

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Kuo et al.
Inter Partes Review: IPR2024-00509
U.S. Patent No.: RE47,842
Issue Date: February 4, 2020
Appl. Serial No.: 16/218,841
Filing Date: December 13, 2018
Attorney Docket No.: 90007-161IPR
Title: SYSTEM AND METHOD OF IDENTIFYING NETWORKED DEVICE
FOR ESTABLISHING A P2P CONNECTION

SUPPLEMENTAL DECLARATION OF YU-LI KAO

I, Yu-Li Kao, declare that:

1. I am the inventor for the invention referenced above. I am also one of the founders for the ThroughtTek Co., Ltd..
2. I am over the age of 18. I have received my bachelor's degree in computer science from the Bond University in 1993.
3. I have been involved in the technologies of the cloud computing and artificial intelligence. In 2008, I co-found the ThroughtTek, which provides a total solution for cloud connection platforms focusing on integration of point-to-point (P2P) to surveillance systems.
4. P2P and the hole puncture technique by themselves are not new per se in the industry at the time when the '842 patent's earliest application was filed.
5. Image recognition related technology is also not new in the industry at the time when the '842 patent's earliest application was filed. Bar code, QR code, and even fingerprint recognition



all have been widely practiced before the '842 patent.

6. However, adapting the image recognition related technique, for enhancing users' experience in establishing the P2P connection is novel, and is not per se obvious at the time when the '842 patent's earliest application was filed.

7. The ThroughTek's P2P solutions has dominated the P2P market. The commercial success of the ThroughTek's P2P solution indicates that the importance of this patented invention in P2P solution.

In Regard the Declaration of Mr. Kardashov

8. I have cursorily reviewed the compensated declaration by Mr. Kardashov in regard my invention and related Lorex publications.

9. I had personally met Mr. Kardashov in 10/11/2012 at Taipei, Taiwan. In 2012, Lorex's management team has visited ThroughTek's office at Taipei. Mr. Kardashov was one of the visiting Lorex team members (Exhibit A). After a lengthy discussion, an Exclusivity Agreement between the ThroughTek and Lorex was reached, and it was executed by ThroughTek on 9/18/2012 and by Lorex on 10/11/2012 respectively (Exhibit B).

9A. I affirm that the Exhibit A is a photograph of Lorex's management team, which I personally took this photograph on 10/11/2012 at ThroughTek's Office at Taipei during Lorex's visit to ThroughTek. The photograph in Exhibit A is authentic and has not been altered in any way other than labeling each person's name. I further affirm that the Exhibit B is the genuine Exclusivity Agreement between ThroughTek and Lorex, which I affixed my signature on it as a witness, and the Exclusivity Agreement was executed in front of me by the ranking officers from both ThroughTek and Lorex on 9/18/2012 and 10/11/2012 respectively; in particular, the



Exclusive Agreement was executed by Mr. Worndl, who was Mr. Kardashov's direct supervisor at the time.

9B. Before the Exclusive Agreement was executed, Lorex and ThroughTek had exchanged technical information, and the ThroughTek has provided Lorex any necessary technical support for facilitating the decision of the Exclusive Agreement.

10. ThroughTek has provided its complete P2P solution to Lorex including the subject matter in the '842 patent per Exclusivity Agreement.

11. Mr. Kardashov's declaration stated that ThroughTek did not partake any portion of the referenced Lorex publications and video. I have reviewed these referenced Lorex publications and video; these referenced Lorex publications and video in Mr. Kardashov's declaration are user manual and instructional video for Internet protocol (IP) camera. It is a common practice that ThroughTek, as a technical solution provider, does not involve in client's marketing campaigns. Therefore ThroughTek did not involve in any Lorex publications as stated in Mr. Kardashov's declaration.

12. Lorex did not have any software development team to implement any core portion of the P2P solution at the time the '842 patent's earliest application was filed, which Lorex relied on ThroughTek's P2P solution for its products.

12A. Mr. Kardashov accused me that I made a false assertion at the paragraph 12 above¹, I disagrees. Mr. Kardashov explicitly admitted in his deposition that Mr. Kardashov on behalf of Lorex looked for the right solutions, and Mr. Kardashove stated the Lorex was doing QA, automation, and GUI design, and the rest were partnered with other company².

12B. Mr. Kardashov stated that Mr. Kardashov's team included contractors from StarVedia to

¹ Mr. Kardashov's 2nd declaration, paragraph 7.

² Mr. Kardashov's deposition transcript page 12, lines 11-15.



development the software³. I do not know this StarVedia company, but it is against common sense that why would Lorex still seek ThroughTek's technical solution if this so called StarVedia had completed the needed technical solution? In particular, why would Mr. Kardashov's direct supervisor Mr. Worndl would bring Mr. Kardashov to visit ThroughTek and executed the Exclusive Agreement if this so called StarVedia had completed the needed technical solution?

13. These referenced Lorex's marketing campaign materials do not contain any technical known-how on how to actually implement the ThroughTek's P2P solution.

In Regard the Declaration of Dr. Bim

14. I have also cursorily reviewed the compensated declaration by Dr. Bim in regard my invention.

15. I noticed that Dr. Bim's declaration contains conclusive assertions and legal analysis which may constitute practice of laws, and I don't see Dr. Bim's qualification in analyzing legal doctrine.

16. Dr. Bim asserted that a person of ordinary skill in the art (POSITA) before the effective filing date of the '842 Patent would have had a bachelor's degree in electrical engineering and two years of work experience with network and communication technologies. Dr. Bim further stated that additional relevant education could compensate for less work experience and additional relevant work experience could compensate for less education⁴.

17. It is unclear to me as what bases Dr. Bim relied on to conclude this standard for POSITA. As the POSITA standard is to explicitly concluded in Dr. Bim's declaration, I do not see any

³ Mr. Kardashov's 2nd declaration, paragraph 17.

⁴ Dr. Bim's declaration, page 7-8.



evaluation and/or analyze on whether the definition truly reflects a realistic and reasonable level of skill and knowledge within the relevant field. Dr. Bim's conclusion may either elevate the standard to an overly specialized or advanced level or, conversely, reduce it to someone with a mere general understanding.

18. Dr. Bim asserted that the QR code recognition and hole-punching were both known before the '842 patent's earliest filing date and cited the references of Saxena and Scott⁵.

19. The '842 patent directs to specific combination of technologies and the application scenario. Both Saxena and Scott are limited to the theoretic analysis or specific application. Both Saena and Scott direct to Bluetooth pairing without a third device, while the '842 patent directs to establishing a P2P connection with a third party. Neither reference discloses or suggests combining the technologies to enhance how the P2P connection is established to improve the P2P users' experience.

20. Saxena's research mainly addresses secure pairing between devices, focusing on using a visual channel for pairing. It does not describe how QR code scanning technology can be combined with hole-punching technology along with the real-time P2P connection.

21. Scott's research focuses on bypassing issues during Bluetooth device discovery and does not cover pairing of IP cameras or the combination of QR code scanning with hole-punching technology. This indicates that the teaching in these documents does not cover the specific application and implementation of the '842 patent.

22. Neither Saxena nor Scott implies that the combination of these technologies in the '842 patent was obvious at time when the '842 patent's earliest application was filed. Neither Saxena nor Scott explicitly or implicitly discloses or suggests combining the image recognition with the

⁵ Dr. Bim's Declaration, pages 16-20.



P2P connection. A POSITA at the time would not have naturally thought of combining the image recognition with P2P in view of Saxena and Scott. The alleged suggestion of combining technologies as claimed in the '842 patent is simply a hindsight.

23. Dr. Bim asserted that the QR code used for device identification is not novel and relied on the U.S. publications Menzel, Brown, and Lorex publications⁶.

24. Menzel has a publication date of January 9, 2014. Menzel was published after the '842 patent's earliest filing date, thus Menzel is not qualified to be considered as evidence against the '842 patent.

25. Brown mentions barcode and visual markers; Brown's Figs. 5-6 and 8-10 illustrate joining a social group with the bar code. Brown does not address the use of image recognition technology in P2P connections. Brown does not provide any teaching to suggest that the image recognition could serve as the initial trigger for the P2P connection.

26. As mentioned above, those referenced Lorex's marketing campaign materials do not contain any technical known-how on how to actually implement the ThroughTek's P2P solution. In addition, ThroughTek and Lorex have executed an Exclusivity Agreement which Lorex's products will use ThroughTek's P2P solution.

27. Brown, as the only qualified reference, does not imply that the combining the image recognition onto the P2P connection establishment as recited in the '842 patent was obvious at time when the '842 patent's earliest application was filed. A POSITA at the time would not have naturally thought of combining the image recognition with P2P in view of Brown. Further, any alleged suggestion of combining technologies as claimed in the '842 patent is simply a hindsight.

28. Dr. Bim asserted that the hole-punching technology used in the '842 patent is widely

⁶ Dr. Bim's declaration, pages 21-24.



adopted in industry and is not novel; and Dr. Bim relied on the references of a Korean publication Park, ThroughTek IP camera brochure, and Ford document⁷.

29. Park directs to the IP camera management. Ford primarily focuses on theoretical research regarding network address translation traversal issues and does not cover specific implementation methods or applications for IP cameras. The ThroughTek IP camera brochure describes ThroughTek's IP camera. None of the references discloses using image recognition to initiate P2P pairing. The '842 patent uses one-way image recognition for establishing a P2P connection. This process was not documented in cited documents.

30. Although hole-punching technology had been described in references before the '842 patent, the innovation of the '842 patent does not merely lie in the use of hole-punching technology alone. Instead, the '842 patent directs to a specific combination of technologies within a particular application scenario. Mainly, the '842 patent directs to employing the image recognition and then establishing the P2P connection with hole-punching technology. These documents mainly describe general network address translation traversal techniques and do not consider using QR code scanning as the trigger to initiate the connection process. The '842 patent focuses on the P2P connecting process for a networked monitoring device, such as an IP camera, by providing users the one-way and one-step scanning to avoid any complexities in configuring devices, which represents a new technical application.

31. The combination of hole-punching and image scanning in the '842 patent achieves real-time P2P connection. This design was not found in any of the relied documents. None of these documents suggests or teaches a POSITA to naturally think of the combination as recited in the '842 patent at time when the '842 patent's earliest application was filed.

⁷ Dr. Bim's declaration, pages 26-30.



32. Dr. Bim asserted his disagreement on Office's decision and patentee's assertion in regard the support for the negative limitation, which is inherently disclosed in the '842 patent's specification, and Dr. Bim further questioned the priority over the provisional application as a result of this⁸.

33. A negative limitation, defined as a restriction or exclusion within a claim rather than an affirmative feature, can indeed be inherently supported by the specification. In cases where the specification describes a concept or embodiment without explicitly detailing certain features, it can inherently imply the absence or exclusion of those elements. For instance, if a patent specification thoroughly describes an invention as operating solely within a specific range or under specific conditions, this context inherently excludes conditions or features outside those parameters. Thus, the specification itself can provide implicit support for a negative limitation by defining the invention in a way that does not include (or even precludes) certain elements. This inherent support can be especially relevant in technical fields where exclusionary features are implicitly understood by those skilled in the art, reinforcing that the omission aligns with the intended scope and novelty of the invention.

34. Dr. Bim asserted that Kim in view of the Lorex publication renders the '842 patent obvious⁹. As discussed above, any Lorex publication should not be considered as a prior art against the '842 patent in view of the Exclusivity Agreement between the ThroughTek and Lorex. As Lorex is not a prior art against the '842 patent, the Lorex publication cannot be combined with any other reference to render the '842 patent obvious. And Kim alone does not disclose every recited limitation as recited in the '842 patent.

35. Dr. Bim asserted that ThroughTek's own German application publication

⁸ Dr. Bim's declaration, pages 35-37.

⁹ Dr. Bim's declaration, pages 41-98.



DE202012101164U1 in view of the Lorex publication renders the '842 patent obvious¹⁰. As discussed above, any Lorex publication should not be considered as a prior art against the '842 patent in view of the Exclusivity Agreement between the ThroughTek and Lorex. As Lorex is not a prior art against the '842 patent, the Lorex publication cannot be combined with any other reference to render the '842 patent obvious. Furthermore, the ThroughTek's German application publication is dated 6/6/2012, which is within one year of the '842 patent's earliest priority date. Thus, the German application publication cannot be considered as a prior art against the '842 patent.

36. The '842 patent not only introduces an innovative combination of technologies but it also improves users' experience in establishing the P2P connection. ThroughTek has been benefited from the tremendous commercial success contributed from the '842 patent. Such success evidences of the '842 patent's innovation along with the long-standing market needs.

37. I hereby declare that all statements made are of my own knowledge, are true and that all statements made on information and belief are believed to be true. I further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of the Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this proceeding.

Date March, 7, 2005

By: 
Yu-Li Kao

¹⁰ Dr. Bim's declaration, pages 98-116.



Exhibit A



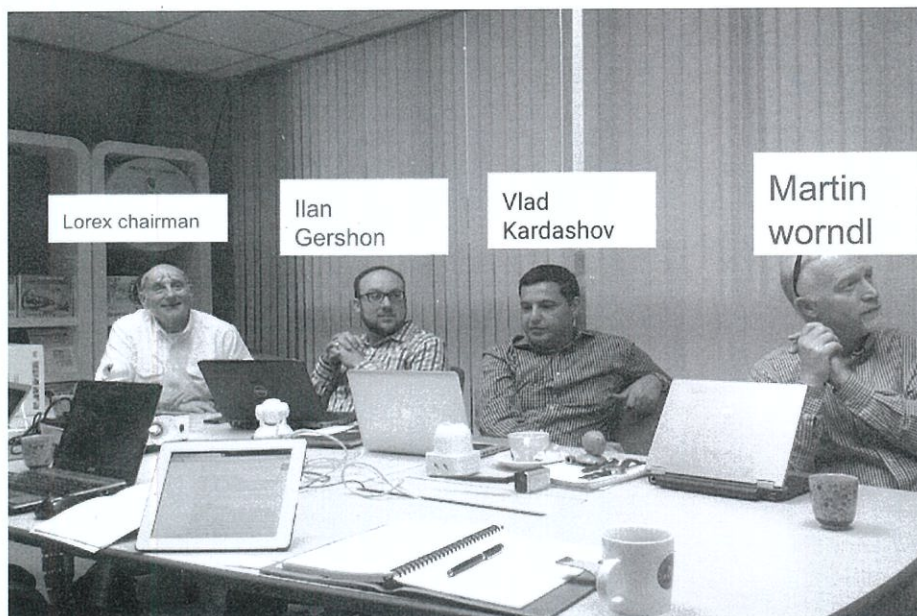
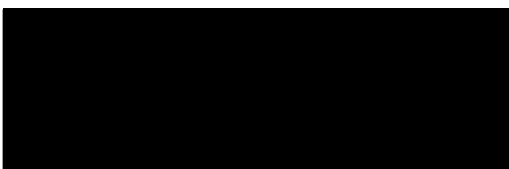


Exhibit B

A handwritten signature in blue ink, appearing to be 'X' followed by a stylized flourish.



EXCLUSIVITY AGREEMENT

THIS EXCLUSIVITY AGREEMENT (the "**Agreement**") is made and entered into as of this, Join Venture Partnership by and between LOREX CORPORATION ("LOREX"), a Delaware corporation with offices at 901 Elkridge Landing Road, suite 100, Linthicum, Maryland 21090, and _ Throughtek Co., Ltd. ("TUTK")_(the "**Partner**").

WHEREAS:

- A. LOREX provides businesses and consumers with leading edge video surveillance security solutions and sells its products under the LOREX and Digimerge brands. LOREX has recognized the Partner's cloud connectivity services Assets and is prepared to introduce the Partner to  (the "**Third Party**") specializing in equipment manufacturing to create a joint venture to the benefit of all parties concerned amalgamating the Partner's Assets with the Third Party's assets (the "**Joint Assets**"), and the parties agree to sell the Joint Assets to LOREX exclusively in the Territory for the Term. It is understood and agreed that any direct or indirect pre-existing relationship between the Partner and the Third Party in relation to the Joint Assets supersedes the exclusivity clauses in this Agreement.
- B. The Partner is the owner of all right, title and interest in and to the assets more particularly described on Schedule "A" hereto (collectively, the "**Assets**").
- C. The parties hereto intend to be parties to a certain joint venture agreement with the Third Party to create the Joint Assets and sell them exclusively to LOREX (the "**Joint Venture Agreement**"); and the entering into of this Agreement is a condition toward completing the transaction of the Joint Venture Agreement contemplated thereby. It is understood that the Joint Venture Agreement shall be entered into solely for the purpose of creating, manufacturing and distributing the Joint Assets and Joint Products in the Territory, and no other assets of the parties shall be included without the expressed written consent of that party in their sole discretion.
- D. The parties hereto wish to enter into this Agreement to, *inter alia*, agree that LOREX shall be the exclusive distributor for the Joint Assets worldwide (the "**Territory**") for a period of five (5) years from the date of the signing of the Joint Venture Agreement (the "**Term**"). It is further understood that the Partner will not enter into any agreement with the Third Party to introduce and/or sell similar products to the Joint Assets to any party directly or indirectly other than LOREX.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Grant of Exclusivity

The Partner agrees to and does hereby grant to LOREX for the Term (as defined below) and upon the terms and conditions hereinafter set forth, an exclusive license with the right to sublicense others, to make, use, offer for sale, import or sell only the

Joint Assets and any uses and related products that may hereafter be developed by the Partner on behalf of LOREX, whether individually or jointly with others, on the basis of, or otherwise derived from, the Joint Assets (any such uses or products being herein collectively referred to as the "Joint Products"), for the purpose of effecting the development, marketing and sale of the Joint Assets and Joint Products through the Territory. For the avoidance of doubt it is clarified that the exclusivity does not apply to the Assets other than in the form merged into the Joint Assets.

The license contemplated by this Section 1 shall throughout the Term be exclusive to LOREX in relation to the Territory.

2. Term of License

Unless otherwise terminated in accordance with the terms and conditions of this Agreement, the license granted hereby shall be effective for a term of five (5) years commencing on the date of the signing of the Joint Venture Agreement (the "Term"), with no renewal terms.

3. License Fees

It is understood that LOREX shall purchase the Joint Assets and Joint Products from the Partner and the Third Party in accordance with the Joint Venture Agreement, and the Partner agrees to sell the Joint Assets and Joint Products to LOREX at a fair price such that a reasonable market acceptable selling price as determined by LOREX is achieved and LOREX may earn a reasonable gross profit margin consistent with the average achieved in the prior fiscal year. Therefore, there will be no Licensee fee payable by LOREX for the granting of the license contemplated hereby. Additional Consideration on Commercialization

4. Research and Development Activities

The parties hereto agree to work jointly in connection with research and development activities respecting the Joint Assets, including in relation to the development of Joint Products, and upon completion of development activities, to determine the appropriate means to Commercialize the Joint Assets. The parties further agree that in the event that Commercialization of the Joint Assets does not occur within one (1) year of the execution of the Joint Venture Agreement, and following reasonable commercial efforts on the part of the parties, this Agreement shall terminate automatically.

The parties agree that any improvements or developments of the Joint Assets which are made by the parties, shall be jointly owned and treated as Joint Assets under this agreement. Any patent deemed necessary and jointly agreed to by the parties to secure the Joint Assets shall name all three parties of the Joint Venture Agreement as equal owners of the intellectual property, and all costs related to the patent filing shared equally by all three parties. Nothing herein shall be construed as licensing or granting any other right to the Assets.

For purposes of this Agreement, "**Commercialize**" shall mean the qualification of manufacturing capabilities and the initiation of launch production and/or the establishment of a joint venture with other persons constituted to manufacture or launch Joint Assets or Joint Products, and "**Commercialization**" shall have a corresponding meaning. Commercialization shall be deemed to have occurred upon the earlier of (a) the issuance of a written notice executed by the parties confirming Commercialization and (b) the date of the actual initial sale or license by LOREX of the Joint Assets or Joint Products.

Nothing in this Section 4 requires either of the parties to expend funds in relation to research and development activities involving the Joint Assets.

5. Commercially Reasonable Efforts of Licensee

Upon and following Commercialization, LOREX shall use its commercially reasonable efforts to market and sell Joint Assets and Joint Products. Except as provided in the immediately preceding sentence, LOREX shall have no obligations whatsoever to the Partner in relation to the development, marketing and sale of the Joint Assets and the Joint Products.

6. Confidentiality

No party shall disclose to any person other than their professional advisors the existence or terms of this Agreement or any matter contemplated hereby, unless such disclosure is required by law. The covenant contained in this section shall survive the termination of this Agreement. Notwithstanding the foregoing, nothing in this Section 6 shall prevent either party from (a) commencing legal proceedings taking such preliminary, interim or conservatory measures, including injunctive relief, as may be necessary to define or protect the rights and enforce the obligations contained herein pending final settlement of a dispute, controversy or claim under this Agreement or (b) commencing legal proceedings otherwise involving the enforcement of this Agreement.

7. Governing Law

This letter of agreement shall be governed by the laws of the State of Maryland and the federal laws of the United States applicable therein.

8. Waiver of Jury Trial

Each of the parties hereby waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in respect of any litigation as between the parties directly or indirectly arising out of under or in connection with this Agreement or the transactions contemplated hereby or disputes relating hereto. Each of the parties (a) certifies that no representative, agent or attorney of the other party has represented, expressly or otherwise, that such other party would not, in the event of litigation, seek to enforce the foregoing waiver and (b) acknowledges that it and the other party have been induced to enter into this agreement by, among other things, the mutual waivers and certifications in this Section 8.

9. Notices

Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be delivered in person, transmitted by telecopier, or sent by registered mail, charges prepaid, addressed as follows:

(a) if to LOREX:

Lorex Corporation
250 Royal Crest Court
Markham, Ontario L3R 3S1

Fax: 905-947-0138

(b) if to the Partner:

Any such notice or other communication shall be deemed to have been given and received on the day on which it was delivered or transmitted (or if such day is not a business day, on the next following business day) or, if mailed, on the fifth business day following the date of mailing. Any party may at any time change its address for service from time to time by giving notice to the other parties in accordance with this Section 9.

10. Currency

Unless otherwise indicated, all dollar amounts referred to in this agreement are expressed in United States funds.

11. Sections and Headings

The division of this agreement into sections and the insertion of headings are for convenience of reference only and shall not affect the interpretation of this agreement.

12. Entire Agreement

This agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no conditions, covenants, agreements, representations, warranties or other provisions, express or implied, collateral, statutory or otherwise, relating to the subject matter hereof except as herein provided.

13. Time of Essence

Time shall be of the essence of this agreement.

14. Severability

If any provision of this agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such determination shall not impair or affect the validity, legality or enforceability of the remaining provisions hereof, and each provision is hereby declared to be separate, severable and distinct. In addition, if any provision of this agreement is so determined to be invalid, illegal or unenforceable, the parties agree to use reasonable efforts to replace such provision with one that gives effect to the intent of the parties, and that is valid, legal and enforceable.

15. Successors and Assigns

This agreement shall enure to the benefit of and be enforceable by the parties and, where the context so permits, their respective successors, permitted assigns, heirs and personal representatives, and shall be binding on the parties hereto and their respective successors and assigns. LOREX may assign any of its rights or obligations hereunder to any assignee.

16. Amendment and Waivers

No amendment or waiver of any provision of this agreement shall be binding on any party unless consented to in writing by such party. No waiver of any provision of this agreement shall constitute a waiver of any other provision, nor shall any waiver constitute a continuing waiver unless otherwise expressly provided.

17. Counterparts

This agreement may be executed in counterparts (whether by facsimile signature or otherwise), each of which shall constitute an original and all of which taken together shall constitute one and the same instrument.

18. Relationship of Parties

This Agreement does not constitute LOREX as the agent or legal representative of the Partner or the Partner as the agent or legal representative of LOREX for any purpose whatsoever. Other than the creation, manufacture and distribution of the Joint Assets and Joint Products in connection with the Joint Venture Agreement, no other joint venture or partnership between LOREX and the Partner is intended or shall be inferred from the provisions of this Agreement.

19. Independent Legal Advice

The parties hereto hereby confirm that each has obtained independent legal advice in connection with this Agreement and the transactions contemplated hereby.

[REST OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

Throughtek co., Ltd. / G.M.
Charles Fan 2012/9/18
Witness

Throughtek co., Ltd. / president
Patrick Kimo 2012/9/18
Partner

Lorex Corporation

Per: MW 10.11.12 Martin Wernon
Authorized Signing Officer

Per: _____
Authorized Signing Officer

SCHEDULE "A"

ASSETS

Cloud Connectivity services.

Cloud Connectivity services specializing in varied networked devices, including IP cam, NAS, Set-top box, home gateway, and similar devices.

The Partner will develop connectivity services with a connection platform based on P2P (Point to Point) network connection architecture and advanced Cloud computing technology via API (Application Programming Interface) for cross-platform connection. The end result will allow developers to utilize a ready-to-use API to build up the connection between different devices and across different operation systems.