502444154 08/02/2013

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Lalit R. Kotecha	07/12/2013
Arda Aksu	07/12/2013
Yee Sin Chan	07/12/2013
Steven R. Rados	07/26/2013
David Chiang	07/11/2013
Thomas W. Haynes	07/12/2013
Jyothi Keshavdas	07/19/2013

RECEIVING PARTY DATA

Name:	Verizon Patent and Licensing Inc.
Street Address:	One Verizon Way
City:	Basking Ridge
State/Country:	NEW JERSEY
Postal Code:	07920

Name:	Cellco Partnership d/b/a Verizon Wireless
Street Address:	One Verizon Way
City:	Basking Ridge
State/Country:	NEW JERSEY
Postal Code:	07920

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13955677

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Email: jallen@ratnerprestia.com

PATENT REEL: 030931 FRAME: 0913 OP \$40,00 13955677

Correspondent Name: Keith E. George Address Line 1: 1250 I Street NW Address Line 2: 10th Floor, Suite 1000 Address Line 4: Washington, DISTRICT OF COLUMBIA 20005 ATTORNEY DOCKET NUMBER: 20130329 (VRZ-158US) NAME OF SUBMITTER: Keith E. George Signature: /Keith E. George/ 08/01/2013 Date: Total Attachments: 14 source=assgmtDoc#page1.tif source=assgmtDoc#page2.tif source=assgmtDoc#page3.tif source=assgmtDoc#page4.tif source=assgmtDoc#page5.tif source=assgmtDoc#page6.tif source=assgmtDoc#page7.tif source=assgmtDoc#page8.tif source=assgmtDoc#page9.tif source=assgmtDoc#page10.tif source=assgmtDoc#page11.tif source=assgmtDoc#page12.tif source=assgmtDoc#page13.tif

source=assgmtDoc#page14.tif

PATENT REEL: 030931 FRAME: 0914

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST MULTIMEDIA SERVICE (EMBMS)</u>

the patent application f	or which: rrently herewith, Application Number to be assigne	d by the USPTO, or
Thuse filed on	as United States Application Number	or PCT International
Declaration of Inventor		

As a below named inventor, I hereby declare that:

- A. I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;
- B. The above-identified application was made or authorized to be made by me; and
- C. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have executed as set forth below:

Full legal name of Inventor: Lalit R. Kotecha		
Mailing Address: 5528 Thayer Lane, San Ramon, CA 9	94582	
Signature: Holee	Date:	7/12/2013

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST MULTIMEDIA SERVICE (EMBMS)</u>

the patent application for which: is being filed concurrently herewith, Application Number to be assigned by the USPTO, or was filed on as United States Application Number or PCT International Application Number or PCT International	
Declaration of Inventor	
As a below named inventor, I hereby declare that:	
A. I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;	
B. The above-identified application was made or authorized to be made by me; and	
C. I hereby acknowledge that any willful false statements made in this declaration are punishable fine or imprisonment, or both, under 18 U.S.C. § 1001.	by

Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have executed as set forth below:

Full legal name of Inventor: Arda Aksu		*
Mailing Address: 6821 Waverly Road Martinez, CA 94553		
Signature:	Date:	7/12/2013
	-	

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST MULTIMEDIA SERVICE (EMBMS)</u>

the patent applicat	ion for which: oncurrently herewith, Application Number to be assign	ed by the USPTO, or
	as United States Application Number	
Application Numb		
Declaration of Inv	entor .	
As a below named	inventor, I hereby declare that:	
A. I believe	am the original inventor or an original joint inventor o	of the subject matter which is

- claimed and for which a patent is sought by the above-identified patent application;
- B. The above-identified application was made or authorized to be made by me; and
- C. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have executed as set forth below:		
Full legal name of Inventor: Yee Sin Chan	(
Mailing Address: 1460 Shaffer Drive, San Jose, CA 95132	· · · · · · · · · · · · · · · · · · ·	
Signature:	Date:	7/12/2013

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST MULTIMEDIA SERVICE (EMBMS)</u>

the patent application for which: is being filed concurrently herewith, Application Number to be assigned by the USPTO, or was filed on as United States Application Number or PCT International Application Number
Declaration of Inventor
As a below named inventor, I hereby declare that:
A. I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;
B. The above-identified application was made or authorized to be made by me; and
C. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.
Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have executed as set forth below:

Full legal name of Inventor: Steven R, Rados
NOW AND WOOD OF THE PARTY OF TH
Mailing Address: 643 Crystal Springs Court, Danville, CA 94506
Signature:

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST MULTIMEDIA SERVICE (EMBMS)</u>

	And the state of t
⊠ is b	ent application for which: eing filed concurrently herewith, Application Number to be assigned by the USPTO, or filed on as United States Application Number or PCT International ation Number
Declara	ation of Inventor
As a be	low named inventor, I hereby declare that:
A,	I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;
В.	The above-identified application was made or authorized to be made by me; and

C. I hereby acknowledge that any willful false statements made in this declaration are punishable by

Inventor Assignment Acknowledgement

For good and valuable consideration, the receipt of which is hereby acknowledged, I agree as follows:

fine or imprisonment, or both, under 18 U.S.C. § 1001.

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful onths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to m	ny agreement to the foregoing, I	have executed as se	t forth below:	
Full legal name of	Inventor: David Chiang			•
Mailing Address:	781 Saltillo Place, Fremont, CA	94536		
Signature:	Chily	Date:	7/11/2013	_

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST BROADCAST</u> MULTIMEDIA SERVICE (EMBMS)

	ent application for which:
🖾 is b	eing filed concurrently herewith, Application Number to be assigned by the USPTO, or
was	filed on as United States Application Number or PCT International
	ation Number
Declar	ation of Inventor
As a be	clow named inventor, I hereby declare that:
A.	I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;
В.	The above-identified application was made or authorized to be made by me; and
C.	I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have executed as set forth below:

Full legal name of Inventor: Thomas W. Haynes

Mailing Address: 400 Old Ranch Court, San Ramon, CA 94582

Signature: 7/12/2013

DECLARATION AND ASSIGNMENT FOR UTILITY PATENT APPLICATION

Patent Application Title: <u>DYNAMIC SPLITTING OF EVOLVED MULTICAST</u> BROADCAST MULTIMEDIA SERVICE (EMBMS)

the patent application for	which: ently herewith, Application Number to be assigne	d by the USPTO, or
	as United States Application Number	
Declaration of Inventor		

As a below named inventor, I hereby declare that:

- A. I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought by the above-identified patent application;
- B. The above-identified application was made or authorized to be made by me; and
- C. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Inventor Assignment Acknowledgement

- A. I have sold, assigned and transferred (directly or indirectly), and by this agreement do hereby sell, assign, and transfer, to the Verizon legal entity identified below ("Assignee") and its successors and assigns, my entire worldwide right, title and interest in and to any and all ideas, inventions, methods and improvements which are described in the above-identified patent application, and in and to said application, and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional, and all other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said ideas, inventions, methods and improvements, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that, when requested, without charge to, but at the expense of, said Assignee, its successors and/or assigns, to carry out in good faith the intent and purpose of this agreement, I will execute all divisional, continuing (in whole or in part), substitute, renewal, reissue, and all other applications or registrations included within the Patent Rights; (iii) to execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights; (iv) to communicate to said Assignee, its successors, assigns, representatives and agents, all facts known to the undersigned relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.

C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Cellco Partnership d/b/a Verizon Wireless with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing, I have execut	ted as set forth below:
Full legal name of Inventor: <u>Jyothi Keshavdas</u>	
Mailing Address: 3151 Thistledown Court, Pleasanton, CA 9	94588
Signature: Yollik	Date: 7/19/2013