

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA, WESTERN DIVISION

REALTIME ADAPTIVE
STREAMING LLC,

Plaintiff,

vs.

GOOGLE LLC, and YOUTUBE LLC,

Defendants.

Case No. 2:18-CV-03629-GW-JC

**EXPERT REPORT OF DR. IAIN E. RICHARDSON REGARDING INVALIDITY OF
ASSERTED PATENTS**

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1. I have been engaged by counsel for Google LLC and YouTube, LLC (collectively, “Google”) to opine on the validity of the claims of U.S. Patent Nos. 7,386,046 (“the ’046 patent”), 8,934,535 (“the ’535 patent”), and 9,769,477 (“the ’477 patent”) (collectively, the “Asserted Patents”) that are being asserted by Realtime Adaptive Streaming LLC (“Realtime”) in this litigation.

I. QUALIFICATIONS

2. I received a Masters of Engineering (M.Eng.) degree in Electronic and Electrical Engineering from Heriot-Watt University in Edinburgh, Scotland in 1990. I received a Doctor of Philosophy (Ph.D.) degree in Video Compression from Robert Gordon University in Aberdeen, Scotland in 1999. I worked as a Digital Signal Processing (“DSP”) Hardware Designer with GEC Avionics Ltd. from 1990 to 1993.

3. In 1993, I assumed a post as a Lecturer, then Reader, and eventually a Full Professor in the field of image and video compression in the School of Engineering at Robert Gordon University. In 2009, I was honored as an Honorary Professor with the Robert Gordon University, a position I maintain to this day.

4. I am the author of four books and over 70 journal and conference papers on video and image coding and communication, including two widely cited books on the H.264 / MPEG-4 industry standards for video compression.

5. At Robert Gordon University, I founded and ran an image communication technology research laboratory. I carried out original research in the field of data, image, and video compression, initiated and managed research projects, and supervised research students.

6. A particular focus of my research has been the analysis and optimization of video compression computational complexity. For example, I developed novel approaches to adapting

10. In 2009, I founded Onecodec Limited and served as CEO, leading the company's development of innovative video, image, and data compression and storage software and systems. Onecodec's technology and business activities were merged with Vcodex Limited in 2015.

11. I have previously prepared expert reports and testified in a number of cases concerning video and image compression, graphics compression, general-purpose data compression, and video and image communications.

12. A copy of my curriculum vitae, including all publications authored in the previous 10 years and all cases in which I have testified at trial or by deposition during the previous four years, is attached as Exhibit 1 to this Report. I am being compensated for my work at a rate of \$650 per hour.

II. SUMMARY OF OPINIONS

13. In my opinion, all of the asserted claims of the Asserted Patents are invalid for multiple reasons.

14. Each of the asserted claims is invalid because it fails to satisfy the written description and/or enablement requirements.

15. Each of the asserted claims of the '535 and '477 patents is invalid because it includes an indefinite limitation.

16. None of the asserted claims is entitled to claim priority to the provisional patent application filed on February 13, 2001. Thus the earliest potential priority date for any of the asserted claims is the date of filing of the original non-provisional patent application on February 13, 2002.

17. Selecting encoders or methods of compression based on the factors described in

the asserted claims was well known in the art long before the priority date of the Asserted Patents.

18. Each of the asserted claims of the '046 and '477 patents is invalid because the claimed method or system is anticipated by one or more prior art references. To the extent that any asserted claim is found not to be anticipated, that claim is rendered obvious by a combination of prior art references with the knowledge of a person of ordinary skill in the art at the alleged time of invention and/or with other prior art references.

19. Each of the asserted claims of the '535 patent is invalid because the claimed method or system is rendered obvious by a combination of prior art references with the knowledge of a person of ordinary skill in the art at the alleged time of invention and/or with other prior art references.

20. Each of the asserted claims is directed to an abstract idea implemented using routine and conventional steps or apparatus.

III. MATERIALS RELIED ON

21. My opinions are based on my experience as well as my review of relevant materials. In arriving at my opinions I have read and relied on the documents that are cited in this report as well as the prosecution histories of the Asserted Patents, Realtime's Infringement Contentions, dated November 21, 2018, and Google's Invalidity Contentions, dated January 18, 2019 (as subsequently supplemented by charts addressing RealNetworks RealSystem).

IV. LEGAL PRINCIPLES

22. I understand that a patent is presumed to be valid, and that this presumption can be overcome only by clear and convincing evidence of invalidity.

A. Anticipation and Obviousness

23. I further understand that a patent claim is anticipated if the invention was known or

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