

Filed on behalf of ThroughTek Technologies Inc.

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IPR2024-01193

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

Reolink Innovation, Inc. and Shenzhen Reolink Technology Co., Ltd.
Petitioners

v.

ThroughTek Technologies Inc.
Patent Owner

Case No. IPR2024- 01193
U.S. Patent No. 10,602,448

PATENT OWNER'S SUR-REPLY

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I. INTRODUCTION

The Petitioners' Reply ("PR") grossly neglects the legal arguments as submitted in the Patent Owner's response. There is no dispute that no declaration can substitute printed prior art. The effect from the declaration should be carefully reviewed, so any cited prior art's disclosure will not be overly interpreted or expanded based on the declaration. Patent Owner submits that as Petitioner has not come forward with substantial evidence, the validity of '448 Patent should be sustained.

II. CLAIM INTERPRETATION

Patent owner contends that the claims of the '448 Patent use the following terms that require interpretation.

Wakeup Request Packet: The wake-up request packet includes a device identifier (Unique identification UID) of a connection target and a network location.

Apparatus Wakeup Packet: Contains the device ID, wakeup information and connection information.

Connection information includes a network (IP Address). EX1002, 4:4-8 (Each connection information includes a network address (IP Address) at which the networking apparatus is located.

Wakeup information or “WM” is information device-specific static data about the sleeping host, which is supplemental to the general information HD and device identifier ID, and required for the wakeup process. See EX 1003 5:43-48; Fig 7; *See also* EX 1003 ¶[53]; EX 1003 at pp 56 (authorization key), p.58 (Channel Set), p. 81 (encryption information)

Feature Flags “(also known as feature toggles or feature switches) are a software development and product experimentation technique that turns certain functionality on and off during runtime, without deploying new code. <https://www.optimizely.com/optimization-glossary/feature-flags/> Retrieved April 21, 2025. Petitioners alleges that this interpretation is inconsistent with the claim language, which only indicates the state of the second apparatus (PR, page 2, last paragraph). Patent owner submits that this is indeed consistent with the language, as the claim language directs to turning certain functionality on and off during runtime without deploying new code.

III. BRIEF SUMMARY OF THE ‘448 PATENT

The ‘448 Patent discloses system and methods for the wakeup of sleeping devices. According to a claimed method, a “wakeup request” is sent from a first computer 110 to a connection server 150, which the connection server 150 then generates an “apparatus wakeup request” that includes the device ID and wakeup information about the device to be woke up that has been stored and is accessible to

the server. The connection server then looks up connection address of the sleeping second computer device 130 from the storage, and transmits the apparatus wakeup request to the connection address.

IV. THE PROSECUTION HISTORY

During prosecution, the Examiner cited and applied Publication Winer (Pub No. 2015/0074432 (“Winter”), US Pub 2015/0172423 Wu a et al (Pub. No.: 2015/0172423; hereinafter “Wu”), Siegmund et al (Pub. No.: 2007/0050645), Grau (Pub. No.: 2016/0112955), Takao (Pub. No.: 2014/0072277) and more. Each of the applied references were directed at wakeup technology.

The Petitioner’s expert’s assertion that the Examiner was not aware of alternative wakeup systems during prosecution (EX 1003, ¶ 34) is unfounded, and as shown herein, the references cited by Petitioner are merely cumulative to the references of record with respect to the particular elements of the prior art relied upon in its Request for Reexamination.

V. RESPONSE TO PETITIONER’S ARGUMENT

A. Response to Ground 1: Zhang Does not Anticipate the Challenged Claims.

The Petitioner’s assertion that US2014/0298066 (Ex. 1004 or “Zhang”) renders claims 1,7-8, 10-11, 15-16, 18-19, and 23-25 invalid under Section 102 of the Patent Statute is incorrect.

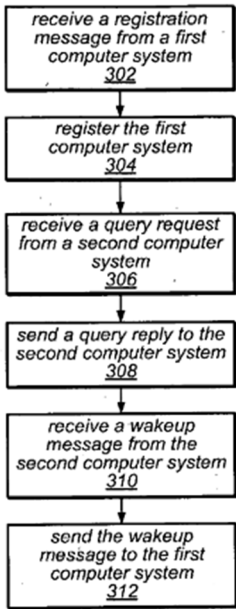
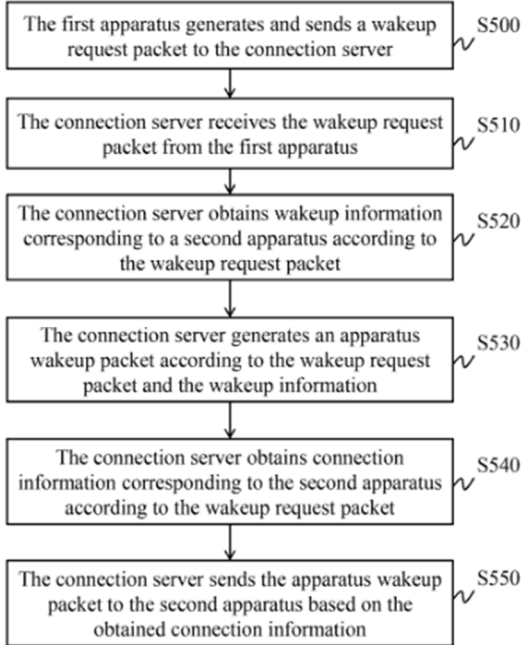
a. Zhang explicitly discloses creating the apparatus wakeup request at the second computer/requesting apparatus, thus Zhang teaches away from the recited limitation of “connection server generating an apparatus wakeup packet, according to the wakeup request packet, by obtaining wakeup information and network address”

As illustrated in Fig. 3, Zhang’s method involves, a first request “query” that is sent from the second computer (requesting apparatus) to a server. The server then creates a query reply which includes information necessary to create wakeup message back to the second computer (requesting apparatus) at step 308. The requesting apparatus then creates the “wakeup message” and contacts the server a second time, at step 309, and transmits the wakeup message to the server. The server then forwards this same wake-up message to the sleeping apparatus at step 310. This sequence is described by Zhang EX 1004 at ¶ [0021] (“Thus, according to some embodiments, registering the first computer system, receiving the query request and sending the query reply, and receiving and sending the wakeup message may be performed while the connection with the NIC is maintained.”)

The query reply may include information “needed by the second computer system (the requesting apparatus) in order to generate and send a wakeup message to the first computer (sleeping) system.” [0061] The information needed by the second computer may include

- “some or all of the information received by the server from the first computer system in the registration message,” and
- the hostname and/or netbios shared folders of the first computer system. *Id.*

The method of the Zhang method and the Patented method are set forth in Table 1 below.

Prior Art, Zhang Pub. No. US2014/0298066 (EX1004, Fig. 3)	Patented Invention U.S. Patent No. 10,602,448 (EX1001, Fig. 5)
 <pre> graph TD 302[receive a registration message from a first computer system 302] --> 304[register the first computer system 304] 304 --> 306[receive a query request from a second computer system 306] 306 --> 308[send a query reply to the second computer system 308] 308 --> 310[receive a wakeup message from the second computer system 310] 310 --> 312[send the wakeup message to the first computer system 312] </pre> FIG. 3	 <pre> graph TD S500[The first apparatus generates and sends a wakeup request packet to the connection server S500] --> S510[The connection server receives the wakeup request packet from the first apparatus S510] S510 --> S520[The connection server obtains wakeup information corresponding to a second apparatus according to the wakeup request packet S520] S520 --> S530[The connection server generates an apparatus wakeup packet according to the wakeup request packet and the wakeup information S530] S530 --> S540[The connection server obtains connection information corresponding to the second apparatus according to the wakeup request packet S540] S540 --> S550[The connection server sends the apparatus wakeup packet to the second apparatus based on the obtained connection information S550] </pre> FIG. 5

b. Declaration cannot cure Zhang's deficiency

Petitioners argues that Zhang's teaching in [0066] and [0078]-[0082] along with the Mr. Kardashov's declaration support that Zhang indeed disclose the recited limitation of generating an apparatus wakeup packet at the connection server. Patent owner respectfully disagrees.

Zhang's [0066] provides that the wakeup message may be sent to the target computer/first computer system by the server as received from the requesting computer/second computer system. It further provides that the server may modify or authenticate the message. Patent owner submits that Zhang's [0066] merely describes a relay operation, which the server simply forwards the message to its designation. Zhang's [0078]-[0082] provides the packet format.

As an exemplary claim, claim 1 of the '448 Patent, upon receiving the wakeup request, the connection server obtains the network address and wakeup information for generating the apparatus wakeup packet.

As illustrated in Zhang's Fig. 3, steps 310 and 312, Zhang explicitly discloses the second computer generates the wakeup message, and the second computer sends the wakeup message to the first computer system. Which is consistent with Zhang's [0066], where Zhang states that a server can also be positioned in between the first computer system and the second computer system for relaying the message. Patent Owner submits that Zhang's server does not

generate the wakeup packet, upon requested by a requesting apparatus, by obtaining the network address and wakeup information. Patent owner submits that Zhang's server merely replicates wakeup packet for forwarding, Zhang's server does not generate the wakeup packet by obtaining any wakeup information and network address.

Patent Owner submits that the declaration should not be used to modify the prior art's explicit teaching. Zhang explicitly teaches that the second computer generates the wakeup packet, declaration should not be used to modify Zhang's explicit teaching. Patent Owner also objects to the second declaration from Mr. Kardashov as this is not a part of original petition.

Hence, it is submitted that Petitioner's reasoning is incorrect. The server of Zhang merely **forwards** the previously generated apparatus wakeup request that was previously created. Further, Zhang explicitly discloses the followings:

- “In other words, a wakeup message received by the server from a computer system **may only be forwarded** to the first computer system if the device is still active.” (*emphases added*) Ex 1004 ¶ [0021]
- “The end user 406 may send the wakeup message to the server 404, **which may forward the wakeup message** to the sleeping client.” (*emphases added*) EX 1004 ¶ [0078]

- “Receive a wakeup message from the second computer. EX 1004, Fig. 4 (Step 310); Send **the** wakeup message to the first computer system (*emphases added*) EX1004, Fig. 4.(Step 312)

Even if the wakeup message is modified as Petitioner alleges to add an additional IP address, the server still does not **generate** the apparatus wakeup packet request message as claimed because it only supplements the apparatus wakeup request that has been previously generated at the host with a connection address or host ID and wakeup information, it does not obtain any wakeup information.

Claim [1 c] “requires the connection server generating an apparatus wakeup packet *according to the wakeup request packet and the wakeup information.*”. These elements are absent from Zhang’s method. In Zhang the wakeup request packet and wakeup information are integrated into the “apparatus wakeup packet” by the second computer (requesting apparatus) and the information is unchanged when it passes through the server. The fact that the server may modify the apparatus wakeup request” packet with the connection address data of the sleeping computer, as may be implicit in the server’s communication protocol, does not change the fact that it is the requesting apparatus that creates or generates the “apparatus wakeup request” packet with the recited information.

B. Response to Ground 2: The Zhang-Zill combination does not render obvious claims 1-3, 5, 7-8, 10-13, 15-16, 18-19, 23-25 of the ‘448 Patent.

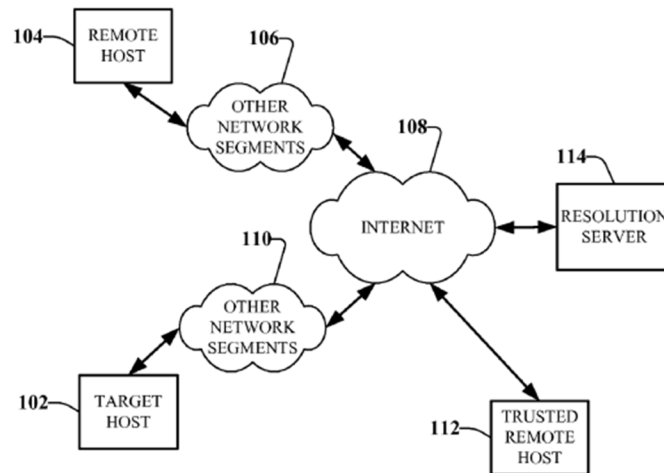
Petitioner further contends that claims 1-3 5, 7-8, 10-13 15-16, 18-19, and 23 are invalid under 35 USC 103 in view of the combination of Zhang and Zill et al., US No. 2009/02109519 (“Zill”) [EX1005].

Petitioners argues that Patent owner fails to recognize a POSITA will be motivated to combine the Zhang and Zill into the ‘488 claimed invention. Patent owner submits that the cited references cannot be combined into the ‘448 recited limitation based on the alleged POSITA motivation.

As discussed above, Zhang does not disclose generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information.

a. Neither Zhang nor Zill disclose or suggest generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information

Zill discloses a transparent remote wakeup system which teaches using a different network address for the wakeup message than the regular address for normal communications in a network. EX1005, Abstract.



Zill's system, as illustrated in Fig 1 includes: remote hosts 104 that are similar to the “requesting apparatus”, trusted remote hosts 112 that are similar to the “requesting apparatus but have been authenticated, a target host 102 which may have a sleeping mode and a normal mode, and a resolution server 114.

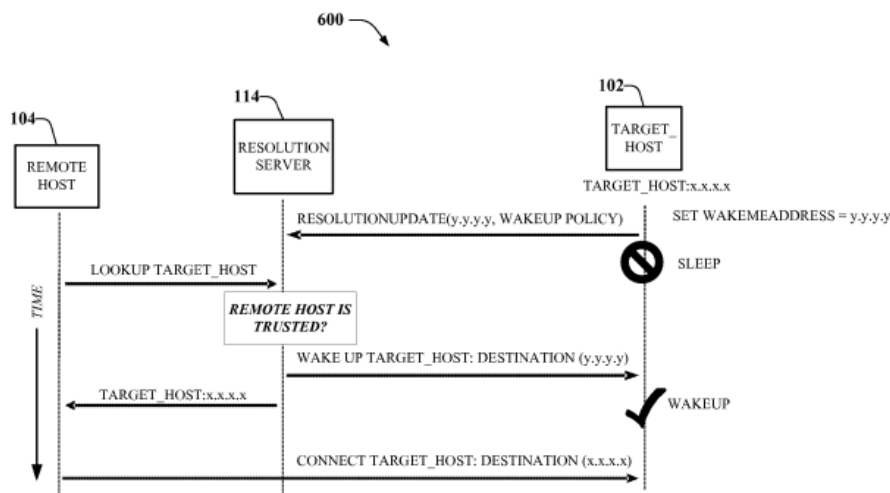


FIG. 6

As seen in Fig. 6, Zill discloses a transparent wake up. Zill discloses that the resolution server 114 receives a name resolution request for the target host 102 from the remote host 104, the resolution server 114 then wakes up the target host 102 and responds to the name resolution request by the remote host 104 by sending a regular address associated with the target host 102. Zill [0109]. As Zill discloses a transparent remote wakeup, Zill's remote host 104 is not aware of any wakeup actions. Zill's remote host merely initiates a name resolution request for connecting to the target host. Thus, Zill does not disclose or suggest generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information.

As neither Zhang nor Zill discloses or suggest generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information, the combination of the Zhang and Zill cannot be read on the '448 Patent.

b. No declaration or motivation can cure deficiency

It is well settled that the law requires a motivation to select the references and to combine them in the particular claimed manner to reach the claimed invention.” *Eli Lilly v. Zenith Goldline Pharm.*, 471 F.3d 1369, 1380 (Fed. Cir. 2006)). It is submitted that such a motivation or reason is absent from prior art. While Zill may use the server for the creation of the wakeup message and creates communication packets from the address, Zill’s objectives and teachings are inapposite to the configuration. Zill does not explain why it selected the server element to perform the function of creating the apparatus wakeup message or explain why it was advantageous or preferred to have the function performed on the server rather than the use of the remote hosts. Further, the hardware used in Zill’s remote hosts is exactly the same as that used in for the resolution server (See Figs 3-5). The components are identical and the remote servers could have been configured to perform the apparatus wakeup message generation functions, leaving the resolution server free to address and transmit communication packets thereby reducing its processing functions.

Petitioner relies upon the declaration of Mr. Vlad Kardashov, its expert, to attempt to establish the requisite motivation to combine the teachings of Zill to alter Zhang and reach the claimed invention. However, Petitioner’s contentions regarding the alleged motivations are conclusory, not supported by prior art and the

reasoning of alleged advantages is flawed and illusory. In this regard, the opinions are not corroborated by other documents and, when subject to scrutiny are neither convincing nor compelling. More importantly, Petitioner ignores the actual teaching and objectives of Zill. Since Zill does not provide the solution to any articulated problem a PHOSITA may face, there is no reason to make the combination.

While Petitioners asserted that Patent Owner fails to recognize the advantage by combining the two cited references as supported by the Mr. Vlad Kardashov's declaration, Petitioners provide no further reasons why Patent Owner's challenge on the motivation is completely without merit.

Furthermore, as discussed above, neither cited references discloses generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information. Motivation is only applicable to combine references; motivation cannot be relied on to modify the cited references into the '448 Patent.

C. Response to Ground 3: The Liu-Zhang combination does not render obvious claims 1-3, 5, 7-13, and 15-18 of the ‘448 Patent.

The petitioner contends that claims 1-3, 5, 7, 14 and 15 -18 of the ‘448 patent are obvious in view of the combination of Liu, US2017/0366753 [EX 1006] and Zhang EX 1004.

a. Neither Liu nor Zill disclose or suggest generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information

Liu discloses an Internet Protocol (IP) camera control method, apparatus, and system which includes features to prevent the IP camera from being always in a working state. The IP camera can receive a standby instruction, where the IP camera is currently in the working state, and switching, by the IP camera, from the working state to a standby state when the IP camera receives the standby instruction from a server, such that power consumption of the IP camera is reduced.

A wake-up procedure is explained at ¶¶[0094]-[0102]. When the user requires the IP camera for monitoring, the user inputs a wake-up instruction on a mobile client, where the wake-up instruction includes the port number and the communication address of the IP camera to be woken up. [0097]. The Communication address can be an IP address or MAC. [0057]. The mobile device

sends the wakeup request to a server that searches, according to the port number and the communication address of the IP camera to be woken up, for a wake-up packet for waking up the IP camera, presumable stored at the server and then sends the wake-up packet to the IP camera so that the IP camera switches from the standby sleeping state to the working state. [0099]. When awake, the device can be contacted using the IP address.

Liu merely discloses waking up the sleeping IP camera; Liu does not disclose or teach generating an apparatus wakeup packet by obtaining both wakeup information and network address. In particular, Liu does not disclose or teach obtaining the wakeup information for generating the apparatus wakeup packet.

As neither Zhang nor Liu discloses or teaches generating an apparatus wakeup packet by obtaining both wakeup information and network address, the combination of the Zhang and Liu cannot read on the ‘448 Patent and render the ‘448 Patent obvious.

b. No declaration or motivation can cure deficiency

Petitioner proffered two reasons for the alleged combination of Liu with Zhang: To provide increased security and to incorporate a human readable client ID into the wakeup procedure.

As discussed above, neither cited references discloses generating the apparatus wakeup packet at the server, upon requested by a requesting apparatus, by obtaining the network address and wakeup information. Motivation is only applicable to combine references; motivation cannot be relied on to modify the cited references into the '448 Patent.

While it may be advantageous to incorporate additional security measures as taught by Zhang, A PHOSITA that was motivated to employ such features would follow all relevant teachings of Zhang, including its election to create the apparatus wakeup request packet at the client. In view of these teaching, a PHOSITA would be disinclined to follow Zhang teaching and use the handheld device to create the apparatus wakeup message at the client or remote host.

While a wide variety of off the shelf security measures may be adopted wherein encryption techniques are associated with the transmission of the respective messages, it is submitted that a PHOSITA would not use Zhang as a guide, and, if all of its teachings were followed, the resulting system and method would not render obvious Claim 1 or 11 of the '448 Patent nor their dependent claims for the same reasons Zill-Zhang and Zhang do not render the invention obvious.

Further, as illustrated in Figs 4 and 7, Liu discloses that its system involves multiple “heartbeat messages” and “beacon messages” that are exchanged between

the server and IP camera. The heartbeat messages include messages sent at present frequencies. See EX 1006, Fig. 7, Step 205. The encryption and decryption requirements that would be imposed to these multiple messages exchanged over the network would impose increased load on the respective procession and would likely impede performance. It is submitted that PHOSITA would not adopt such encryption technology in view of the increased the load on the processors associated with the server and IP camera, which are typically not selected for processing power.

Petitioner contends that a PHOSITA would be inclined to Zhang's suggested improvement for the incoming wakeup message, including a "user selected human-readable ID" of the sleep-enabled computer.

The problem with integrating this step into Liu's system is that, if the Client ID is substituted for the client input, the entire system must be engineered to correlate such a user selected or human readable name to the stored device. Liu's method requires that a ***user input*** of the wake-up instructions on the mobile client including the ***port number*** and the ***communication address*** for the IP camera into the client device. See [0097] While the use of such a human readable Client ID data may improve the user experience, the combination does not address how the connection address and port number data are entered or captured by the system

and correlated with the required wakeup information for the remote sleeping apparatus, steps critical to the operation.

VI. CONCLUSION

For the foregoing reasons, the Challenged Claims 1-3, 5, 7-13, 15-19 and 23-25 of the '448 Patent should be sustained.

Respectfully submitted,

Dated: August 26, 2025

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Response to Petition for Inter Partes Review totals 3334 words, which is fewer than the 14,000 words allowed under 37 CFR § 42.24.

Dated: August 26, 2025

/Justin King/

Justin King

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

Pursuant to 37 C.F.R. § 42.6, I hereby certify that on August 26, 2025 the foregoing Patent Owner's Sur-reply from Patent Owner ThroughTek Co., Ltd. was served via email on the following counsel of record for the Petitioner:

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