

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESMED CORP.,
Petitioner

v.

CLEVELAND MEDICAL DEVICES, INC.,
Patent Owner

Case No. IPR2025-00159
U.S. Patent No. 11,375,921

**DECLARATION OF DR. SANDEEP CHATTERJEE IN SUPPORT OF
PETITIONER'S REPLY TO PATENT OWNER RESPONSE**

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	OBVIOUSNESS	1
A.	Toge in view of Kumar renders obvious a “remote internet site” where Toge’s physician-side computer is implemented as the web server.....	1
B.	The combined Toge and Kumar PAP system could transmit data in real-time to physician devices, maintaining one of Toge’s purposes.....	7
C.	The plain and ordinary meaning of “retransmit” does not exclude processed or requested data	9
D.	The Toge-Kumar system teaches “retransmit” even under PO’s construction	10
IV.	CONCLUSION	10

I, Sandeep Chatterjee, Ph.D., declare as follows:

I. INTRODUCTION

1. I have been retained as an independent expert consultant in this proceeding regarding U.S. Patent No. 11,375,921 (“the ’921 patent”) (Ex. 1001).

2. My experience and qualifications and my status as an independent expert were summarized in paragraphs 2-14 of the Declaration of Dr. Sandeep Chatterjee in Support of Petition for Inter Partes Review of 11,375,921 (“the ’921 patent”) (Ex. 1005, “Chatterjee Decl.”) and, further, in my curriculum vitae (CV) (Ex. 1006).

3. I have reviewed PO’s Response and the Declaration of Dr. Michael T. Goodrich submitted in support (Ex. 2015, “Goodrich Decl.”), and provide below my opinions to certain arguments made in those documents.

II. OBVIOUSNESS

A. Toge in view of Kumar renders obvious a “remote internet site” where Toge’s physician-side computer is implemented as the web server

4. Dr. Goodrich states that “[a] POSITA would not have been motivated to make Toge’s physician-side computer into a web server based on Kumar because [] Toge’s physician-side computer operates as a client device” and “clients and servers are intentionally kept separate in client/server network.” Goodrich Decl. ¶¶46-47; *see also* POR 14. I disagree.

5. During the relevant period, it was a well-known design option to use the same machine as both a client and server.

6. I have explicitly discussed how a client can be on the same machine as a server. Ex. 2018, 10:14-16 (“[I]n general, you can have a client on the same machine as the server”).

7. PO's own cited references confirm this design choice. *See* Ex. 2020, 4 (“In a typical client/server based application, the client process and server process can be on the same computer”); (“[t]he two-tier client/server structure is the simplest client/server structure that is still in use for many applications today”).

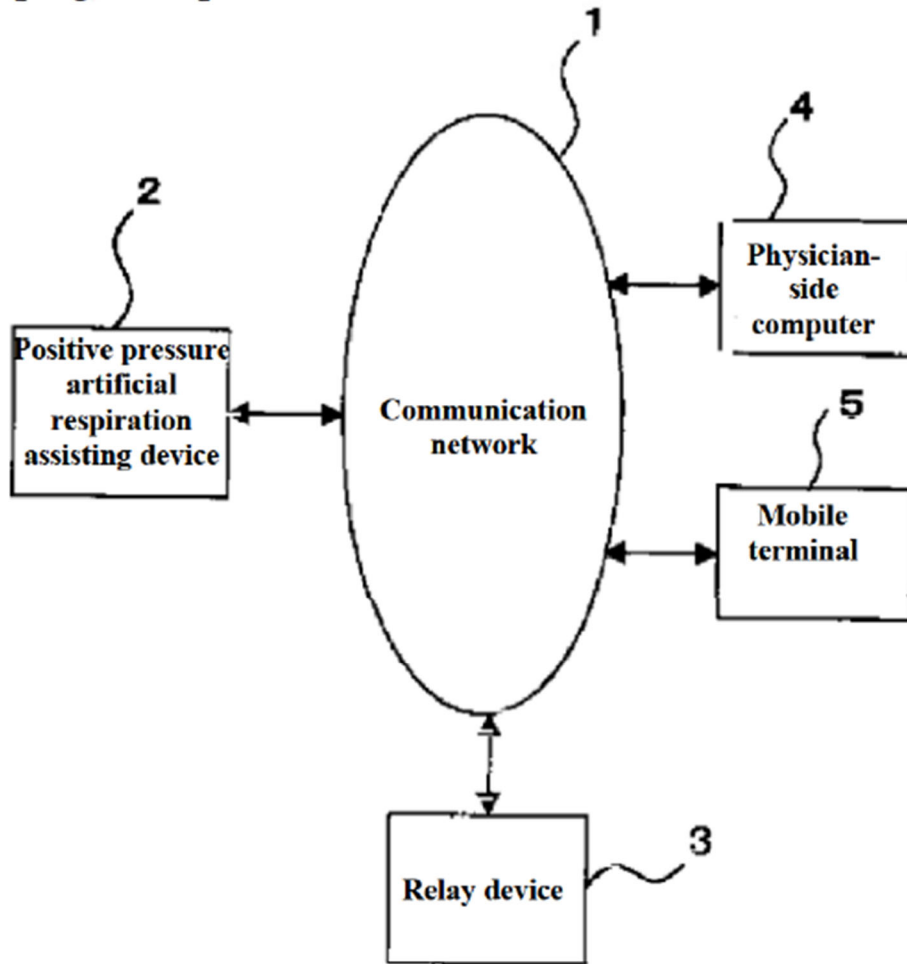
8. In fact, not only is this use case of a client and server both residing on the same computer possible, it is also so common that there is a shorthand way to refer to communications from a client to a server that is located on the same machine: localhost. The Microsoft Computer Dictionary defines “localhost” as: “The name that is used to represent the same computer on which a TCP/IP message originates. An IP packet sent to localhost has the IP address 127.0.0.1 and does not actually go out to the Internet.” Ex. 1070, 316.

9. Not only that, at least one of PO's references indicate several advantages of implementing a client device as a web server including: a reduced “total cost of ownership,” the availability of “lower-powered client devices like a

PDA (personal data assistant) for palmtop computing,” an ability to “run the latest software on servers” instead of “purchas[ing] or upgrad[ing] client hardware,” and a potential to “extend[] the life of the organization’s existing computing infrastructure.” *See* Ex. 2020, 4.

10. A POSITA improving the Toge system would have naturally looked at known architectures to implement the Toge system as a networked system like Kumar. The physician-side computer 4 would have been a natural design option to implement the web server because it is the component in the system which would receive the data and could be updated the most quickly and cost-effectively. As I discussed in my original declaration, the physician-side computer of Toge provides data access to physicians and providers. Ex. 1005, ¶ 92. Notably, any updates to the system will be implemented by the providers, and as such, the web server should be a device controlled by the physician and providers, and not by the patient.

[Figure 1]



Ex. 1044, Fig. 1

11. Dr. Goodrich opines that using the same machine as both a client and server would have “security vulnerabilities,” and suggests that, for instance, a malicious actor might be able to gain access to the client machine and then, the server data. Goodrich Decl. ¶ 49. I disagree.

12. Regardless of whether a machine is used as both a client and server, or serves solely as client or server, a malicious actor that gains access to a client machine could still gain access to server data. Dr. Goodrich ignores that a POSITA could have and would have undertaken measures to protect against such a possibility. That is, in implementing any system, a POSITA would always have to consider the security vulnerabilities of the architecture.

13. For example, implementing a client and server on the same machine provides more secure access to the data if there is a threat of a malicious actor because network access can be terminated while still providing physicians access to the data. A terminal for the physician can be connected directly to the server, allowing physicians to access the data without connecting through a network.

14. In fact, all system architectures, including the one Dr. Goodrich himself proposes (“[s]eparating the user layer and database layer onto different machines”) (Goodrich Decl. ¶ 49), have tradeoffs. For example, in the implementation that Dr. Goodrich proposes, in which the user layer and database layer are separated on different machines, if one machine goes down, the data is no longer accessible. Further, because the services are separated on different machines, this reduces performance as the different machines must expend additional resources and time to communicate with each other over a network. Also, additional machines mean

additional access points that can be exploited by malicious actors. Dr. Goodrich also fails to address the additional costs and resources necessary to implement and maintain his proposed system.

15. As I have previously indicated, a POSITA implementing the improved Toge system would have designed the system to address such a principal concern of computer architecture like security. *See* Ex. 2018, 15:3-7 (“[T]he answer to your question about security limitations is going to be different [] if the client and server ***are implemented in a proper way***”) (emphasis added). For instance, one of the other chapters of PO’s cited references discusses “Physical Database Design and Database Security.” *See* Ex. 1071 ([https://eng.libretexts.org/Courses/Delta_College/Introduction_to_Database_Systems/12%3A_Physical_Database_Design_and_Data_base_Security]). In that chapter, among different options, the reference discusses data partitioning as a means to increase security. *See, e.g.,* Ex. 1072 ([https://eng.libretexts.org/Courses/Delta_College/Introduction_to_Database_Systems/12%3A_Physical_Database_Design_and_Database_Security/12.04%3A_Data_Partitioning]).

16. Dr. Goodrich further suggests that implementing the physician-side computer as a web server would result in “performance reductions,” that would discourage a POSITA from using the configuration. Goodrich Decl. ¶51

("[I]mplementing multiple services, such as a web server and the client software on the same machine would create contention for the CPU(s), memory, network bandwidth, and input/output resources on that machine"). But, as discussed, different configurations have different tradeoffs. Dr. Goodrich does not demonstrate that the configuration I have described, in which the physician-side computer web server is accessed by, for instance, a physician's cell phone, would have the above-described performance issues that have a greater impact than the alternative configuration that Dr. Goodrich suggests. Nor could he, as many performance issues can be addressed by implementing other design enhancements (such as increasing network bandwidth) or using different hardware that are not relevant to this analysis.

17. Regardless, it is my opinion that a POSITA would have been aware of options available to mitigate such issues and improve computing performance of the configuration. Consequently, a POSITA would have been motivated to implement the physician-side computer of Toge as a web server as taught by Kumar.

B. The combined Toge and Kumar PAP system could transmit data in real-time to physician devices, maintaining one of Toge's purposes

18. Dr. Goodrich states that where Toge's physician-side computer has been implemented as a web server, "the web client would need to perform a data **pull** action rather than receiving a data push from the web server to receive an

update” which would “reduce the ability of the Toge system to push urgent patient data to a physician’s mobile terminal 5 in an emergency.” Goodrich Decl. ¶ 57. I disagree.

19. It is my opinion that incorporation of Kumar’s web-based engine into Toge’s PAP system would still enable the PAP to “push” data to physician-side devices as needed. As a threshold matter, Dr. Goodrich does not explain why the system would necessarily require the web clients to pull the information. There is nothing inherent about a machine serving as both a client and server that prevents it from pushing data as soon as it is received. If anything, because the physician-side computer and the web server are on one machine, the physician will receive the data at the same time as the web server, communicating the data to the physician more quickly.

20. Even if the web clients could only pull information, the design of the system could always be implemented in a way to address emergency situations. If the server identifies an emergency, the server could automatically push out such data. Further, when the physician’s web client is active, it could continuously query the server to see if new data has been received.

21. I also note that Dr. Goodrich states that Toge’s “purpose” is to push data to physician devices in emergencies. *See* Ex. 2015, ¶¶ 55, 56. It is my opinion

that transmitting PAP data to a physician in emergency situations is not Toge's only purpose. For example, Toge states that PAP data can be collected and saved for later transmission. *See, e.g.*, Ex. 1044, [0007].

C. The plain and ordinary meaning of “retransmit” does not exclude processed or requested data

22. Dr. Goodrich states that the Toge-Kumar system does not retransmit data because it does not “receiv[e] data and then send[] the [exact same] data to another device,” and because the web server would not retransmit data “by itself” and would instead “store data and not until an HTTP request ... transmit the data.” Goodrich Decl. ¶¶ 79-80. I, again, disagree.

23. As I testified, the '921 patent itself states that data can be “optionally reprocessed” before retransmission. Thus, the '921 patent expressly provides that “retransmit” encompasses the transmission of processed and unprocessed PAP data. *See* Ex. 1001 at 19:35-41; Ex. 2018, 37:22-24 (“It’s expressly stating optionally reprocesses the information in that sentence”). In fact, any data that has been transmitted, whether by ‘request’ or ‘by itself,’ has been processed or reprocessed (in the case of retransmission); this does not change the data itself.

D. The Toge-Kumar system teaches “retransmit” even under PO’s construction

24. If “retransmit” is construed to exclude processed data and data sent on request, it is my opinion that the Toge-Kumar system still renders obvious the “retransmit” limitation.

25. With respect to processing, data sent or stored is the same data received. For example, when transmitted, the data is wrapped in a package that depends on the protocol. The data is extracted from that package by the recipient. Accordingly, the data stored by the Toge-Kumar system goes through the same amount of “processing” as disclosed in the ’921 patent when the data is stored on the web server. Put simply, like the ’921 patent, just because the Toge-Kumar system stores the data on the web server, it does not mean that the data is processed.

26. As I have discussed above (*supra* ¶¶18-21), the Toge-Kumar system is not limited to a “pull” system and could be implemented to automatically “push” data that has been received.

IV. CONCLUSION

27. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and 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 Title 18 of the United States Code.

Dated: December 9, 2025

By:  _____

Sandeep Chatterjee