

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4736117

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MICHAEL LUNA	08/25/2014
ARI BACKHOLM	09/05/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SEVEN NETWORKS, INC.
<b>Street Address:</b>	959 SKYWAY ROAD
<b>Internal Address:</b>	SUITE 100
<b>City:</b>	SAN CARLOS
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94070
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15829310
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(919)882-8195
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	919-348-2194
<b>Email:</b>	docket@nkpatentlaw.com
<b>Correspondent Name:</b>	NK PATENT LAW, PLLC
<b>Address Line 1:</b>	4917 WATERS EDGE DRIVE
<b>Address Line 2:</b>	SUITE 275
<b>Address Line 4:</b>	RALEIGH, NORTH CAROLINA 27606
<b>ATTORNEY DOCKET NUMBER:</b>	455/103/9 UTIL
<b>NAME OF SUBMITTER:</b>	JUSTIN R. NIFONG
<b>SIGNATURE:</b>	/Justin R. Nifong/
<b>DATE SIGNED:</b>	12/15/2017
<b>Total Attachments: 15</b>	
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page1.tif	
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page2.tif	
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page3.tif	

source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page4.tif  
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page5.tif  
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page6.tif  
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page7.tif  
source=455-103-9UTIL-20140825-Dec-assign-Luna-signed#page8.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page1.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page2.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page3.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page4.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page5.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page6.tif  
source=455-103-9UTIL-20140905-Dec-assign-Backholm-signed#page7.tif

### **DECLARATION AND ASSIGNMENT OF RIGHTS**

As a below named inventor (hereinafter designated as the undersigned or the Assignor, where appropriate), I hereby declare that:

The application is as identified by the attorney docket number, title, Filing Date, or Application Title as set forth in the following Table I:

The application in Table I was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application in Table I.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

**TABLE I**

Application No.	Attorney Docket No.	Filing Date	Application Title
13523669	455/151/1 UTIL	6/14/2012	WIRELESS TRAFFIC MANAGEMENT SYSTEM CACHE OPTIMIZATION USING HTTP HEADERS
13467159	455/150/1 UTIL	5/9/2012	SELECTIVE DATA COMPRESSION BY A DISTRIBUTED TRAFFIC MANAGEMENT SYSTEM TO REDUCE MOBILE DATA TRAFFIC AND SIGNALING TRAFFIC
13715900	455/149/1 US	12/14/2012	OPERATION MODES FOR MOBILE TRAFFIC OPTIMIZATION AND CONCURRENT MANAGEMENT OF OPTIMIZED AND NON-OPTIMIZED TRAFFIC
13710336	455/148/2 US	12/10/2012	SYSTEM AND METHOD FOR GENERATING A REPORT TO A NETWORK OPERATOR BY DISTRIBUTED AGGREGATION OF DATA
13710274	455/148/1 US	12/10/2012	MOBILE NETWORK REPORTING AND USAGE ANALYTICS SYSTEM AND METHOD AGGREGATED USING A DISTRIBUTED TRAFFIC OPTIMIZATION SYSTEM
13715801	455/147/1 US	12/14/2012	HIERARCHIES AND CATEGORIES FOR MANAGEMENT AND DEPLOYMENT OF POLICIES FOR DISTRIBUTED WIRELESS

			TRAFFIC OPTIMIZATION
13787702	455/146/2 UTIL	3/6/2013	RADIO-AWARENESS OF MOBILE DEVICE FOR SENDING SERVER-SIDE CONTROL SIGNALS USING A WIRELESS NETWORK OPTIMIZED TRANSPORT PROTOCOL
13708758	455/146/1 US	12/7/2012	RADIO-AWARENESS OF MOBILE DEVICE FOR SENDING SERVER-SIDE CONTROL SIGNALS USING A WIRELESS NETWORK OPTIMIZED TRANSPORT PROTOCOL
13706860	455/145/2	12/6/2012	A MOBILE DEVICE AND METHOD TO UTILIZE THE FAILOVER MECHANISMS FOR FAULT TOLERANCE PROVIDED FOR MOBILE TRAFFIC MANAGEMENT AND NETWORK/DEVICE RESOURCE CONSERVATION
13706770	455/145/1 UTIL	12/6/2012	SYSTEM OF REDUNDANTLY CLUSTERED MACHINES TO PROVIDE FAILOVER MECHANISMS FOR MOBILE TRAFFIC MANAGEMENT AND NETWORK RESOURCE CONSERVATION
13708875	455/144/2 UTIL	12/7/2012	MOBILE DEVICE HAVING CONTENT CACHING MECHANISMS INTEGRATED WITH A NETWORK OPERATOR FOR TRAFFIC ALLEVIATION IN A WIRELESS NETWORK AND METHODS THEREFOR
13708859	455/144/1 UTIL	12/7/2012	FLEXIBLE AND DYNAMIC INTEGRATION SCHEMAS OF A TRAFFIC MANAGEMENT SYSTEM WITH VARIOUS NETWORK OPERATORS FOR NETWORK TRAFFIC ALLEVIATION
13597031	455/143/2 UTIL	8/28/2012	OPTIMIZATION OF MOBILE TRAFFIC DIRECTED TO PRIVATE NETWORKS AND OPERATOR CONFIGURABILITY THEREOF
13596963	455/143/1 UTIL	8/28/2012	CELLULAR OR WIFI MOBILE TRAFFIC OPTIMIZATION BASED ON PUBLIC OR PRIVATE NETWORK DESTINATION
13860403	455/142/2 UTIL	4/10/2013	ENHANCED CUSTOMER SERVICE FOR MOBILE CARRIERS USING REAL-TIME AND HISTORICAL MOBILE APPLICATION AND TRAFFIC OR OPTIMIZATION DATA ASSOCIATED WITH MOBILE DEVICES IN A MOBILE NETWORK
13860332	455/142/1 UTIL	4/10/2013	INTELLIGENT CUSTOMER SERVICE/CALL CENTER SERVICES ENHANCED USING REAL-TIME AND HISTORICAL MOBILE APPLICATION AND TRAFFIC-RELATED STATISTICS COLLECTED BY A DISTRIBUTED CACHING SYSTEM IN A MOBILE NETWORK

13572598	455/141/2 UTIL	8/10/2012	STRATEGICALLY TIMED DELIVERY OF ADVERTISEMENTS OR ELECTRONIC COUPONS TO A MOBILE DEVICE IN A MOBILE NETWORK
13572582	455/141/1 UTIL	8/10/2012	INTELLIGENT PLACEMENT AND DELIVERY OF MOBILE ADVERTISEMENTS AND ELECTRONIC COUPONS VIA A DISTRIBUTED SYSTEM IN A MOBILE NETWORK
13560092	455/140/1 UTIL	7/27/2012	MOBILE DEVICE USAGE CONTROL IN A MOBILE NETWORK BY A DISTRIBUTED PROXY SYSTEM
13560002	455/140/1 UTIL	7/27/2012	PARENTAL CONTROL OF MOBILE CONTENT ON A MOBILE DEVICE
13651247	455/139/3 UTIL	10/12/2012	APPLICATION AND NETWORK-BASED LONG POLL REQUEST DETECTION AND CACHEABILITY ASSESSMENT THEREFOR
13412338	455/139/2 UTIL	3/5/2012	APPLICATION AND NETWORK-BASED LONG POLL REQUEST DETECTION AND CACHEABILITY ASSESSMENT THEREFOR
13274248	455/139/1 UTIL	10/14/2011	APPLICATION AND NETWORK-BASED LONG POLL REQUEST DETECTION AND CACHEABILITY ASSESSMENT THEREFOR
13915538	455/138/2 UTIL	6/11/2013	CACHING IN A WIRELESS NETWORK OF CONTENT DELIVERED FOR A MOBILE APPLICATION REQUESTED OVER A LONG-POLL REQUEST
13274250	455/138/1 UTIL	10/14/2011	DISTRIBUTED CACHING IN A WIRELESS NETWORK OF CONTENT DELIVERED FOR A MOBILE APPLICATION OVER A LONG-HELD REQUEST
13546995	455/137/1 UTIL	7/11/2012	MONITORING MOBILE APPLICATION ACTIVITIES FOR MALICIOUS TRAFFIC ON A MOBILE DEVICE
13547001	455/137/2 UTIL	7/11/2012	AUTOMATIC GENERATION AND DISTRIBUTION OF POLICY INFORMATION REGARDING MALICIOUS MOBILE TRAFFIC IN A WIRELESS NETWORK
13912067	455/136/2 UTIL	6/6/2013	MANAGING CACHE TO PREVENT OVERLOADING OF A WIRELESS NETWORK DUE TO USER ACTIVITY
13735868	455/136/1 UTIL	1/7/2013	DETECTION AND MANAGEMENT OF USER INTERACTIONS WITH FOREGROUND APPLICATIONS ON A MOBILE DEVICE IN DISTRIBUTED CACHING
13900492	455/135/2 UTIL	5/22/2013	FACILITATION OF MOBILE OPERATOR BILLING BASED ON WIRELESS NETWORK TRAFFIC MANAGEMENT AND

			TRACKING OF DESTINATION ADDRESS IN CONJUNCTION WITH BILLING POLICIES
13900516	455/135/1 UTIL	5/22/2013	WIRELESS NETWORK TRAFFIC ROUTING THROUGH TRAFFIC OPTIMIZATION AND TRACKING OF DESTINATION ADDRESS TO FACILITATE SERVICE PROVIDER BILLING
13274501	455/135/1 UTIL	10/17/2011	REQUEST AND RESPONSE CHARACTERISTICS BASED ADAPTATION OF DISTRIBUTED CACHING IN A MOBILE NETWORK
13274265	455/134/1 UTIL	10/14/2011	CACHING ADAPTED FOR MOBILE APPLICATION BEHAVIOR AND NETWORK CONDITIONS
13776493	455/132/1 UTIL	2/25/2013	DYNAMIC BANDWIDTH ADJUSTMENT FOR BROWSING OR STREAMING ACTIVITY IN A WIRELESS NETWORK BASED ON PREDICTION OF USER BEHAVIOR WHEN INTERACTING WITH MOBILE APPLICATIONS
13458844	455/129/1 UTIL	4/27/2012	DETECTION AND FILTERING OF MALWARE BASED ON TRAFFIC OBSERVATIONS MADE IN A DISTRIBUTED MOBILE TRAFFIC MANAGEMENT SYSTEM
13758906	455/128/1 UTIL	2/4/2013	DYNAMIC CATEGORIZATION OF APPLICATIONS FOR NETWORK ACCESS IN A MOBILE NETWORK
13856691	455/126/2 UTIL	4/4/2013	MOBILE DEVICE AND METHOD FOR PRESERVING SESSION STATE INFORMATION WITHOUT A NEED FOR TRANSMISSION OF MESSAGES IN A WIRELESS NETWORK
13856366	455/126/1 UTIL	4/3/2013	METHOD AND SYSTEM FOR MANAGEMENT OF A VIRTUAL NETWORK CONNECTION WITHOUT HEARTBEAT MESSAGES
13758842	455/124/1 UTIL	2/4/2013	USER AS AN END POINT FOR PROFILING AND OPTIMIZING THE DELIVERY OF CONTENT IN A WIRELESS NETWORK
13592233	455/121/2 UTIL	8/22/2012	CACHE STATE MANAGEMENT ON A MOBILE DEVICE TO PRESERVE USER EXPERIENCE
13/457,368	455/120/2 UTIL	4/26/2012	SYSTEM AND METHOD FOR MAKING REQUESTS ON BEHALF OF A MOBILE DEVICE BASED ON ATOMIC PROCESSES FOR MOBILE TRAFFIC RELIEF
13458797	455/121/1 UTIL	4/27/2012	DETECTING AND PRESERVING STATE FOR SATISFYING APPLICATION

			REQUESTS IN A DISTRIBUTED PROXY AND CACHE SYSTEM
13457335	455/120/1 UTIL	4/26/2012	MOBILE DEVICE WHICH OFFLOADS REQUESTS MADE BY A MOBILE APPLICATION TO A REMOTE ENTITY FOR CONSERVATION OF MOBILE DEVICE AND NETWORK RESOURCES AND METHODS THEREFOR
13451361	455/119/1 UTIL	4/19/2012	DEVICE RESOURCES SHARING FOR NETWORK RESOURCE CONSERVATION
13740785	455/118/3 UTIL	1/14/2013	SYSTEM AND METHOD FOR A MOBILE DEVICE TO USE PHYSICAL STORAGE OF ANOTHER DEVICE FOR CACHING
13554859	455/118/2 UTIL	7/20/2012	SYSTEM AND METHOD FOR A MOBILE DEVICE TO USE PHYSICAL STORAGE OF ANOTHER DEVICE FOR CACHING
13451340	455/118/1 UTIL	4/19/2012	SOCIAL CACHING FOR DEVICE RESOURCE SHARING AND MANAGEMENT
13605475	455/117/2 UTIL	9/6/2012	WIRELESS SHARING OF DEVICE RESOURCES ALLOWING DEVICE STORAGE NEEDS TO BE WIRELESSLY OFFLOADED TO OTHER DEVICES
13451327	455/117/1 UTIL	4/19/2012	SHARED RESOURCE AND VIRTUAL RESOURCE MANAGEMENT IN A NETWORKED ENVIRONMENT
13372145	455/116/1 UTIL	2/13/2012	AUTOMATIC PROVISIONING OF INSTANT MESSAGING AND SOCIAL NETWORKING SERVICES
13360470	455/115/1 UTIL	1/27/2012	SINGLE ACTION ACCESS TO CONTEXT SPECIFIC CONTENT AT A MOBILE DEVICE
13349345	455/114/1 UTIL	1/12/2012	UNIFIED ACCESS AND MANAGEMENT OF EVENTS ACROSS MULTIPLE APPLICATIONS AND ASSOCIATED CONTACTS THEREOF
13346627	455/113/1 UTIL	1/9/2012	SYSTEM AND METHOD FOR REDUCTION OF MOBILE NETWORK TRAFFIC USED FOR DOMAIN NAME SYSTEM (DNS) QUERIES
13301864	455/112/1 UTIL	11/22/2011	OPTIMIZATION OF RESOURCE POLLING INTERVALS TO SATISFY MOBILE DEVICE REQUESTS
13618371	455/111/3 UTIL	9/14/2012	MOBILE NETWORK BACKGROUND TRAFFIC DATA MANAGEMENT WITH OPTIMIZED POLLING INTERVALS
13407582	455/111/2 UTIL	2/28/2012	MOBILE NETWORK BACKGROUND TRAFFIC DATA MANAGEMENT WITH OPTIMIZED POLLING INTERVALS
13300267	455/111/1 UTIL	11/18/2011	ALIGNING DATA TRANSFER TO

			OPTIMIZE CONNECTIONS ESTABLISHED FOR TRANSMISSION OVER A WIRELESS NETWORK
13287058	455/110/1 UTIL	11/1/2011	MOBILE TRAFFIC CATEGORIZATION AND POLICY FOR NETWORK USE OPTIMIZATION WHILE PRESERVING USER EXPERIENCE
13604404	455/109/2 UTIL	9/5/2012	TIMING OF KEEP-ALIVE MESSAGES USED IN A SYSTEM FOR MOBILE NETWORK RESOURCE CONSERVATION AND OPTIMIZATION
13474561	455/108/4 UTIL	5/17/2012	CACHE DEFEAT DETECTION AND CACHING OF CONTENT ADDRESSED BY IDENTIFIERS INTENDED TO DEFEAT CACHE
13287085	455/108/3 UTIL	11/1/2011	DISTRIBUTED SYSTEM FOR CACHE DEFEAT DETECTION AND CACHING OF CONTENT ADDRESSED BY IDENTIFIERS INTENDED TO DEFEAT CACHE
13287072	455/108/2 UTIL	11/1/2011	CACHE DEFEAT DETECTION AND CACHING OF CONTENT ADDRESSED BY IDENTIFIERS INTENDED TO DEFEAT CACHE
13176537	455/107/1 UTIL	7/5/2011	DISTRIBUTED CACHING FOR RESOURCE AND MOBILE NETWORK TRAFFIC MANAGEMENT
13178675	455/106 UTIL	7/8/2011	DISTRIBUTED IMPLEMENTATION OF DYNAMIC WIRELESS TRAFFIC POLICY
13115740	455/105/1 US	5/25/2011	PREDICTION OF ACTIVITY SESSION FOR MOBILE NETWORK USE OPTIMIZATION AND USER EXPERIENCE ENHANCEMENT
13355443	455/104/2 US	1/20/2012	MOBILE NETWORK TRAFFIC COORDINATION ACROSS MULTIPLE APPLICATIONS
13115631	455/104/1 US	5/25/2011	MOBILE NETWORK TRAFFIC COORDINATION ACROSS MULTIPLE APPLICATIONS
13351176	455/103/2 US	1/16/2012	MOBILE APPLICATION TRAFFIC OPTIMIZATION
13188553	455/103/01	7/22/2011	MOBILE APPLICATION TRAFFIC OPTIMIZATION
13477625	455/102/3 US	5/22/2012	MOBILE DEVICE RADIO USE OPTIMIZATION BY BATCHING LOW PRIORITY REQUESTS
13287046	455/102/2 UTIL	11/1/2011	DISTRIBUTED MANAGEMENT OF KEEP-ALIVE MESSAGE SIGNALING FOR MOBILE NETWORK RESOURCE CONSERVATION AND OPTIMIZATION
13407406	455/102/2 US	2/28/2012	SYSTEM AND METHOD FOR CONSERVING BATTERY CONSUMPTION



			ON A MOBILE DEVICE
13178598	455/102/1 UTIL	7/8/2011	CONTEXT AWARE TRAFFIC MANAGEMENT FOR RESOURCE CONSERVATION IN A WIRELESS NETWORK
13075887	455/101/1 UTIL	3/30/2011	3D MOBILE USER INTERFACE WITH CONFIGURABLE WORKSPACE MANAGEMENT
62022614	455/190	7/9/2014	SECURE HANDLING OF SSL TRAFFIC

FURTHERMORE, WHEREAS, the undersigned, Michael Luna, (hereinafter "Assignor") has invented certain new and useful improvements described in the applications identified in Table I.

AND, WHEREAS, Seven Networks, Inc., having a place of business at 959 Skyway Road, Suite 100, San Carlos, CA 94070 (hereinafter "Assignee"), has already acquired an interest in the applications identified in Table I by and through an employment or other agreement between Assignor and Assignee.

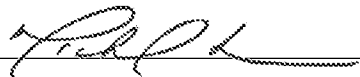
However, in the avoidance of doubt and as confirmation of the already acquired interest by Assignee, NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor has assigned and by these presents does hereby sell, assign, transfer, and convey unto the Assignee, its successors and assigns, his entire right, title, and interest in and to the invention and application, including the right to sue for past infringements and any other prior occurring rights, provided any such rights exist, and in and to any and all domestic and foreign patent applications filed on the invention, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America, and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with his right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made. Assignor further assigns to Assignee the right to claim entitlement and/or priority to any applications that entitlement or priority may be claimed for this or any later filed application. The assignment of the right to claim entitlement and/or priority is executed *nunc pro tunc* and is considered effective as of the filing date of the earliest application to which priority and/or entitlement is claimed.

Assignor hereby requests that said Letters Patent be issued in accordance with this assignment.

Assignor further covenants and agrees that, at the time of the execution and delivery of these presents, Assignor possesses full title to the invention and application above-mentioned, and that he has the unencumbered right and authority to make this assignment.

Assignor further covenants and agrees, and likewise binds his heirs, legal representatives and assigns, to promptly communicate to said Assignee or its representatives any facts known to him relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the Assignee, its representatives, successors and assigns to secure patent or similar protection for the said invention in all countries and to vest in the Assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said Assignee, its successors, assigns and other legal representatives.

Executed this <sup>25</sup> \_\_\_\_ day of August, 2014.

A handwritten signature in dark ink, appearing to read "Michael Luna", is written over a horizontal line.

**Michael Luna**

# DECLARATION AND ASSIGNMENT OF RIGHTS

As a below named inventor (hereinafter designated as the undersigned or the Assignor, where appropriate), I hereby declare that:

The application is as identified by the attorney docket number, title, Filing Date, or Application Title as set forth in the following Table I:

The application in Table I was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application(s) listed in Table I.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

**TABLE I**

Attorney Docket No.	Application No.	Title	Filing Date
455/006 PCT1	FI05/50424	E-MAIL MESSAGING TO/FROM A MOBILE TERMINAL	11/21/2005
455/006 PCT2	FI05/50426	DATA SECURITY IN A MOBILE E-MAIL SERVICE	11/21/2005
455/006 PROV1	60/650,975	E-MAIL MESSAGING TO/FROM A MOBILE TERMINAL	2/9/2005
455/006 PROV2	60/651,082	DATA SECURITY IN A MOBILE E-MAIL SERVICE	2/9/2005
455/006/2 UTIL	11/282,607	DATA SECURITY IN A MOBILE E-MAIL SERVICE	11/21/2005
455/006/3 UTIL	11/282,950	E-MAIL MESSAGING TO/FROM A MOBILE TERMINAL	11/21/2005
455/006/4 UTIL	12/205,747	MAINTAINING MOBILE TERMINAL INFORMATION FOR SECURE COMMUNICATIONS	9/5/2008
455/006/5 UTIL	12/228,325	Messaging centre for forwarding e-mail	8/11/2008
455/006/6	12/228,424	CONNECTIVITY FUNCTION FOR FORWARDING E-MAIL	8/11/2008
455/009 PCT	FI05/50441	PROVISIONING OF E-MAIL SETTINGS FOR A MOBILE TERMINAL	12/1/2005
455/009 PROV	60/651,081	PROVISIONING OF E-MAIL SETTINGS FOR A MOBILE TERMINAL	2/9/2005
455/009/1 UTIL	11/289,308	PROVISIONING OF E-MAIL SETTINGS FOR A MOBILE TERMINAL	11/30/2005
455/009/2 UTIL	13/349,220	PROVISIONING OF E-MAIL SETTINGS FOR A	1/12/2012

		MOBILE TERMINAL	
455/015 PCT	FI06/50271	MAINTAINING AN IP CONNECTION IN A MOBILE NETWORK	6/19/2006
455/015 PROV	60/707,170	MAINTAINING AN IP CONNECTION IN A MOBILE NETWORK	8/11/2005
455/015/1 UTIL	11/471,630	MAINTAINING AN IP CONNECTION IN A MOBILE NETWORK	6/21/2006
455/015/2 UTIL	12/853,119	MAINTAINING AN IP CONNECTION IN A MOBILE NETWORK	8/9/2010
455/015/3 US	13/043,425	DYNAMIC ADJUSTMENT OF KEEP-ALIVE MESSAGE INTERVALS IN A MOBILE NETWORK	3/8/2011
455/015/4 UTIL	13/613,694	MAINTAINING AN IP CONNECTION IN A MOBILE NETWORK	9/13/2012
455/015/5US	14/283,193	DYNAMIC ADJUSTMENT OF KEEP-ALIVE MESSAGES FOR EFFICIENT BATTERY USAGE IN A MOBILE NETWORK	5/20/2014
455/016 PCT	FI06/50272	NETWORK-INITIATED DATA TRANSFER IN A MOBILE NETWORK	6/19/2006
455/016 PROV	60/707,171	NETWORK-INITIATED DATA TRANSFER IN A MOBILE NETWORK	8/11/2005
455/016/1 UTIL	11/471,704	NETWORK-INITIATED DATA TRANSFER IN A MOBILE NETWORK	6/21/2006
455/016/2 UTIL	12/860,419	NETWORK-INITIATED DATA TRANSFER IN A MOBILE NETWORK	8/20/2010
455/031/02 UTIL	13/614,583	FLEXIBLE REAL-TIME INBOX ACCESS	9/13/2012
455/031/1 UTIL	11/640,629	FLEXIBLE REAL-TIME INBOX ACCESS	12/18/2006
455/032/1 UTIL	12/001,288	ELECTRONIC-MAIL FILTERING FOR MOBILE DEVICES	12/10/2007
455/032/2 UTIL	13/735,811	ELECTRONIC-MAIL FILTERING FOR MOBILE DEVICES	1/7/2013
455/032/3US	14/288,346	ELECTRONIC-MAIL FILTERING FOR MOBILE DEVICES	5/27/2014
455/037/1 UTIL	12/141,871	APPLICATION DISCOVERY ON MOBILE DEVICES	6/18/2008
455/038/1 UTIL	12/215,481	PROVISIONING APPLICATIONS FOR A MOBILE DEVICE	6/26/2008
455/038/2 UTIL	13/312,664	PROVISIONING APPLICATIONS FOR A MOBILE DEVICE	12/6/2011
455/102 PCT	PCT/US11/43328	CONTEXT AWARE TRAFFIC MANAGEMENT FOR RESOURCE CONSERVATION IN A WIRELESS NETWORK	7/8/2011
455/102 PROV	61/367,871	CONTEXT AWARE TRAFFIC MANAGEMENT FOR RESOURCE CONSERVATION IN A WIRELESS NETWORK	7/26/2010
455/102/1 UTIL	13/178,598	CONTEXT AWARE TRAFFIC MANAGEMENT FOR RESOURCE CONSERVATION IN A WIRELESS NETWORK	7/8/2011

455/102/2 US	13/407,406	MOBILE DEVICE RADIO USE OPTIMIZATION BY BATCHING LOW PRIORITY REQUESTS	2/28/2012
455/102/3 US	13/477,625	MOBILE DEVICE RADIO USE OPTIMIZATION BY BATCHING LOW PRIORITY REQUESTS	5/22/2012
455/104/1 US	13/115,631	MOBILE NETWORK TRAFFIC COORDINATION ACROSS MULTIPLE APPLICATIONS	5/25/2011
455/106 PCT	US11/43322	DISTRIBUTED IMPLEMENTATION OF DYNAMIC WIRELESS TRAFFIC POLICY	7/8/2011
455/106 PROV	61/408,829	DISTRIBUTED IMPLEMENTATION OF DYNAMIC WIRELESS TRAFFIC POLICY	11/1/2010
455/106 UTIL	13/178,675	DISTRIBUTED IMPLEMENTATION OF DYNAMIC WIRELESS TRAFFIC POLICY	7/8/2011
455/106/2 UTIL	14/467,773	DISTRIBUTED IMPLEMENTATION OF DYNAMIC WIRELESS TRAFFIC POLICY	8/25/2014
455/110 PCT	US11/58843	MOBILE TRAFFIC CATEGORIZATION AND POLICY FOR NETWORK USE OPTIMIZATION WHILE PRESERVING USER EXPERIENCE	11/1/2011
455/110 PROV	61/408,820	MOBILE TRAFFIC CATEGORIZATION AND POLICY FOR NETWORK USE OPTIMIZATION WHILE PRESERVING USER EXPERIENCE	11/1/2010
455/110/1 UTIL	13/287,058	MOBILE TRAFFIC CATEGORIZATION AND POLICY FOR NETWORK USE OPTIMIZATION WHILE PRESERVING USER EXPERIENCE	11/1/2011
455/110/2 CON	14448399	MOBILE TRAFFIC CATEGORIZATION AND POLICY FOR NETWORK USE OPTIMIZATION WHILE PRESERVING USER EXPERIENCE	7/31/2014
455/116 PCT	US12/24882	AUTOMATIC PROVISIONING OF INSTANT MESSAGING AND SOCIAL NETWORKING SERVICES	2/13/2012
455/116/1 UTIL	13/372,145	AUTOMATIC PROVISIONING OF INSTANT MESSAGING AND SOCIAL NETWORKING SERVICES	2/13/2012
455/146 PCT	US12/68612	RADIO-AWARENESS OF MOBILE DEVICE FOR SENDING SERVER-SIDE CONTROL SIGNALS USING A WIRELESS NETWORK OPTIMIZED TRANSPORT PROTOCOL	12/7/2012
455/146/1 US	13/708,758	RADIO-AWARENESS OF MOBILE DEVICE FOR SENDING SERVER-SIDE CONTROL SIGNALS USING A WIRELESS NETWORK OPTIMIZED TRANSPORT PROTOCOL	12/7/2012
455/146/2 UTIL	13/787,702	RADIO-AWARENESS OF MOBILE DEVICE FOR SENDING SERVER-SIDE CONTROL SIGNALS USING A WIRELESS NETWORK OPTIMIZED TRANSPORT PROTOCOL	3/6/2013
455/148 PCT	US12/68822	MOBILE NETWORK REPORTING AND USAGE ANALYTICS SYSTEM AND METHOD AGGREGATED USING A DISTRIBUTED TRAFFIC	12/10/2012

		OPTIMIZATION SYSTEM	
455/148/1 US	13/710,274	MOBILE NETWORK REPORTING AND USAGE ANALYTICS SYSTEM AND METHOD AGGREGATED USING A DISTRIBUTED TRAFFIC OPTIMIZATION SYSTEM	12/10/2012
455/148/2 US	13/710,336	SYSTEM AND METHOD FOR GENERATING A REPORT TO A NETWORK OPERATOR BY DISTRIBUTING AGGREGATION OF DATA	12/10/2012
455/152/1 UTIL	13/844,682	MANAGEMENT OF MOBILE DEVICE RADIO STATE PROMOTION AND DEMOTION	3/15/2013
455/152/2 UTIL	13/844,675	SYSTEMS AND METHODS FOR APPLICATION MANAGEMENT OF MOBILE DEVICE RADIO STATE PROMOTION AND DEMOTION	3/15/2013
455/153/1 UTIL	13/837,308	OPTIMIZED AND SELECTIVE MANAGEMENT OF POLICY DEPLOYMENT TO MOBILE CLIENTS IN A CONGESTED NETWORK TO PREVENT FURTHER AGGRAVATION OF NETWORK CONGESTION	3/15/2013
455/160 PROV	61/859,364	IRREGULAR POLLING PATTERN RECOGNITION AND CACHING IN DISTRIBUTED CACHING SYSTEMS WITH CONFIGURABLE EXTENDED CACHING OPTIMIZATION	7/29/2013
455/161 PCT	PCT/US2014/12828	Application or context aware fast dormancy	1/23/2014
455/161/1 UTIL	13/815,908	Application or context aware fast dormancy	3/15/2013
455/161/2 UTIL	13/815,921	Mobile device with application or context aware fast dormancy	3/15/2013
455/162/1 UTIL	13/844,726	SIGNALING OPTIMIZATION IN A WIRELESS NETWORK FOR TRAFFIC UTILIZING PROPRIETARY AND NON-PROPRIETARY PROTOCOLS	3/15/2013
455/166 PROV	61/860,331	SERVING CACHED RESPONSES TO APPLICATIONS BASED ON CATEGORIZATION OF THE SAME IN DISTRIBUTED CACHING SYSTEMS WITH CONFIGURABLE EXTENDED CACHING OPTIMIZATION	7/31/2013
455/167 PROV	61/861,933	DELAYING LONG POLL RESPONSES IN DISTRIBUTED CACHING SYSTEMS WITH CONFIGURABLE EXTENDED CACHING OPTIMIZATION	8/2/2013
455/169 PRO	61/833,796	APPLICATION AND/OR SERVER STABILITY IN SIGNALING OPTIMIZATION IN A WIRELESS NETWORK FOR TRAFFIC UTILIZING PROPRIETARY AND NON-PROPRIETARY PROTOCOLS	6/11/2013

455/169/1 PCT	PCT/US14/42017	APPLICATION AND/OR SERVER STABILITY IN SIGNALING OPTIMIZATION IN A WIRELESS NETWORK FOR TRAFFIC UTILIZING PROPRIETARY AND NON-PROPRIETARY PROTOCOLS	6/11/2014
455/169/2 PCT/CON	14/474,231	APPLICATION AND/OR SERVER STABILITY IN SIGNALING OPTIMIZATION IN A WIRELESS NETWORK FOR TRAFFIC UTILIZING PROPRIETARY AND NON-PROPRIETARY PROTOCOLS	9/1/2014
455/170 PCT	PCT/US14/36669	Optimizing Keep Alive and Other Background Traffic in a Wireless Network	5/2/2014
455/173 PCT	PCT/US14/36262	IDENTIFICATION AND REPORTING OF KEEP-ALIVE MESSAGES AND OTHER NON-USER INTERACTIVE TRAFFIC IN A MOBILE NETWORK	4/30/2014
455/173/3 YRUK	14/266,759	DETECTION AND REPORTING OF KEEPALIVE MESSAGES FOR OPTIMIZATION OF KEEPALIVE TRAFFIC IN A MOBILE NETWORK	4/30/2014
455/173/2 PRO	61/836,039	IDENTIFICATION AND REPORTING OF KEEP-ALIVE MESSAGES AND OTHER NON-USER INTERACTIVE TRAFFIC IN A MOBILE NETWORK	6/17/2013
455/174 PCT	PCT/US14/40575	OPTIMIZING TRAFFIC BY CONTROLLING KEEP-ALIVES	6/2/2014
455/175 PRO	61/857,152	MODIFYING SYSTEM TIMERS FOR OPTIMIZING MOBILE TRAFFIC MANAGEMENT	7/22/2013
455/175/1UTIL	14/147,434	MODIFYING SYSTEM TIMERS FOR OPTIMIZING MOBILE TRAFFIC MANAGEMENT	1/3/2014
455/175/2 UTIL	14/147,468	EXTENDING DELAY TOLERANCE OF MOBILE APPLICATIONS FOR OPTIMIZING MOBILE TRAFFIC MANAGEMENT	1/3/2014
455/175/3 UTIL	14/467,951	MODIFYING SYSTEM TIMERS FOR OPTIMIZING MOBILE TRAFFIC MANAGEMENT	8/25/2014
455/175/4 UTIL	14/468,032	MODIFYING SYSTEM TIMERS FOR OPTIMIZING MOBILE TRAFFIC MANAGEMENT	8/25/2014
455/179/1 PROV	61/941,423	Policy Management for Signaling Optimization in a Wireless Network for Traffic Utilizing Proprietary and Non-Proprietary Protocols	2/18/2014
455/182/1 PCT	PCT/US14/40766	MODELING NETWORK SIGNALING IN A MOBILE NETWORK	6/3/2014
455/182/1US	14/295,289	MODELING NETWORK SIGNALING IN A MOBILE NETWORK	6/3/2014
455/183 PCT	PCT/US14/52697	Enhanced Caching of Domain Name System (DNS) and Reverse DNS Queries for Traffic Management for Signaling Optimization in a Mobile Network	8/26/2014
455/183 PROV	61/870,210	Enhanced Caching of Domain Name System (DNS) and Reverse DNS Queries for Traffic	8/26/2013

		Management for Signaling Optimization in a Mobile Network	
455/183/2	14/469,539	Enhanced Caching of Domain Name System (DNS) and Reverse DNS Queries for Traffic Management for Signaling Optimization in a Mobile Network	8/26/2014
455/184/2 PCT	PCT/US14/46522	Transport Protocol Layer of Optimization for Managing Signaling and Power Consumption	7/14/2014
455/186 PROV	61/905,120	OPTIMIZATION OF SIGNALING CAUSED BY SESSION CLOSURES	11/15/2013
455/188 PROV	61/930,344	Method For Power Saving in Mobile Devices	1/22/2014
455/190 PROV	62/022,614	SECURE HANDLING OF SSL TRAFFIC	7/9/2014
455/178/3 PCT/CON	14/748,226	BLOCKING/UNBLOCKING ALGORITHMS FOR SIGNALING OPTIMIZATION IN A WIRELESS NETWORK FOR TRAFFIC UTILIZING PROPRIETARY AND NON-PROPRIETARY PROTOCOLS	06/23/2015

FURTHERMORE, WHEREAS, the undersigned, Ari Backholm, (hereinafter "Assignor") has invented certain new and useful improvements described in the applications identified in Table I.

AND, WHEREAS, Seven Networks, Inc., having a place of business at 959 Skyway Road, Suite 100, San Carlos, CA 94070 (hereinafter "Assignee"), has already acquired an interest in the applications identified in Table I by and through an employment or other agreement between Assignor and Assignee.

However, in the avoidance of doubt and as confirmation of the already acquired interest by Assignee, NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor has assigned and by these presents does hereby sell, assign, transfer, and convey unto the Assignee, its successors and assigns, his entire right, title, and interest in and to the invention and application, including the right to sue for past infringements and any other prior occurring rights, provided any such rights exist, and in and to any and all domestic and foreign patent applications filed on the invention, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America, and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with his right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made. Assignor further assigns to Assignee the right to claim entitlement and/or priority to any applications that entitlement or priority may be claimed for this or any later filed application. The assignment of the right to claim entitlement and/or priority is executed *nunc pro tunc* and is considered effective as of the filing date of the earliest application to which priority and/or entitlement is claimed.

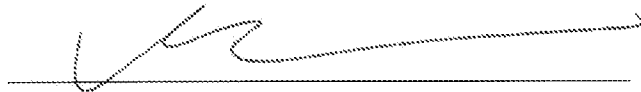


Assignor hereby requests that said Letters Patent be issued in accordance with this assignment.

Assignor further covenants and agrees that, at the time of the execution and delivery of these presents, Assignor possesses full title to the invention and application above-mentioned, and that he has the unencumbered right and authority to make this assignment.

Assignor further covenants and agrees, and likewise binds his heirs, legal representatives and assigns, to promptly communicate to said Assignee or its representatives any facts known to him relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the Assignee, its representatives, successors and assigns to secure patent or similar protection for the said invention in all countries and to vest in the Assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said Assignee, its successors, assigns and other legal representatives.

Executed this 5 day of September, 2014.



**Ari Backholm**