

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

NETWORK MANAGING SOLUTIONS,
LLC

Plaintiff,

v.

UNITED STATES CELLULAR
CORPORATION D/B/A U.S.
CELLULAR,

Defendant.

C.A. No. 16-cv-298-RGA

JURY TRIAL DEMANDED

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, Network Managing Solutions, LLC, by and through its undersigned counsel, files this First Amended Complaint for Patent Infringement against Defendant United States Cellular Corporation d/b/a U.S. Cellular (“U.S. Cellular” or “Defendant”).

THE PARTIES

1. Plaintiff Network Managing Solutions, LLC (“NMS”) is a limited liability company formed under the laws of the State of Delaware with its principal place of business at 600 Anton Blvd., Suite 1350, Costa Mesa, CA 92626. NMS is the owner of seminal patents in the field of network alarm management and lawful intercept technologies, and is actively engaged in the licensing of those technologies.

2. Defendant U.S. Cellular is a corporation existing and organized under the laws of the State of Delaware and has its principal place of business at 8410 W. Bryn Mawr, Suite 700, Chicago, IL 60631. Upon information and belief, U.S. Cellular can be

served through its registered agent for service, The Prentice-Hall Corporation System, Inc., 2711 Centerville Road, Suite 400, Wilmington, DE 19808.

3. Upon information and belief, U.S. Cellular has conducted and regularly conducts business within this District, has purposefully availed itself of the privileges of conducting business in this District, and has sought protection and benefit from the laws of the State of Delaware.

JURISDICTION AND VENUE

4. This action arises under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. §§ 271, 281, 283, 284, and 285. This Court has subject matter jurisdiction over this case for patent infringement under 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Defendant. Personal jurisdiction over Defendant in this action comports with due process. Defendant has conducted and regularly conducts business within the United States and this District. Defendant has purposefully availed itself of the privileges of conducting business in the United States, and more specifically, in Delaware and this District. Defendant has incorporated under the laws of the State of Delaware and has sought protection and benefit from the laws of the State of Delaware. In addition, directly or through intermediaries (including through its agents, subsidiaries, affiliates, and others), Defendant has committed acts of patent infringement in Delaware by using and/or making infringing products and/or services in this District.

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1400(b) and 1391(b)-(c) because, among other reasons, Defendant is subject to personal jurisdiction in this District and has committed acts of infringement in this District, including using and/or making infringing products and/or services in this District.

BACKGROUND

A. The Patents-In-Suit

i. The Network Alarm Management Patents

7. This case relates to telecommunications network technologies. A telecommunications network system – such as a 3G or 4G system – is composed of a multitude of network elements of various types that interoperate in a coordinated manner in order to satisfy the network users’ communication requirements. The occurrence of failures in a network element may cause a deterioration of this network element’s function or service quality and will, in severe cases, lead to the complete unavailability of the network element, or indeed the network. In order to minimize the effects of such failures on the quality of service as perceived by the network users it is necessary to manage these failures through, *inter alia*, managing the alarms that occur throughout the network. This aspect of the management environment is termed fault management or network alarm management. The purpose of network alarm management is to detect failures as soon as they occur and to limit their effects on the network quality of service as far as possible.

8. U.S. Patent No. 6,351,213 titled “Method and Communication System for Processing Alarms Using a Management Network Involving Several Layers of

Management” (“the ‘213 Patent”) was duly and legally issued by the U.S. Patent and Trademark Office on February 26, 2002, after full and fair examination. Lucian Hirsch is the first named inventor listed on the ‘213 Patent. The ‘213 Patent has been assigned to Plaintiff NMS, and Plaintiff NMS holds all rights, title, and interest in the ‘213 Patent, including the right to collect and receive damages for past, present and future infringements. A true and correct copy of the ‘213 Patent is attached as Exhibit A and made a part hereof.

9. U.S. Patent No. 6,420,968 titled “Method and Communication System For Handling Alarms Using a Management Network That Has a Number of Management Levels” (“the ‘968 Patent”) was duly and legally issued by the U.S. Patent and Trademark Office on July 16, 2002, after full and fair examination. Lucian Hirsch is the named inventor listed on the ‘968 Patent. The ‘968 Patent has been assigned to Plaintiff NMS, and Plaintiff NMS holds all rights, title, and interest in the ‘968 Patent, including the right to collect and receive damages for past, present and future infringements. A true and correct copy of the ‘968 Patent is attached as Exhibit B and made a part hereof.

10. U.S. Patent No. 6,728,688 titled “Method and Communication System for Handling Alarms Using a Management Network Having a Number of Management Levels” (“the ‘688 Patent”) was duly and legally issued by the U.S. Patent and Trademark Office on April 27, 2004, after full and fair examination. Lucian Hirsch and Alfred Schmidbauer are the named inventors listed on the ‘688 Patent. The ‘688 Patent has been assigned to Plaintiff NMS, and Plaintiff NMS holds all rights, title, and interest in the ‘688 Patent, including the right to collect and receive damages for past, present and

future infringements. A true and correct copy of the ‘688 Patent is attached as Exhibit C and made a part hereof.

11. The ‘213 Patent, ‘968 Patent, and ‘688 Patent (collectively, the “Network Alarm Management Patents”) relate to network alarm management technology.

ii. The Lawful Intercept Patent

12. U.S. Patent No. 6,553,099 titled “Device for Indirectly Forwarding Messages in Data and/or Communications Networks” (“the ‘099 Patent” or “the Lawful Intercept Patent”) was duly and legally issued by the U.S. Patent and Trademark Office on April 22, 2003, after full and fair examination. Michael Gundlach is the named inventor listed on the ‘099 Patent. The ‘099 Patent has been assigned to Plaintiff NMS, and Plaintiff NMS holds all rights, title, and interest in the ‘099 Patent, including the right to collect and receive damages for past, present and future infringements. A true and correct copy of the ‘099 Patent is attached as Exhibit D and made a part hereof.

13. The ‘099 Patent relates to lawful intercept technologies that indirectly forward messages in data and/or communications networks.

14. By assignment, NMS owns all right, title, and interest in and to the ‘213 Patent, the ‘968 Patent, the ‘688 Patent, and the ‘099 Patent (collectively, “the Patents-in-Suit”).

B. The 3GPP Standards

15. Upon information and belief, Defendant is a member of and follows certain standards developed by the 3rd Generation Partnership Project (“3GPP”). According to 3GPP’s website, 3GPP is touted as The Mobile Broadband Standard and “unites [Seven]

telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC), known as ‘Organizational Partners’ and provides their members with a stable environment to produce the Reports and Specifications that define 3GPP technologies.” 3GPP, About 3GPP Home, <http://www.3gpp.org/about-3gpp/about-3gpp>.

16. 3GPP’s website further states that “[t]he [3GPP] project covers cellular telecommunications network technologies, including radio access, the core transport network, and service capabilities - including work on codecs, security, quality of service - and thus provides complete system specifications.” *Id.*

17. 3GPP has released certain technical specifications – or standards – relating to network alarm management, which are available from the 3GPP’s website, for example, at: 3GPP Specification detail, Telecommunication management; Fault Management; Part 1: 3G fault management requirements, <http://www.3gpp.org/DynaReport/32111-1.htm> (hereinafter, “the 3G Fault Management Specifications”). 3GPP’s website includes, for example, the following technical specifications and corresponding documents:

- 3GPP TS 32.101 V8.5.0 (2010-03), 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects, “Telecommunication management, Principles and high level requirements” (Release 8) (hereinafter “TS 32.101”).
- 3GPP TS 32.111-1 V8.0.0 (2009-03), Technical Specification 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects, “Telecommunication management, Fault Management, Part 1: 3G fault management requirements” (Release 8) (hereinafter “TS 32.111-1”).
- 3GPP TS 32.111-2 V8.1.0 (2009-03), Technical Specification 3rd Generation Partnership Project, Technical Specification Group Services

and System Aspects, "Telecommunication management, Fault Management, Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)," (Release 8) (hereinafter "TS 32.111-2").

18. 3GPP has released certain technical specifications – or standards – relating to lawful intercept technologies, which are available from the 3GPP's website, for example, at: 3GPP Specification detail, 3G security; Lawful interception requirements, <http://www.3gpp.org/DynaReport/33106-1.htm> (hereinafter, "the Lawful Intercept Specifications"). 3GPP's website includes, for example, the following technical specifications regarding lawful intercept technologies:

- 3GPP TS 33.106 V8.1.0 (2008-03), 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects, "3G security, Lawful Interception requirements," (Release 8), (attached as Exhibit J) (hereinafter "TS 33.106").
- 3GPP TS 33.107 V8.12.0 (2011-03), Technical Specification 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects, "3G security, Lawful interception architecture and functions," (Release 8) (hereinafter "TS 33.107").
- 3GPP TS 33.108 V8.14.0 (2012-09), Technical Specification 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects, "3G security, Handover interface for Lawful Interception (LI)," (Release 8) (hereinafter "TS 33.108").

19. The standards released by 3GPP, including, but not limited to, the 3G Fault Management Specifications ("3G Fault Management Standard") and the Lawful Intercept Specifications ("Lawful Intercept Standard") identified above, set forth the requirements for 3G network alarm management systems and processes and 3G lawful interception systems and processes, respectively. Upon information and belief, the 3GPP standards relating to 3G network alarm management systems and processes and 3G lawful

interception systems and processes also apply to 4G, and LTE telecommunications systems and networks.

C. Infringement of the Network Alarm Management Patents

20. Defendant utilizes network management systems and processes. As explained on Defendant's website: "U.S. Cellular employs reasonable network management practices that are appropriate and tailored to achieving a legitimate network management purpose. Legitimate network management purposes typically include reasonable practices to provide security, confidentiality, and integrity of network services" https://m.uscellular.com/uscellular/legal/open_internet.html.

21. Upon information and belief, Defendant has and continues to adopt and implement the standards released by 3GPP relating to network alarm management, namely the 3G Fault Management Standard identified above, on Defendant's own networks, network management systems and/or services. Upon further information and belief, Defendant's network alarm management systems, include, but are not limited to, their use and adaptation of network alarm management systems of third-party system providers and/or Defendant's proprietary technology, either alone or in combination as part of a complete network alarm management system. By adopting and implementing the 3G Fault Management Standard released by 3GPP relating to network alarm management on Defendant's own network management systems and processes, Defendant's network management systems and services infringe one or more of the Network Alarm Management Patents.

22. To practice the 3G Fault Management Standard identified above, Defendants must necessarily practice at least the following claims: claim 1 of the '213 Patent; claim 1 of the '968 Patent; and claim 1 of the '688 Patent.

23. In particular, in reference to claim 1 of the '213 Patent, the aforementioned Fault Management Standard requires as follows: (i) a network organized hierarchically, wherein a Network Manager (NM) oversees the operation of a Network Element (NE) using a communication interface (N interface, or 'Itf-N') (TS 32101, at §§ 5.1.1, 5.1.2) ("a method for handling alarms in a telecommunication system using a management network which has a plurality of management levels, wherein alarm data for active alarms is transmitted for alarm realignment between an agent on one management level and at least one manager on a next highest management level"); (ii) a synchronization procedure is required after every start up of the N interface between the NM and the NE, this synchronization procedure between the NM and NE includes the NM triggering a synchronization by sending a request notification to the NE (TS 32.111-1, at §5.3, § 5.3.1) ("sending, from the at least one manager to the agent, at least one request notification for transmission of the alarm data"); (iii) following receipt of the request notification, the NE sends to the NM information to enable the NM to know which reported alarm data corresponds to which synchronization request notification (TS 32.111-1, at § 5.3.1; TS 32.111-2, at § 6.3.2) ("sending, from the agent to the at least one manager, correlation information for assigning a respective request to the at least one request notification with the alarm data"); and (iv) the NM specifies filter criteria to the NE for the synchronization (TS 32.111-1, at § 5.3.1) ("controlling, via the at least one

manager, the alarm realignment on the basis of at least one parameter sent to the agent by the at least one manager").

24. In particular, in reference to claim 1 of the '968 Patent, the aforementioned Fault Management Standard requires as follows: (i) a network organized hierarchically, wherein a Network Manager (NM) and an Element Manager (EM) are provided on different management levels (TS 32.101-1, at §§ 5.1.1, 5.1.2) ("providing a management network having at least two management devices on different management levels"); (ii) notification of alarms are received by the relevant EM and NM (TS 32.111-1, at § 4) ("receiving active alarms by the management devices"); (iii) alarms and their related information are stored by the relevant EM and NM (TS 32.111-1, at §§ 5.1, 5.4) ("storing active alarms by one management device as agent or by the other management device as superior manager"); (v) cooperative alarm management occurs between the relevant NM and EM (TS 32.111-1, at § 5.4) ("handling active alarms for a specific period of time by operators that are coupled to the management devices"); and (vi) acknowledgment and commentary performed at the EM is notified to the NM and vice versa (TS 32.111-1, at § 5.4; TS 32.111-2, at §6.8.2) ("introducing between the management devices a checking function having at least one checking attribute for reciprocal information about alarm handling").

25. In particular, in reference to claim 1 of the '688 Patent, the aforementioned Fault Management Standard requires as follows: (i) a network organized hierarchically, wherein a Network Manager (NM) oversees the operation of a Network Element (NE) using a communication interface (N interface, or 'Itf-N') (TS 32101, at §§ 5.1.1, 5.1.2)

("a method for handling alarms in a communication system using a management network having a number of management levels"); (ii) current alarm information is sent from an NE to more than one NM during a period of time (TS 32.111-1, at §§ 5.3, 5.3.1) ("alarm data for active alarms is transmitted for parallel alarm realignments between an agent on a first management level and managers on a next highest management level"); (iii) a synchronization procedure is required after every start up of the N interface between an NE and its relevant NMs, this synchronization procedure between the NE and its NMs includes the NMs each triggering a synchronization by sending a request notification to the NE (TS 32.111-1, at §5.3, § 5.3.1) ("transmitting from each of the managers to the agent at least one request having a request notification for transmission of alarm data;"); and (iv) following receipt of the request notifications from its respective NMs, the NE sends to an NM information to enable the NM to know which reported alarm data corresponds to which synchronization request notification (TS 32.111-1, at § 5.3.1; TS 32.111-2, at § 6.3.2) ("transmitting from the agent to a respective manager a number of notifications having the requested alarm data along with at least one item of correlation information for assigning a respective request to the notifications").

D. Infringement of the Lawful Intercept Patent

26. Upon information and belief, Defendant provides lawful interception systems and processes to law enforcement agencies around the country. This technology includes the ability to monitor messages in data and/or communications networks.

27. Upon information and belief, Defendant has and continues to adopt and implement the standards released by 3GPP relating to lawful intercept technologies,

namely the Lawful Intercept Standard identified above, in Defendant's own networks and data and communication intercept systems and/or services. By adopting and implementing the Lawful Intercept Standard released by 3GPP relating to lawful intercept technologies in Defendant's own data and communication intercept systems and/or services, Defendant's data and communication intercept systems and/or services infringe one or more of the Lawful Intercept Patents.

28. Plaintiff makes this preliminary identification of infringing systems, products, devices, processes, methods, acts, or other instrumentalities without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

29. To practice the Lawful Intercept Standard identified above, Defendants must necessarily practice claim 6 of the '099 Patent.

30. In particular, in reference to claim 6 of the '099 Patent, the aforementioned Lawful Intercept Standard requires as follows: (i) a network provides intercepted Content of Communications (CC) and Intercept Related Information (IRI) to Law Enforcement Agencies (LEA) (TS 33.106, at §§ 5.1.1, 5.1.2) ("[a] communications device for indirectly forwarding messages in data and/or communications networks,"); (ii) the network processes communications and provides a secure means of administering lawful intercept functionality (TS 33.106, at § 5.2) ("a communications processor;"); and (iii) the network stores messages and receiver identification (TS 33.108, at § 3.1; TS 33.107, at § 8.2) ("a memory device connected to [the] communications processor for

storing messages and receiver identification"); (iv) the identify of correspondents involved in a communication are checked to see if a target is involved as, for example, a sender or receiver (TS 33.106, at § 5.3) ("[the] communications processor being programmed to: check an identification of a subscriber accessing the device"); (v) on receipt of a lawful intercept request, for example a warrant, information is stored which defines a target to be monitored as well as a Law Enforcement Agency responsible for the particular warrant (TS 33.108, at § 6.1.1; TS 33.106, at § 5.2.1.1) ("[the] communications processor being programmed to . . . store information indicating whether a subscriber is to be monitored and, if appropriate, by what monitoring user the subscriber is to be monitored"); and (vi) following receipt of the lawful intercept request and appropriate setup, messages for the target are forwarded to the designated Law Enforcement Agency (TS 33.107, at § 4) ("[the] communications processor being programmed to . . . permit a message addressed to a given subscriber marked as a subscriber to be monitored to be transmitted to a monitoring user stored for the given subscriber").

COUNT I

Patent Infringement of U.S. Patent No. 6,351,213

31. Plaintiff repeats and re-alleges each and every allegation of paragraphs 1-30 as though fully set forth herein.

32. The '213 Patent is valid and enforceable.

33. Defendant has never been licensed, either expressly or impliedly, under the '213 Patent.

34. Upon information and belief, Defendant has been and is directly infringing claim 1 of the '213 Patent under 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making and/or using in this District and elsewhere within the United States, without authority, products and processes that include all of the limitations of at least claim 1 of the '213 Patent, including but not limited to, Defendant's network management systems (*e.g.*, use of network alarm management systems by third-party system providers and/or proprietary technology made by Defendant, either alone or in combination as part of a complete network alarm management system) that incorporate the 3GPP standards for network alarm management, as set forth in at least the 3G Fault Management Standard that include all of the limitations of one or more claims of the '213 Patent. Additional details relating to the accused products and processes, and their infringement, are in the possession of Defendant.

35. Upon information and belief, Defendant had knowledge of the '213 Patent and its infringing conduct at least since March 1, 2013, when Defendant was offered the opportunity to take a license to the '213 Patent by letter to Ms. Mary Dillon, President and CEO of U.S. Cellular ("Licensing Letter"). The Licensing Letter specifically identified the '213 Patent in the body of the letter, and stated that based on a preliminary analysis of Defendant's products and services, Defendant was required to take a license to the '213 Patent.

36. Upon information and belief, Defendant's acts of infringement of the '213 Patent have been willful and intentional. Since at least the above-mentioned date of notice, Defendant has acted with an objectively high likelihood that its actions constituted

infringement of the '213 Patent by refusing to take a license and continuing to make and/or use its network management systems and/or services that incorporate the 3GPP standards on network alarm management, and the objectively-defined risk was either known or so obvious that it should have been known.

37. As a direct and proximate result of these acts of patent infringement, Defendant has encroached on the exclusive rights of Plaintiff and its licensees to practice the '213 Patent, for which Plaintiff is entitled to at least a reasonable royalty.

COUNT II

Patent Infringement of U.S. Patent No. 6,420,968

38. Plaintiff repeats and re-alleges each and every allegation of paragraphs 1-30 as though fully set forth herein.

39. The '968 Patent is valid and enforceable.

40. Defendant had never been licensed, either expressly or impliedly, under the '968 Patent.

41. Upon information and belief, Defendant has been and is directly infringing claim 1 of the '968 Patent under 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making and/or using in this District and elsewhere within the United States, without authority, products and processes that include all of the limitations of at least claim 1 of the '968 Patent, including but not limited to, Defendant's network management systems (*e.g.*, use of network alarm management systems by third-party system providers and/or proprietary technology made by Defendant, either alone or in combination as part of a complete network alarm management system) that incorporate

the 3GPP standards for network alarm management, as set forth in at least the 3G Fault Management Standard that include all of the limitations of one or more claims of the ‘968 Patent. Additional details relating to the accused products and processes, and their infringement, are in the possession of Defendant.

42. Upon information and belief, Defendant had knowledge of the ‘968 Patent at least as early as the date on which Defendant was served with this First Amended Complaint.

43. Upon information and belief, Defendant’s acts of infringement of the ‘968 Patent have been willful and intentional. Since at least the above-mentioned date of notice, Defendant has acted with an objectively high likelihood that its actions constituted infringement of the ‘968 Patent by refusing to take a license and continuing to make and/or use its network management systems and/or services that incorporate the 3GPP standards on network alarm management, and the objectively-defined risk was either known or so obvious that it should have been known.

44. As a direct and proximate result of these acts of patent infringement, Defendant has encroached on the exclusive rights of Plaintiff and its licensees to practice the ‘968 Patent, for which Plaintiff is entitled to at least a reasonable royalty.

COUNT III

Patent Infringement of U.S. Patent No. 6,728,688

45. Plaintiff repeats and re-alleges each and every allegation of paragraphs 1-30 as though fully set forth herein.

46. The ‘688 Patent is valid and enforceable.

47. Defendant has never been licensed, either expressly or impliedly, under the ‘688 Patent.

48. Upon information and belief, Defendant has been and is directly infringing claim 1 of the ‘688 Patent under 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making and/or using in this District and elsewhere within the United States, without authority, products and processes that include all of the limitations of at least claim 1 of the ‘688 Patent, including but not limited to, Defendant’s network management systems (*e.g.*, use of network alarm management systems by third-party system providers and/or proprietary technology made by Defendants, either alone or in combination as part of a complete network alarm management system) that incorporate the 3GPP standards for network alarm management, as set forth in at least the 3G Fault Management Standard that include all of the limitations of one or more claims of the ‘688 Patent. Additional details relating to the accused products and processes, and their infringement, are in the possession of Defendant.

49. Upon information and belief, Defendant had knowledge of the ‘688 Patent and its infringing conduct at least since March 1, 2013, when Defendant was offered the opportunity to take a license to the ‘688 Patent by letter to Ms. Mary Dillon, President and CEO of U.S. Cellular (“Licensing Letter”). The Licensing Letter specifically identified the ‘688 Patent in the body of the letter, and stated that based on a preliminary analysis of Defendant’s products and services, Defendant was required to take a license to the ‘688 Patent.

50. Upon information and belief, Defendant's acts of infringement of the '688 Patent have been willful and intentional. Since at least the above-mentioned date of notice, Defendant has acted with an objectively high likelihood that its actions constituted infringement of the '688 Patent by refusing to take a license and continuing to make and/or use its network management systems and/or services that incorporate the 3GPP standards on network alarm management, and the objectively-defined risk was either known or so obvious that it should have been known.

51. As a direct and proximate result of these acts of patent infringement, Defendant has encroached on the exclusive rights of Plaintiff and its licensees to practice the '688 Patent, for which Plaintiff is entitled to at least a reasonable royalty.

COUNT IV

Patent Infringement of U.S. Patent No. 6,553,099

52. Plaintiff repeats and re-alleges each and every allegation of paragraphs 1-30 as though fully set forth herein.

53. The '099 Patent is valid and enforceable.

54. Defendant has never been licensed, either expressly or impliedly, under the '099 Patent.

55. Upon information and belief, Defendant has been and is directly infringing claim 6 of the '099 Patent under 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by making and/or using in this District and elsewhere within the United States, without authority, products and processes that include all of the limitations of at least claim 6 of the '099 Patent, including but not limited to, Defendant's data and

communication intercept systems and/or services that incorporate the 3GPP standards for lawful intercept technologies, as set forth in at least the Lawful Intercept Standard that include all of the limitations of one or more claims of the '099 Patent. Additional details relating to the accused products and processes, and their infringement, are in the possession of Defendant.

56. Upon information and belief, Defendant had knowledge of the '099 Patent and its infringing conduct at least since March 1, 2013, when Defendant was offered the opportunity to take a license to the '099 Patent by letter to Ms. Mary Dillon, President and CEO of U.S. Cellular ("Licensing Letter"). The Licensing Letter specifically identified the '099 Patent in the body of the letter, and stated that based on a preliminary analysis of Defendant's products and services, Defendant was required to take a license to the '099 Patent.

57. Upon information and belief, Defendant's acts of infringement of the '099 Patent have been willful and intentional. Since at least the above-mentioned date of notice, Defendant has acted with an objectively high likelihood that its actions constituted infringement of the '099 Patent by refusing to take a license and continuing to make and/or use its lawful intercept systems and/or services that incorporate the 3GPP standards on lawful intercept technology, and the objectively-defined risk was either known or so obvious that it should have been known.

58. As a direct and proximate result of these acts of patent infringement, Defendant has encroached on the exclusive rights of Plaintiff and its licensees to practice the '099 Patent, for which Plaintiff is entitled to at least a reasonable royalty.

CONCLUSION

59. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of Defendant's wrongful acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

60. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute create an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

61. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

62. Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grants Plaintiff the following relief:

- A. A judgment that Defendant has infringed the Patents-in-Suit as alleged herein;
- B. A judgment for an accounting of all damages sustained by Plaintiff as result of the acts of infringement by Defendant;
- C. A judgment and order requiring Defendant to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages for willful

infringement of the Patents-in-Suit as provided by 35 U.S.C. § 284,
and any royalties determined to be appropriate;

- D. A permanent injunction enjoining Defendant and its officers,
directors, agents, servants, employees, affiliates, divisions, branches,
subsidiaries, parents and all others acting in concert or privity with
them from infringement of the Patents-in-Suit pursuant to 35 U.S.C.
§ 283;
- E. A judgment and order requiring Defendant to pay Plaintiff pre-
judgment and post judgment interest on the damages awarded; and
- F. Such other and further relief as the Court deems just and equitable.

Dated: February 22, 2017

FARNAN LLP

By: /s/ Michael J. Farnan

Brian E. Farnan (Bar No. 4089)
Michael J. Farnan (Bar No. 5165)
919 North Market Street, 12th Floor
Wilmington, Delaware 19801
302-777-0300 Telephone
302-777-0301 Facsimile
bfarnan@farnanlaw.com
mfarnan@farnanlaw.com

Cameron H. Tousi (admitted *pro hac vice*)
Andrew C. Aitken (admitted *pro hac vice*)
Raymond J. Ho (admitted *pro hac vice*)
Jeffrey D. Ahdoot (admitted *pro hac vice*)

IP LAW LEADERS PLLC

7529 Standish Place, Ste. 103
Rockville, MD 20855
Telephone: (202) 248-5410
Facsimile: (202) 318-4538
chtousi@ipllfirm.com
acaitken@ipllfirm.com
rjho@ipllfirm.com

Counsel for Plaintiff
Network Managing Solutions, LLC