

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | | | | | |
|--|---------------------------|---------------|-----------------------|---------------------|----------------------|-------------------|------------|------------------|------------|----------------|------------|--------------|-------|
| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Zhefeng Li</td> <td>03/28/2012</td> </tr> <tr> <td>Kyounghwan Lee</td> <td>03/27/2012</td> </tr> <tr> <td>Mustafa E. Sahin</td> <td>03/28/2012</td> </tr> <tr> <td>Osama Tarraf</td> <td>03/28/2012</td> </tr> </tbody> </table> | | Name | Execution Date | Zhefeng Li | 03/28/2012 | Kyounghwan Lee | 03/27/2012 | Mustafa E. Sahin | 03/28/2012 | Osama Tarraf | 03/28/2012 | | |
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| RECEIVING PARTY DATA | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>Name:</td> <td>Reverb Networks, Inc.</td> </tr> <tr> <td>Street Address:</td> <td>20099 Ashbrook Place</td> </tr> <tr> <td>Internal Address:</td> <td>Suite 105</td> </tr> <tr> <td>City:</td> <td>Ashburn</td> </tr> <tr> <td>State/Country:</td> <td>VIRGINIA</td> </tr> <tr> <td>Postal Code:</td> <td>20147</td> </tr> </table> | | Name: | Reverb Networks, Inc. | Street Address: | 20099 Ashbrook Place | Internal Address: | Suite 105 | City: | Ashburn | State/Country: | VIRGINIA | Postal Code: | 20147 |
| Name: | Reverb Networks, Inc. | | | | | | | | | | | | |
| Street Address: | 20099 Ashbrook Place | | | | | | | | | | | | |
| Internal Address: | Suite 105 | | | | | | | | | | | | |
| City: | Ashburn | | | | | | | | | | | | |
| State/Country: | VIRGINIA | | | | | | | | | | | | |
| Postal Code: | 20147 | | | | | | | | | | | | |
| PROPERTY NUMBERS Total: 1 | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13353893</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 13353893 | | | | | | | | |
| Property Type | Number | | | | | | | | | | | | |
| Application Number: | 13353893 | | | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | | | |
| <p>Fax Number: (202)842-7899</p> <p>Phone: (202) 842-7800</p> <p>Email: mharris@cooley.com</p> <p><i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: Cooley LLP</p> <p>Address Line 1: 777 6th Street NW</p> <p>Address Line 2: Suite 1100</p> <p>Address Line 4: Washington, DISTRICT OF COLUMBIA 20001</p> | | | | | | | | | | | | | |
| ATTORNEY DOCKET NUMBER: | REVB-014/01US 315256-2031 | | | | | | | | | | | | |
| NAME OF SUBMITTER: | David W. Hopkins | | | | | | | | | | | | |

CH \$40.00 13353893

Total Attachments: 6

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ASSIGNMENT

Zhefeng LI, residing at 70 Livingston Road, Morristown, NJ 07960; Kyoungwan LEE, residing at 13813 Jefferson Park Drive, Apt. #4402, Herndon, VA 20171; Mustafa E. SAHIN, residing at 21087 Bitterroot Ter., Ashburn, VA 20147; and Osama TARRAF, residing at 43782 Virginia Manor Ter., Ashburn, VA 20148 (each referred to as "Assignor") have made an invention(s) (the "Invention(s)") set forth in an application for patent of the United States, entitled METHODS AND APPARATUS FOR UNDERPERFORMING CELL DETECTION AND RECOVERY IN A WIRELESS NETWORK, and which is a:

- (1) ☐ provisional application
(a) ☐ to be filed herewith; or
(b) ☐ bearing Application No. , and filed on ; or
- (2) ☒ non-provisional application
(a) ☐ to be filed herewith; or
(b) ☒ bearing Application No. 13/353,893, and filed on January 19, 2012.

WHEREAS, Reverb Networks, Inc., a corporation duly organized under and pursuant to the laws of Delaware, and having its principal place of business at 20099 Ashbrook Place, Suite 105, Ashburn, VA 20147 (the "Assignee"), is desirous of acquiring the entire right, title, and interest in: the Invention; the application for patent identified in paragraph (1) or (2); the right to file applications for patent of the United States or other countries on the Invention; any application for patent of the United States or other countries claiming priority to these application; any provisional or other right to recover damages, including royalties, for prior infringements of these applications; and any patent of the United States or other countries that may be granted therefor or thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee then in confirmation of any obligation to do so in said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor's entire right, title, and interest in:

- (a) the Invention(s);
- (b) the application for patent identified in paragraph (1) or (2);
- (c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Paris Convention for the Protection of Industrial Property and under the Patent Cooperation Treaty;

(d) any application(s) for patent of the United States or other countries claiming the Invention(s);

(e) any application(s) for patent of the United States or other countries claiming priority to the application for patent identified in paragraph (1) or (2) or any application(s) for patent claiming the Invention(s), including any division(s), continuation(s), and continuation(s)-in-part; and

(f) any provisional or other right to recover damages, including royalties, for prior infringements of any application for patent identified in the preceding paragraphs (b)-(c); and

(g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b) – (e), including any reissue(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the Invention(s), that the Invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein.

The Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that the Assignor will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done in connection with any and all proceedings for the procurement, maintenance, enforcement and defense of the Invention(s), said applications, and said patents, including interference proceedings, without charge to the Assignor, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

The Assignor hereby authorizes and requests the attorneys of COOLEY LLP to insert in the spaces provided above the filing date, the application number, and the attorney docket number of the application identified in paragraph (1) or (2) when known.

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date: March 28, 2012

By: Zhefeng LI
Zhefeng LI

State of _____)
_____) ss.
County of _____)

On _____, before me, _____,
Notary Public, personally appeared _____,
personally known to me or proved to me on the basis of satisfactory evidence, to be the
person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to
me that he/she/they executed the same in his/her/their authorized capacity(ies), and that
by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

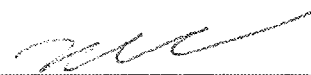
WITNESS my hand and official seal.

Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

Date: 2012, March 27

By: 
Kyoungghwan LEE

State of _____)
County of _____) ss.

On _____, before me, _____,
Notary Public, personally appeared _____,
personally known to me or proved to me on the basis of satisfactory evidence, to be the
person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to
me that he/she/they executed the same in his/her/their authorized capacity(ies), and that
by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

Date: 3/28/2012

By: 
Mustafa E. SAHIN

State of _____)
County of _____) ss.

On _____, before me, _____,
Notary Public, personally appeared _____,
personally known to me or proved to me on the basis of satisfactory evidence, to be the
person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to
me that he/she/they executed the same in his/her/their authorized capacity(ies), and that
by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

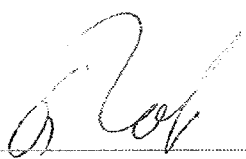
Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

Date: 3/18/2012

By: _____


Osama TARRAF

State of _____)
County of _____) ss.

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Place Notary Seal Above

My Commission Expires: _____

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