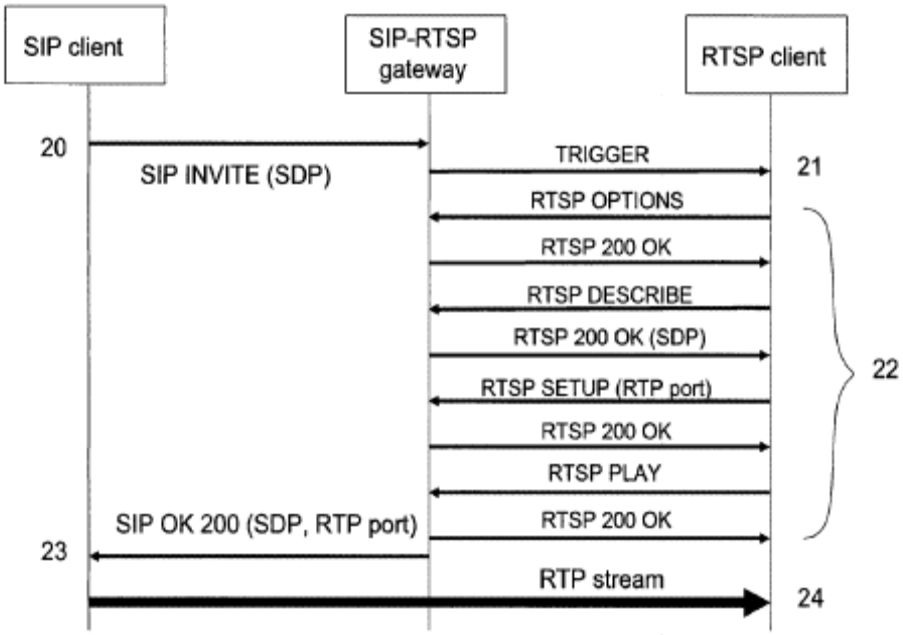


Figure 5 (a)

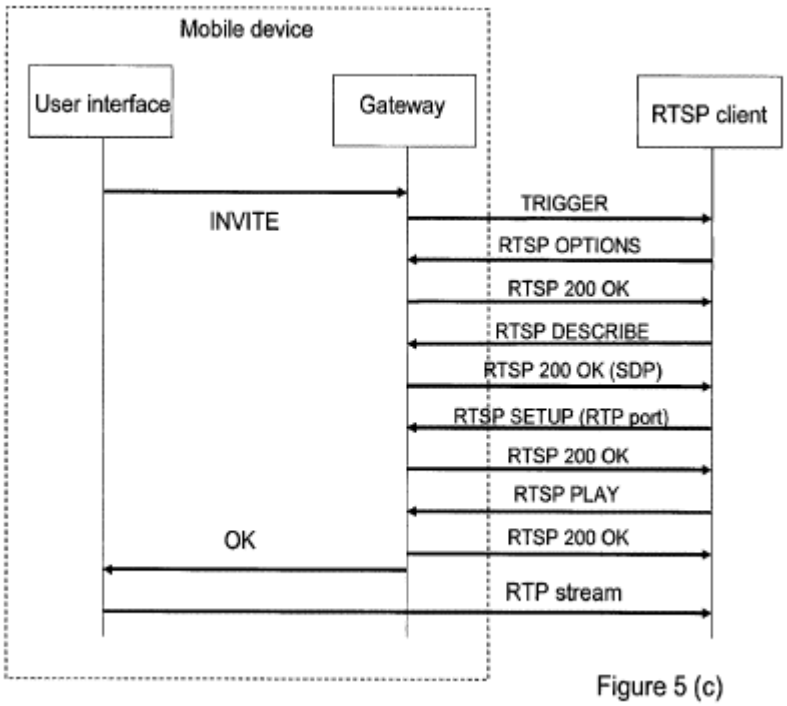


Figure 5 (c)

121. Further, as demonstrated in Figure 7 of the ’330 patent, in accordance with claim 1, such content first would be transmitted to the gateway by the content-generating first terminal, and then would be transmitted to the second content-receiving terminal:

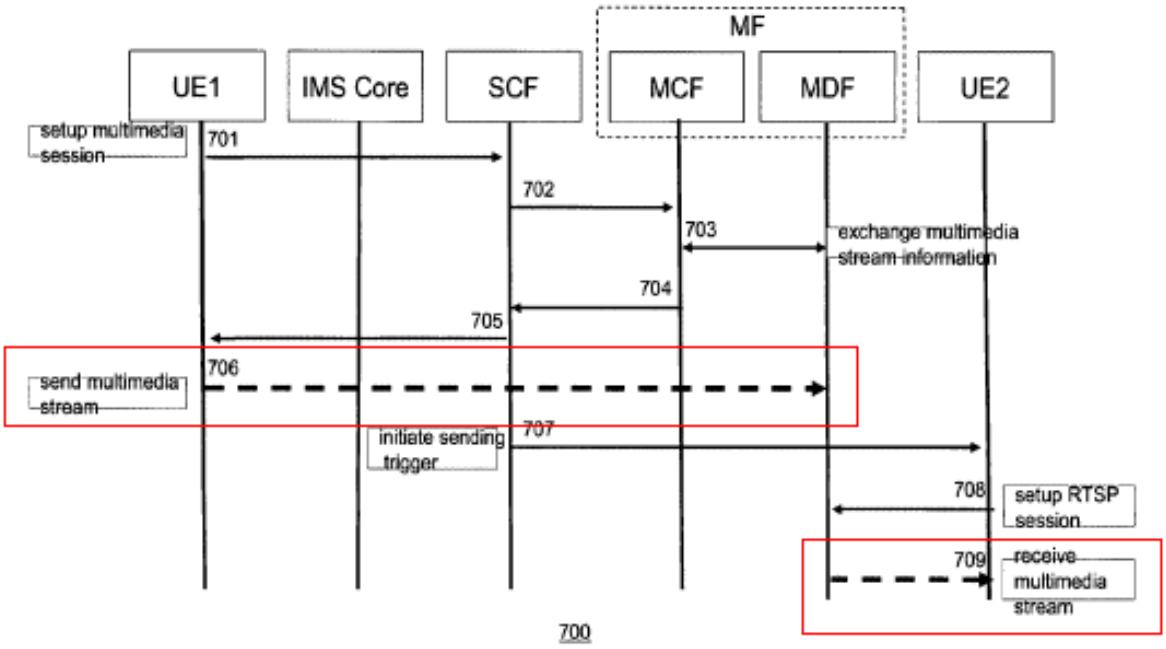


Figure 7

122. Further, the method of claim 1, including its incorporation and use of the new terminal devices, a new combination of such terminal devices and protocols, and a new gateway device, its recited gateway, and its use of a trigger message for informing a second terminal of the availability of new user generated content, was not routine or conventional. At the time of invention it was not even contemplated that a gateway would be able to communicate with terminals using both a first and second protocol—much less that such a gateway would be utilized in the manner recited in claim 1 to enable the mass distribution of individually and/or locally generated multimedia content. The sending of a trigger message as disclosed in claim 1 also was not routine or conventional. To the contrary, at the time of invention it was not contemplated that such a message would be transmitted to a second terminal; nor was it contemplated that the receipt of such a message would cause the second terminal (the receiving

terminal) to initiate an exchange of second multimedia session information between the second terminal and the gateway using a third protocol.

123. Each TCL Defendant has infringed and continues to infringe the ’330 patent in violation of 35 U.S.C. § 271(b) and (c) by selling and/or offering for sale in the United States, and/or importing into the United States, without authorization, products that, when used, practice or cause to be practiced at least claim 1 of the ’330 patent literally or under the doctrine of equivalents (“’330 Accused Products”). At a minimum, such ’330 Accused Products include all TCL smartphones and other devices and technology configured to enable the provision of live user-generated content from one terminal to one or more other terminals as described in Ex. C, including through their incorporation of pre-loaded YouTube applications. This includes products like the TCL OneTouch Go Play, which, on information and belief, is configured to enable the provision of live user-generated content from one terminal to one or more other terminals.

124. For example, as detailed below, on information and belief, each TCL OneTouch Go Play is an LTE compatible device that, when used, infringes or causes the infringement of every element of claim 1 of the ’330 patent literally or under the doctrine of equivalents.[3] Further, on information and belief, the identified components and functionality of the TCL OneTouch Go Play are representative of components and functionality present in all ’330 Accused Products.

125. Claim 1 of the ’330 patent claims a method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising: the gateway

[3] This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which each ’330 Accused Product infringes the ’330 patent. Plaintiffs reserve the right to chart additional bases for infringement in their initial and final infringement charts.

or the first terminal using a first protocol to exchange first multimedia session information between the first terminal and the gateway, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media; the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second multimedia session information between the gateway and the second terminal, and wherein the trigger serves to inform the second terminal of availability of a new multimedia stream; in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second multimedia session information between the gateway and the second terminal, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates; and the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

126. As recited in claim 1 of the ’330 patent, each TCL OneTouch Go Play, when used, performs or causes to be performed a method wherein a gateway is capable of communicating with a first terminal and a second terminal. Each TCL OneTouch Go Play is a terminal that communicates using a first protocol to exchange first multimedia session information between the first terminal and the gateway, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media. For example, each TCL OneTouch Go Play is capable of generating live multimedia content and streaming it to a gateway using a first protocol. This can be done by way of the YouTube app that is preloaded onto each TCL OneTouch Go Play. Subsequently, the gateway informs a second terminal using

a trigger and a second protocol, such as by way of a YouTube server signaling a YouTube application on a different terminal. Moreover, in response to receiving the trigger, the second terminal uses a third protocol to initiate the exchange of the second multimedia session information between the gateway and the second terminal, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates. For instance, the second terminal acts upon this trigger by using a third protocol to request the content generated by the first terminal. This occurs through the YouTube application on the second Android terminal – such as a TCL OneTouch Go Play – by requesting the indicated stream. The second terminal then receives the second media stream.

127. Further, to the extent any steps are not performed directly by the user of the TCL OneTouch Go Play, such steps must be performed by the network provider as a known and expected technological prerequisite to (1) the activity in which such method is utilized, including, for example, enabling the streaming of live content from one mobile device to another, and (2) the user or the network provider realizing the benefit of such activity, i.e., the successful streaming of live content utilizing RTMP, HTTP/2.0, and HTTP/1.1 Live Streaming (HLS) protocols. Further, from the perspective of either the user or the network provider, performance of the specified activity and realization of the intended benefit can occur only if each performs its respective steps in the manner established by TCL via the configuration, protocols, and instructions included with its ’330 Accused Products. For example, receipt of the benefit of live streaming content to other users is conditioned on the performance of several steps. For example, the user is required to use the TCL OneTouch Go Play to communicate with a gateway in the network, such as by opening the preloaded YouTube app. The user is also required to operate the preloaded YouTube app to begin a live streaming session and begin the

exchange of the first multimedia session information that sets up a first media stream. Further, receipt of the benefit of live streaming is further conditioned upon a second terminal receiving a trigger from the YouTube server gateway as a result of action taken by the user's TCL OneTouch Go Play. Such trigger is sent by way of the YouTube platform in response to action taken by the user's TCL OneTouch Go Play. The benefit is still further conditioned on the second terminal using a third protocol to initiate the exchange of a second multimedia session between the gateway and the second terminal. The performance of each of these steps involves the utilization of the RTMP, HTTP/2.0, and/or HTTP/1.1 Live Streaming protocols. On information and belief, receipt of the benefit of live streaming is therefore conditioned on the TCL OneTouch Go Play, the network gateway, and the second terminal – such as a TCL OneTouch Go Play –each complying with at least these protocols.

128. On information and belief, TCL Communication, Inc. therefore has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '330 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '330 Accused Products like the TCL OneTouch Go Play. By way of example, TCL Communication, Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

129. On information and belief, TCL Communication Technology Holdings Limited therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '330 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '330 Accused Products like the TCL OneTouch Go Play. By way of example, TCL Communication

Technology Holdings Limited has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

130. On information and belief, TCT Mobile, Inc. therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '330 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '330 Accused Products like the TCL OneTouch Go Play. By way of example, TCT Mobile, Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

131. On information and belief, TCT Mobile (US) Inc. therefore also has indirectly infringed, and continues to indirectly infringe, each element of claim 1 of the '330 patent in violation of 35 U.S.C. § 271(b) and (c), including by selling and offering to sell in the United States, and by importing into the United States, without authorization, '330 Accused Products like the TCL OneTouch Go Play. By way of example, TCT Mobile (US) Inc. has stipulated that it has made, sold, offered for sale, or imported into the United States "the TCL OneTouch Go Play and related or similar communication devices."

132. In addition, TCL has indirectly infringed and continues to indirectly infringe the '330 patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including at least service providers, customers, and/or end users, in this District and elsewhere in the United States, through the dissemination of the '330 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such

products with knowledge and the specific intent that its efforts will result in the direct infringement of the ’330 patent.

133. For example, on information and belief, each TCL Defendant has taken, or participated in taking, active steps to encourage end users of the TCL OneTouch Go Play to use the product in the United States in a manner it knows will directly infringe each element of at least claim 1 of the ’330 patent as described above, including by encouraging users to utilize the TCL OneTouch Go Play to provide live user-generated content from one terminal to one or more other terminals despite knowing of the ’330 patent and the fact that such provision of live user-generated content will cause an end user to use the TCL OneTouch Go Play in a manner that infringes the ’330 patent.

134. Such active steps include, for example, advertising and marketing the TCL OneTouch Go Play as a smartphone capable of providing live user-generated content from one terminal to one or more other terminals, publishing TCL OneTouch Go Play manuals and promotional literature describing and instructing the configuration and operation by its customers of the TCL OneTouch Go Play in an infringing manner, and offering support and technical assistance to its customers that encourage use of the TCL OneTouch Go Play in ways that directly infringe at least claim 1 of the ’330 patent. For example, the product manual for the TCL OneTouch Go Play instructs users how to utilize the TCL OneTouch Go Play to provide user-generated content to other users in the written manuals it has provided, and continues to provide, despite its knowledge of the ’330 patent and the fact that such streaming causes TCL OneTouch Go Play users to directly infringe the ’330 patent. *See, e.g.*, https://support.alcatelonetouch.us/hc/en-us/article_attachments/115004485327/Manual.GoPlay.pdf (instructing users at page 89 on the use of streaming videos, for example). On information and belief, each TCL Defendant has

assisted TCL Communication Technology Holdings Limited and TCT Mobile in the preparation and/or distribution of such manuals and promotional literature.

135. Further, each TCL Defendant undertook and continues to undertake the above identified active steps after receiving notice of the ’330 patent and of how such sales, importation, and use infringe the ’330 patent.

136. In addition, TCL has indirectly infringed and continues to indirectly infringe the ’330 patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, without authorization, the ’330 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the ’330 patent and despite the fact that the infringing technology or aspects of each ’330 Accused Products are not a staple article of commerce suitable for substantial non-infringing use.

137. For example, on information and belief, prior to undertaking the above identified acts, each TCL Defendant knew the functionality included in the ’330 Accused Products that enabled each to exchange multimedia content infringes the ’330 patent. Further, on information and belief, each TCL Defendant knew that the ’330 Accused Products, including the TCL OneTouch Go Play, were designed to ensure that they were capable of exchanging multimedia content in an infringing manner.

138. Further, on information and belief, the infringing aspects of the ’330 Accused Products can be used in only a manner that infringes the ’330 patent and have no substantial non-infringing uses. Again using the TCL OneTouch Go Play as an example, the product performs the method described above specifically so that it can provide live user-generated content from one terminal to one or more other terminals in accordance with the invention claimed in the ’330

patent. The infringing aspects of the TCL OneTouch Go Play otherwise have no meaningful use, let alone any meaningful non-infringing use.

139. In addition, TCL's infringement of the '330 patent was willful. On information and belief, each TCL Defendant received notice of the '330 patent. Nevertheless, without authorization, each TCL Defendant infringed and continues to infringe the '330 patent in the manners described above, including by, on information and belief, selling and offering to sell in the United States, and importing into the United States, '330 Accused Products like the TCL OneTouch Go Play, in order to market such products as capable of providing live user-generated content from one terminal to one or more other terminals in order to promote the sale of those products.

140. TCL's acts of infringement have caused damage to KPN, and KPN is entitled to recover from TCL the damages KPN has sustained as a result of TCL's wrongful acts in an amount subject to proof at trial.

DEMAND FOR JURY TRIAL

141. Plaintiff hereby demands a jury trial for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for judgment as follows:

A. Declaring that TCL Communication, Inc., TCL Communication Technology Holdings Limited, TCT Mobile, Inc., and TCT Mobile (US) Inc., have infringed the Asserted Patents in violation of 35 U.S.C. § 271;

B. Awarding damages to KPN arising out of this infringement of the Asserted Patents, including enhanced damages pursuant to 35 U.S.C. § 284 and prejudgment and post-judgment interest, in an amount according to proof;

C. Awarding attorneys' fees to KPN pursuant to 35 U.S.C. § 285 or as otherwise permitted by law; and

D. Awarding such other costs and relief the Court deems just and proper.

Dated: November 13, 2018

Respectfully submitted,

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