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

AMAZON.COM, INC., AMAZON WEB SERVICES, INC.,
AND AMAZON.COM SERVICES LLC.,

Petitioners,

v.

WAG ACQUISITION, L.L.C.,

Patent Owner.

Case IPR2022-01430
U.S. Patent Nos. 9,742,824

DECLARATION OF W. LEO HOARTY

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U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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1. I, **W. LEO HOARTY**, declare the following:

2. I have been retained by counsel for Patent Owner, WAG Acquisition, L.L.C. ("WAG" or "Patent Owner"), to provide opinions on certain issues in connection with U.S. Patent Nos. 9,742,824 (the '824 patent) and 9,762,636 (the "'636 patent").[1]

3. I am being compensated at a normal hourly rate for my time in preparing this declaration, with reimbursement for actual expenses. My compensation is not contingent on the outcome of this matter, or on the substance of my opinions.

4. I have been informed that WAG is a real-party-in-interest to the Petition. I have no financial interest in WAG. Nor do I have any financial interest in any of the Petitioners.

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[1] This declaration addresses both the '824 (pre-recorded media) and '636 (live media) patent, which share a common disclosure. Unless otherwise noted, (i) column and line citations are to the '824 patent, and (ii) arguments herein with respect to the '824 patent should be understood as also applying to the '636 patent. The claims differ between the two patents to the extent shown by the redline comparison in Ex. 2015.

QUALIFICATIONS

5.   I have approximately 40 years of experience in the field of the '824 and

'636 patents, including multimedia computer communications systems, and more

particularly delivering streaming media, such as audio and video, on the internet

(which started to become a widespread practice beginning nearly 30 years ago).

My education, training, experience, and other qualifications in this field are set

forth at length in my CV, a copy of which is reproduced in Appendix A hereto.

6.   I am familiar with the technology described in the '824 and '636 patents as

of their earliest claimed priority date of September 12, 2000. I have also appeared

and qualified as an expert in numerous cases involving computer and network

patents and technology, including before the PTAB, as also set forth in my CV.

Highlights of my relevant qualifications, as set forth in my CV, include without

limitation the following:

- Dotcast Inc. (Moviebeam)—I founded the company in 1999 and served as CTO. The company developed a settop box that received both over-the-air (OTA) and broadband (Internet) delivery of feature films stored on an internal hard drive of the settop. Movies were delivered in slower than real-time on 24/7 schedule (trickle filled cache.) Consumers selected programming from an internal user interface guide and purchased movies for rental under similar rules as Blockbuster. Service was live from 2004 to 2007 in the top 50 DMAs in the U.S. Service utilized HTTP, TCP, UDP, both OTA and via broadband.
- ICTV—Founded by me in 1990, renamed ActiveVideo Networks (AVN) in 2003, I was a founder and served as CTO. The company

developed VOD as well as virtual cable TV settop cloud-based systems to deliver video as well as interactive program guide over managed (cable TV) and unmanaged (Internet) networks. AVN is currently live in 24 million households of the Charter and TimeWarner systems. The system employed HTTP, TCP, UDP and custom adaptive bit rate streaming technologies.

- Vizio—Starting in 2018 I wrote three patents for video watermarking and helped develop dynamic ad insertion technology in use by major broadcast networks under the name Project OAR. Client software runs on smart TVs that detect and decode video watermarks and then call a Content Delivery Network node to download a TV ad to substitute for the existing ad of the program based on zip code and demographic profiles, all actions occur within 100msec. The replacement TV ad is delivered faster than playback via an HTTP/UDP link.

- Vizio—In 2015 I wrote a patent for audio-based automated content recognition (ACR). Client software runs in a smart TV and generates fingerprints from TV audio and sends the fingerprints to a cloud-based server system streaming fingerprints in real-time to content matching servers which identify content currently play on the respective smart TV. In some services, media related to currently playing programing is returned to smart TV for display of supplemental information. Employs HTTP, TCP, UDP, MPEG DASH.

- I served on the ISO MPEG committee in the early 1990s, acquiring familiarity with MPEG CODECs and containers.

- Other relevant standards committee work (in addition to ISO MPEG)— IEEE, SCTE (Society of Cable Television Engineers), ATSC.

- Software architecture, design, coding, implementation, and testing.

- Designing and implementing streaming media servers and clients.

- Responsibility for managing development and advising management.

- Detailed familiarity with network standards and Internet RFCs, including standards and RFCs for TCP, all versions of HTTP.

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