IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HULU, LLC,
AMAZON.COM, INC., and
NETFLIX, INC.,
Petitioners,

v.
REALTIME ADAPTIVE STREAMING LLC,
Patent Owner.

Case IPR2018-01170
Patent 8,934,535

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,934,535

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 8,934,535 to Fallon *et al.* ("'535 Patent")
1002	Prosecution File History for the '535 Patent
1003	Expert Declaration of James A. Storer
1004	Japanese Patent Application Publication No. H11331305 to Imai *et al*. ("Imai").
1005	Certified English Translation of Imai
1006	U.S. Patent No. 6,507,611 to Imai *et al.* ("Imai")
1007	U.S. Patent No. 5,675,789 to Ishii *et al.* ("Ishii")
1008	Excerpt from Andreas Spanias *et al*., Audio Signal Processing and Coding (John Wiley & Sons, Inc., 2007)
1009	Excerpt from Raymond Westwater *et al*., Real-Time Video Compression Techniques and Algorithms (Kluwer Academic Publishers, 1997)
1010	Excerpt from David Salomon, A Guide to Data Compression Methods (Springer-Verlag New York, Inc., 2002)
1011	International PCT Application Publication WO 00/51243 to Park
1012	U.S. Patent No. 5,873,065 to Akagiri et al.
1013	Memorandum Opinion and Order, *Realtime Data, LLC v. Rackspace US, Inc. et al.*, No. 6:16-CV-00961, Dkt. 183 (E.D. Tex. June 14, 2017)
1014	Memorandum Opinion and Order, *Realtime Data, LLC v. Actian Corp. et al.*, No. 6:15-CV-00463, Dkt. 362 (E.D. Tex. July 28, 2016)
1015	U.S. Patent No. 6,195,024 to Fallon (incorporated by reference into the '535 Patent)
1016	Notice of Interested Parties, Realtime Adaptive Streaming, LLC v. Hulu LLC, No. 2:17-CV-07611, Dkt. 18 (C.D. Cal. October 24, 2017)

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I. INTRODUCTION

Petitioners Hulu, LLC, Amazon.com, Inc., and Netflix, Inc. request *inter partes* review of claims 15-30 of U.S. Patent No. 8,934,535 (Ex. 1001). The '535 Patent refers to methods for compressing data with an asymmetric data compressor. According to the '535 Patent, these techniques aim to increase the storage/retrieval bandwidth of mass storage devices which traditionally suffer from "profound read/write data rate limitations" that "severely limit" data-dependent applications. Ex. 1001 at 2:53-61.

But the techniques of the '535 Patent were known in the prior art well before the priority date of the '535 Patent. Specifically, to obtain allowance of claim 27, the Applicant added the feature of using "asymmetric data compression" to differentiate from anticipatory art, while independent claim 15 recited "asymmetric compressors" as filed. Ex. 1002 at 435, 411.[1] Asymmetric compression algorithms, however, were widely used in the compression field and extensively described in the prior art. Ex. 1003 at 74-78; *see, e.g.*, Ex. 1005; Ex. 1007.

[1] Issued independent claim 15 was prosecuted as original claim 12 and issued independent claim 27 was prosecuted as original claim 28. Ex. 1002 at 597.

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