

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Chi-Ming Kuo et al.
U.S. Patent No.: 9,774,916 Attorney Docket No.: 52472-0007IP1
Issue Date: September 26, 2017
Appl. Serial No.: 14/591,008
Filing Date: January 7, 2015
Title: INFORMATION CONCENTRATING CENTER
CAPABLE OF MAKING P2P CONNECTIONS WITH
REMOTE CLIENT DEVICES

SECOND DECLARATION OF MR. VLAD KARDASHOV

I, Vlad Kardashov, declare as follows:

1. I am over the age of 18, have personal knowledge of the facts set forth herein, and am competent to testify to the same.

2. I understand that this declaration is being submitted by Petitioners Reolink Innovation Inc. and Shenzhen Reolink Technology Co., Ltd. in *inter partes* review proceeding IPR2024-01192 involving U.S. Patent 9,774,916, assigned to Patent Owner ThroughTek Co., Ltd. This is the second declaration that I have prepared in connection with IPR2024-01192. I previously prepared a first declaration, dated July 19, 2024, in connection with IPR2024-01192, which I understand has been assigned exhibit number EX1003 (“First Declaration”). My First Declaration detailed facts and circumstances regarding the publication by Lorex Technology, Inc. of certain prior art references to the ’916 Patent, including the Lorex LH150 ECO4 Series Instruction Manual English Version 1.0 (“Lorex

Manual,” EX1007) and the instructional YouTube video titled “How to set up remote access for DVR using - Lorex Stratus Connectivity” (“Lorex Video,” EX1012).

3. I understand that ThroughTek submitted a Patent Owner’s Response (“POR”) in IPR2024-01192 that addresses my First Declaration and that attempts to refute the prior art status of Lorex Manual and Lorex Video by arguing that the disclosed subject matter of Lorex Manual and Lorex Video were allegedly obtained from ThroughTek employees, namely from one or more of the inventors named on the ’916 Patent. As I will explain in further detail below, the POR does not provide evidence to support any of these conclusory assertions.

4. The POR does cite a declaration from Mr. Yu-Li Kao (EX2005), and a transcript of a deposition that I previously sat for on November 1, 2024 (EX2007). Both of these exhibits relate to a different IPR matter (i.e., case no. IPR2024-00509) involving a completely different patent. Moreover, the earlier IPR2024-00509 matter involves different prior art references that describe different Lorex products than those at issue in the present proceeding (IPR2024-01192). For example, the prior art in the earlier IPR2024-00509 matter describes the Lorex LNC100 Series of *IP cameras*—which are completely different from the Lorex LH150 ECO4 Series *DVR* that is the subject of Lorex Manual and Lorex Video in IPR2024-01192. Because Lorex Manual and Lorex Video are not discussed in Patent Owner’s

exhibits including EX2005 and EX2007 related to the IPR on the '916 Patent, these exhibits plainly do not establish or support the POR's baseless and wildly incorrect assertion that the disclosed subject matter of Lorex Manual and Lorex Video was obtained from ThroughTek or any inventor of the '916 Patent.

5. I have reviewed the POR along with the declaration of Mr. Kao. Based on my review, these documents contain a range of factual errors that culminate with the POR's false allegation that Lorex obtained the subject matter disclosed in Lorex Manual and Lorex Video from ThroughTek. I have prepared this Second Declaration to supplement the testimony provided in my First Declaration and to set the record straight in response to various inaccurate and/or incomplete assertions in the POR and in Mr. Kao's declaration.

6. I am being compensated for my work in connection with this IPR proceeding at my standard hourly rate. My compensation is not in any way contingent on the substance of my opinions or the outcome of these proceedings.

I. LOREX MANUAL AND LOREX VIDEO QUALIFY AS PRIOR ART TO THE '916 PATENT

A. Lorex Manual and Lorex Video

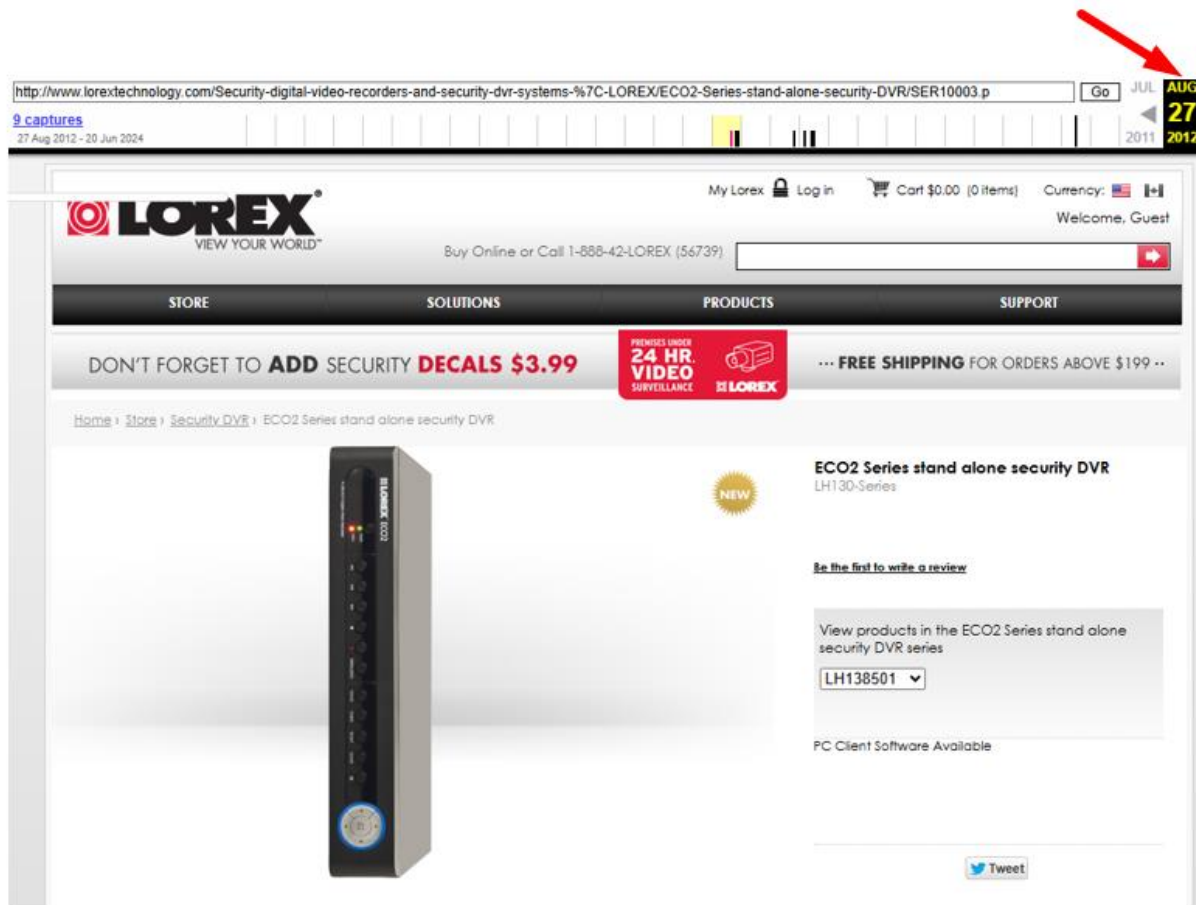
7. As explained in my First Declaration, from 2012 to 2016, I was employed as the Director of Engineering & Product Development at Lorex Technology, Inc. As part of this role, I was responsible for managing the product design of the Lorex LNC100 Series IP camera. Through my responsibilities as a

Project Lead and IP Products Line Manager, I gained personal knowledge of the Lorex LH150 ECO4 Series of DVR, the Lorex ECO Stratus application and service, the Lorex network server system, and all of the instructions/user guides/literature/how-to videos that were published by Lorex Technology in 2012 and 2013, including Lorex Manual and Lorex Video. *See* EX1011, ¶¶5, 9-11, 53-60. As explained in my First Declaration, I have personal knowledge of the publication of Lorex Manual and Lorex Video. *See* EX1011, ¶¶53-60)

8. I also distinctly recall a number of additional documents published by Lorex in connection with the Lorex LH150 ECO4 Series of DVR (and other similar Lorex DVR products), the Lorex ECO Stratus application and service, and the Lorex network server system. These publications include, for example, a manual that Lorex published by July 2012 (referred to herein as EX1023), a webpage that was published to the Internet via Lorextechnology.com by August 27, 2012 (referred to herein as EX1024), a product specification that Lorex published by August 31, 2012 (referred to herein as EX1025), a webpage that was published to the Internet via Lorextechnology.com by May 9, 2012 (referred to herein as EX1026), a video that Lorex published on YouTube on June 21, 2012 (referred to herein as EX1027), and a video that Lorex published on YouTube on September 28, 2012 (referred to herein as EX1028). I have personally reviewed each of these exhibits and confirm herein that they are true and accurate copies of the aforementioned publications issued by

Lorex before the earliest possible effective filing date of the '916 Patent (January 7, 2014 or “Critical Date”).

9. Furthermore, the web archive version of “Lorex Technology Inc., Lorex LH130 ECO2 Series Webpage” (EX1024) accurately indicates it was published at least by August 27, 2012.



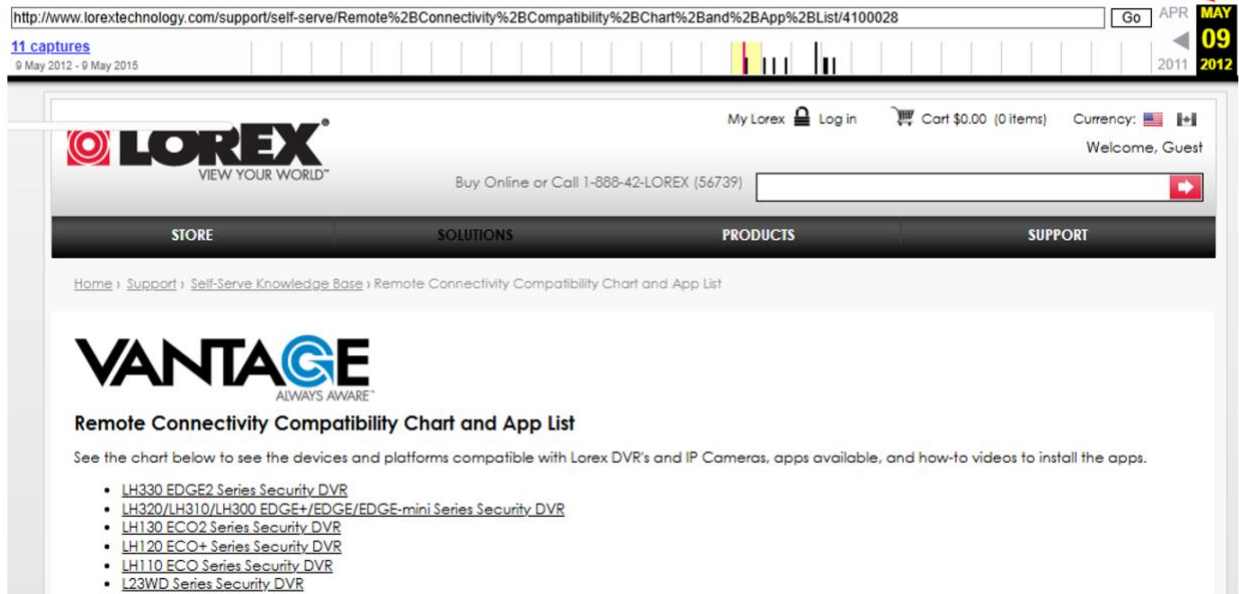
See EX1024 (arrow added).

10. The web archive version of “Lorex Technology Inc., Lorex LH130 ECO2 Series Product Specification” (EX1025) accurately indicates it was published at least by August 31, 2012.



See EX1025 (arrow added).

11. The web archive version of “Lorex Technology Inc., Lorex Remote Connectivity Compatibility Chart and App List” (EX1026) accurately indicates it was published at least by May 9, 2012.

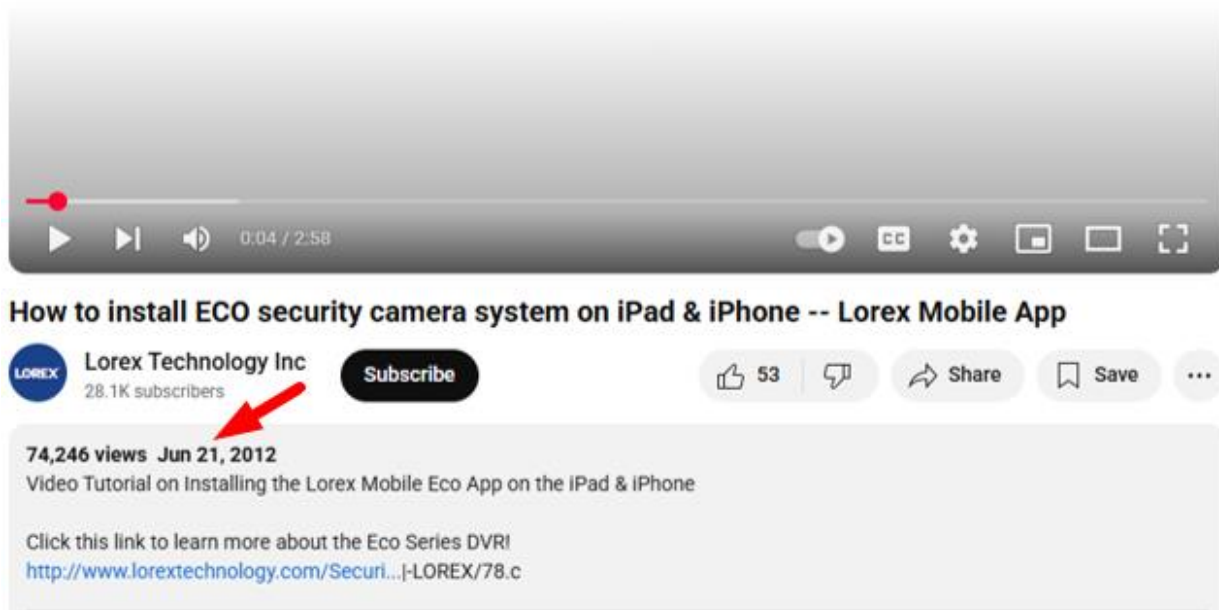


See EX1026 (arrow added).

12. The video titled “How to Install ECO Security Camera System on iPad & iPhone -- Lorex Mobile App” accurately indicates it was published on June 21, 2012.

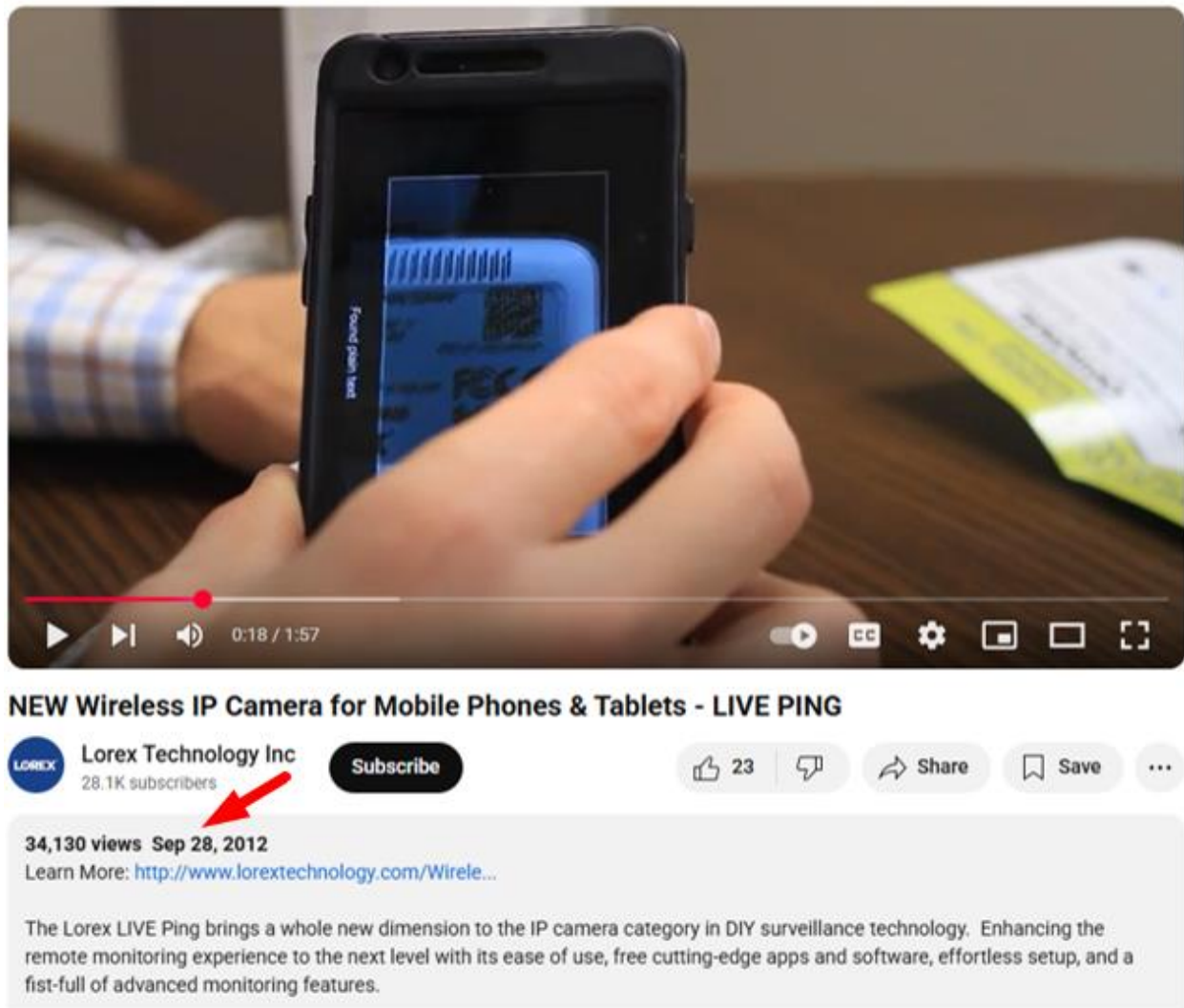


Video Tutorial for iPad & iPhone App for eco Series DVR



See EX1027 (arrow added).

13. The video titled “NEW Wireless IP Camera for Mobile Phones & Tablets - LIVE PING” accurately indicates it was published on September 28, 2012.



See EX1028 (arrow added).

14. Additional aspects of the technical solution disclosed in Lorex Manual and Lorex Video—including the use of a smartphone to capture an image of a QR code affixed to a Lorex device for purposes of inputting the device ID to establish the P2P connection between the mobile phone and the Lorex device—was implemented in a working prototype no later than June 2012. I have personal knowledge of this fact, and this fact is also corroborated by a slide presentation that

Lorex started sharing in June 2012 with retailers that were interested in distributing/selling Lorex's LNC100 Series cameras. EX1023, Slide 7 (showing the concept for obtaining a camera ID via a QR code on a camera). I have personal knowledge that this slide presentation was shared with those outside of Lorex (e.g., with retailers) starting in June 2012 because, as part of my above-described role at Lorex in June 2012, I personally participated in such presentations using these exact slides to communicate this subject matter to the audience. This presentation has been in my custody since May 2012, and I have personal knowledge that this image/information in Slide 7 (showing the concept for obtaining a camera ID via a QR code on a camera) is unmodified from May 2012. To corroborate the facts of my testimony above, I note that the file properties show that this file was created on May 4, 2012 and printed on May 8, 2012:



This capability (as described on Slide 7 of EX1023) was fully tested and operational in the prototype of the LNC100 Series IP camera and Lorex Ping app, and although Lorex Manual and Lorex Video focus on a different DVR product, the slide presentation (EX1023) corroborates the explanation from my First Declaration (EX1003) that the subject matter disclosed in Lorex Manual and Lorex Video were not obtained from any inventor of the '916 Patent, or from Throughtek generally.

15. In my First Declaration, I explained that the subject matter disclosed in Lorex Manual and Lorex Video (including the Lorex LH150 ECO4 Series of DVR, the Lorex ECO Stratus application and service and the Lorex network server system) was developed and publicized well before Critical Date of the '916 Patent. Based on my personal knowledge and experiences, ThroughTek was not involved in any way

with the development of the Lorex LH150 ECO4 Series of DVR, the Lorex ECO Stratus application and service, or the Lorex network server system. To be clear, Lorex did not obtain the subject matter disclosed in Lorex Manual or Lorex Video from ThroughTek or any inventor of the '916 Patent.

16. Lorex engaged a software development team earlier in 2012—a contractor named OzVision, Inc. Technology (“OzVision”)—to assist in the software development of the Lorex LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service. Lorex also engaged Hangzhou Hikvision Digital Technology Co., Ltd. (“Hikvision”) to assist with manufacturing of the LH150 ECO4 Series of DVR. Unlike OzVision and Hikvision, ThourghTek was not involved at all in the development or production of the Lorex LH150 ECO4 Series of DVR, the Lorex ECO Stratus application and service, or the Lorex network server system. All of this development work was completed long before the Critical Date of the '916 Patent and independent of ThroughTek. Lorex began working on the LH150 ECO4 Series of DVR and the Lorex ECO Stratus connectivity service in Q1 of 2012. For this project, Lorex began working with OzVision and Hikvision around that same time—early in 2012. OzVision provided technical support for the development of the software for the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service. Hikvision provided technical support for the development and manufacturing of the hardware for the LH150 ECO4 Series of

DVR. All of this work was finalized in a working prototype and successfully tested no later than mid-2012. The LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service were developed through collaboration between Lorex, OzVision, and Hikvision, all without input from anyone at ThroughTek. None of it was obtained directly or indirectly from anyone at ThroughTek.

17. I, along with several colleagues from Lorex, initially met with ThroughTek in person on October 11, 2012, which was one of many meetings in an Asian tour for purpose of identifying vendors for future projects. This meeting was unrelated to the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service. To be clear, based upon my personal knowledge and the corroborating examples described below, the development of the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service, including the entire subject matter of Lorex Manual and Lorex Video, was completed well before the Critical Date of the '916 Patent and independent of any interaction with ThroughTek. *See, supra*, ¶¶7-16.

18. The Lorex Manual and Lorex Video references cited in the Petition represent only two of many different prior art documents that Lorex published in connection with products in their DVR and security camera product lines. Many of these publications disclosed substantially the same subject matter as the Lorex Manual and Lorex Video references even *before* Lorex met with ThroughTek on

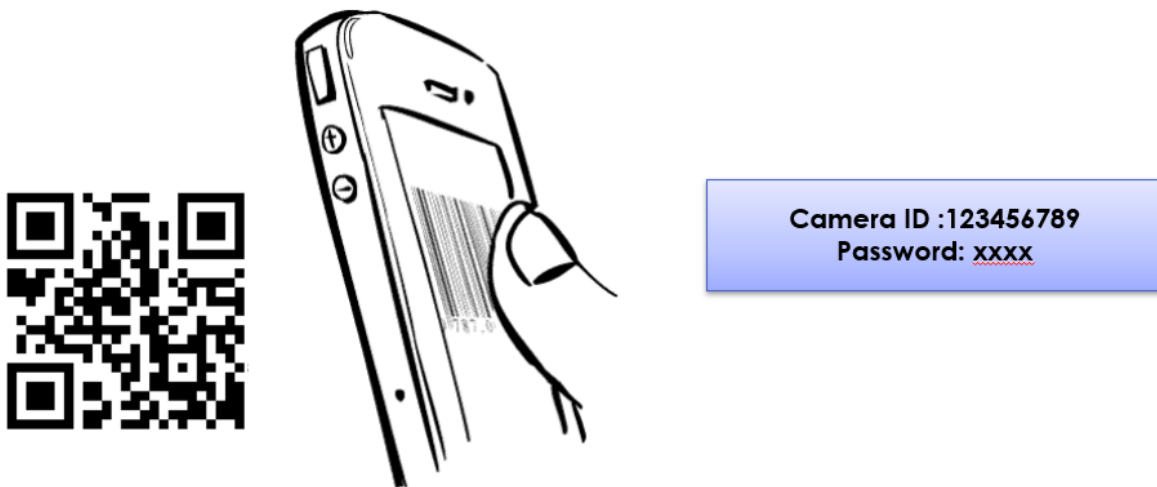
October 11, 2012 or before the Agreement was executed on September 18, 2012. EX2001, 6.

19. For example, my first declaration cited Lorex Manual and Lorex Video for their disclosures of a DVR including video input ports configured to connect a number of video cameras as information sources for video data, the DVR having a local area network (LAN) port for receiving an ethernet cable for connecting the DVR to the Internet. EX1003, ¶¶83-89, 208-214. Lorex Manual and Lorex Video were not the first Lorex documents to disclose this information. Lorex had disclosed DVR products having substantially the same interfaces in various other publications that pre-date the Agreement (and certainly before the Critical Date of the '916 Patent). Internet Archive snapshots of webpages and product specifications from August 2012 confirm that DVR products having substantially the same features as those cited from Lorex Manual and Lorex Video were already on the market before either party executed the Agreement and before the time of the October 11, 2012 meeting. *See, e.g.*, EX1024 & EX1025, 1-5 (disclosing details of Lorex LH130 ECO2 Series DVR similar to LH150 ECO4 Series DVR).

20. Yet other prior art Lorex publications confirm that Lorex developed solutions for live streaming video from one or more security cameras to a mobile device through the Internet well before any recorded interaction between Lorex and ThroughTek. *See, e.g.*, EX1026 (LorexTechnology.com webpage captured May 9,

2012 comparing remote connectivity features across multiple product lines); EX1027 (video posted to YouTube.com on June 21, 2012 disclosing step-by-step instructions for installing Lorex's ECO security camera app for remote DVR connectivity); EX1028 (video posted to YouTube.com on September 28, 2012 disclosing step-by-step instructions for connecting to a remote Lorex security camera from a mobile device by capturing a QR code affixed to the camera). Other contemporaneous evidence shows that Lorex had developed a QR-code based connectivity solution like that disclosed in Lorex Manual and Lorex Video several months before Lorex's meeting with ThroughTek in October 2012. EX1023, 7.

Step 3 – Activate Camera



On a smartphone scan a QR code,
then enter a password

Or using a PC, enter the
unique camera ID and
password.

See EX1023, 7.

21. In accordance with our ordinary and customary business practice back in 2012 and 2013, Lorex would not and did not disclose these materials before completing development of the Lorex LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service. Additionally, Lorex would not have released these types of materials before offering or preparing to offer to sell the product shown in the materials.

22. In summary, none of the subject matter in the Lorex Manual or Video was obtained directly or indirectly from ThroughTek or any of the individuals listed as inventors on the face of the '916 Patent.

B. Kuo

23. The assertions in ThroughTek's POR are further contradicted by the fact that, before the Critical Date of the '916 Patent, ThroughTek had already publicly disclosed in Kuo (EX1011) its solution for establishing a P2P connection through a linking server (e.g., a cloud platform) using the exact same approach at that described and claimed in the '916 Patent. Kuo published on August 2, 2012—more than two months before the October 2012 meeting between Lorex and ThroughTek, and well over a year before the January 2014 Critical Date of the '916 Patent. *See* EX1011, Cover. I also understand that Kuo's patent application was filed on November 10, 2011, which is long before any discussions commenced between Lorex and ThroughTek.

24. As I explained in my First Declaration, the '916 Patent explicitly cites to Kuo and incorporates Kuo by reference for its solution to establishing a P2P connection in the manner recited by the Challenged Claims. EX1001, 1:8-14, 13:42-52, 14:10-22; EX1003, ¶¶65-69. I referred to Kuo in my remarks specifically in relation to Grounds 1C-2B to address the claimed P2P connection features, and I understand that PO did not contest Kuo's relevance to the P2P connection features of the '916 Patent. *Id.* Thus, Lorex did not and could not have obtained the subject matter of Kuo from Lorex at the October 11, 2012 meeting, or in the months before, because Kuo had already published by August 2, 2012.

C. Mr. Kao's Declaration

25. As noted above, I have reviewed Mr. Kao's declaration testimony (EX2005). The fact that I do not address all of Mr. Kao's testimony should not be interpreted as agreement with them.

26. Regarding ¶9 of Mr. Kao's declaration, I met with Mr. Kao on October 11, 2012 at ThroughTek's office in Taipei. It appears the photograph shown in EX2007 was taken at this meeting. After the meeting the Exclusivity Agreement was apparently executed by Martin Worndl, who was responsible for a different category of Lorex products such as analog recorders and baby monitors. Neither the Exclusivity Agreement nor our discussion at this meeting pertained to the development of the Lorex LH150 ECO4 Series of DVR and the Lorex ECO Stratus

application and service. To be clear, none of the subject matter in either the Lorex Manual or Lorex Video was obtained from any ThroughTek representative—not at this meeting and not at any other time. EX2005, ¶9.

27. Regarding ¶10 of Mr. Kao’s declaration, ThroughTek’s “complete P2P solution” was not used in connection with the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service. EX2005, ¶10. In fact, as mentioned above in ¶¶7-16, the development of the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service resulting in the solution disclosed in Lorex Manual and Lorex Video was completed and publicly disclosed independent of our meeting with ThroughTek.

28. Regarding ¶11 of Mr. Kao’s declaration, I agree that it was common practice for technical solution providers to not be involved with client’s marketing material. I also agree that ThroughTek was not involved in any of the 2012 or 2013 Lorex Publications described herein or in my First Declaration. EX2005, ¶11.

29. Regarding ¶12 of Mr. Kao’s declaration, as discussed above in ¶16, the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service were developed/managed by Lorex (including with Lorex employees and the contracted development teams from OzVision and HikVision), OzVision was engaged to provide the software development support LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and cloud connectivity service, and Hikvision

was engaged to provide hardware development support for the LH150 ECO4 Series of DVR. The working prototype was completed no later than mid-2012 (refer to ¶16) and the resulting final product was publicly sold to end users shortly thereafter in mid-2012. Lorex did not rely on “ThroughTek’s P2P solution” for the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service that was disclosed in Lorex Manual and Lorex Video. EX2005, ¶12.

30. Regarding ¶13 of Mr. Kao’s declaration, I agree that the Lorex Manual and Lorex Video did not describe “how to implement ThroughTek’s P2P solution” because the LH150 ECO4 Series of DVR and the Lorex ECO Stratus application and service did not rely on “ThroughTek’s P2P solution” at all. EX2005, ¶13.

II. KIM941 DOES NOT “TEACH AWAY” FROM THE CLAIMED SUBJECT MATTER

31. I noticed that in the POR, PO asserts that Kim941 teaches away from the negative limitation recited in Element [1h] because Kim941’s “peer nodes P1 and P2 are required to register with the server 100 for obtaining the virtual address and storing the information such as the network connection type in the storage unit 100 of the server 100 *before establishing a direct connection.*” POR, 12 (emphasis added); *generally id.*, 9-13. However, PO failed to address the requirement of Element [1h] that “the remote client device does not have a unique identification (UID) to register in the at least one linking server for associating connecting information of the remote client device *when the remote client device contacts the*

at least one linking server for establishing the P2P connection.” EX1001, 15:35-40 (emphasis added).

32. As I indicated in my First Declaration, the scope of claim Element[1h] encompasses a remote client device that *pre-registers* a unique identification (UID) in the linking server *before* the remote client device contacts the server to establish a P2P connection. EX1003, ¶¶108-113, 173-176, 234-237. The restriction in Element [1h] is formulated as a specific temporal condition that limits the remote client device to not having a UID to register in the linking server only at the time “*when the remote client device contacts the at least one linking server for establishing the P2P connection.*” Kim941 discloses a pre-registration of IDs with a server at a time prior to a peer node later contacting the server to establish a P2P connection, which is not precluded by the limitations of Element [1h]. EX1008, [0055] (“in order to register information such as an ID and a password to the server 100, the peer node P1 transmits a registration request message including an ID and a password to the server”), [0056]-[0060], [0079]-[0087], FIGS. 5 (showing peers pre-registered with server 100), 6-7.

33. I noticed that Kim941 explicitly discloses that the first peer’s “tunnel query request message” includes only the unique ID of a second peer to identify the second peer as the target of the connection, and that the first peer sends this message when contacting the server to establish a P2P connection with a second peer.

EX1008, [0081], FIG. 6. Because the first peer is already registered at the time of this connection, the first peer does not need to (and does not) send its own unique ID to register with the server in the tunnel query request message. *Id*; EX1003, ¶¶110-112.

III. CONCLUSION

I hereby declare that all statements made 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.

Dated: July 14, 2025 By: *Vlad Kardashov*
Vlad Kardashov