UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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TWITTER, INC.

Petitioner

v.

VIDSTREAM, LLC

Patent Owner

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Case IPR2017-01133
U.S. Patent No. 8,601,506

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DECLARATION OF JAMES OLIVIER

I.   Qualifications and Experience

1.   My name is James Olivier, I am at least 18 years old and qualified to testify in this proceeding.

2.   I have been retained by VidStream LLC as a technical expert to provide information and my opinion regarding U.S. Pat. No. 8,601,506 (the "'506 Patent"). I am compensated on an hourly basis for my work in connection with this declaration.

3.   I am currently an Adjunct Professor Telecommunications and Network Engineering Program Southern Methodist University's Graduate School of Electrical Engineering, where I teach MPLS enabled applications to graduate students. One of the primary MPLS enabled applications I teach is the transport of video over various network architectures, i.e. broadcast video over IP/MPLS, hierarchical video-on-demand library distribution using BGP, Video Content Delivery Networks, and MPLS-based networks supporting triple-play services. This class also covers video bandwidth reservations using RSVP and traffic engineering for video transport. In addition, this class also covers professional real-time broadcast TV distribution over MPLS, MPLS-VID and typical Internet video streaming applications, which involve the sending of low-bandwidth video streams to end users' PCs without any quality guarantees. I am also the owner of Olivier Consulting, where I provide consulting services for advanced network / product

design along with IP consulting and am also a member of the technical staff of McAlexander Sound where I specialize in Telecommunications Architecture / Software.

4.   I have three degrees from The Ohio State University. I have a Ph.D. from The Ohio State University in Electrical Engineering with minors in Discrete Mathematics, Computer Science and Microelectronics, a Masters in Electrical Engineering with a minor in Robotics and Artificial Intelligence, and a Bachelor of Science degree in Electrical Engineering. I have published papers in the areas of coding theory and multiprocessor computer systems.

5.   I have extensive experience in the design and development of networked video systems. I have been involved in the development and design of equipment for networked video since my start at AT&T Bell Laboratories in 1990, where I worked as a Member of Technical Staff. It was there where I first began my work with video networking products such as an Asynchronous Transfer Mode 'ATM' based set top box and monitored networked video transport standard setting bodies such as the ATM Forum and DAVIC, the Digital Audio-Visual Council.

6.   At DSC during the years 1995 - 1996, I was the Senior Manager in charge of a Broadband Intelligent Network 'BB-IN' based video on demand delivery system, which was demonstrated at SuperComm, a U.S. telecommunications trade show. While at DSC, I was also their corporate representative to the ATM Forum,

participating in bi-monthly standards body development, which included standards for networked video transport.

7.   At Samsung during the years 1996 -1999, I was a Principal Engineer for wireless broadband services over Universal Mobile Telecommunications System (UMTS). I worked at Samsung Telecommunications America designing their next generation cellular switch, a UMTS switch. While at Samsung, I was also their corporate representative to the International Telecommunication Union, ("ITU"), which is the agency of the United Nations responsible for information and communication technologies. I was also Samsung's corporate representative to the 3GPP standards body. It was there that I participated in the development of standards for advanced wireless networks, including video transport.

8.   At Marconi during the years 1999 – 2002, I worked on several systems for the access video market, such as Digital Subscriber Line (DSL)DSL networks and Hybrid fiber-coaxial (HFC) networks. These systems were triple play systems which provide voice, video and data. Also at Marconi, I was responsible for the web site design of the Network Management System for the entire North American Access product division.

9.   At Navini Networks during the years 2002 - 2003, I was responsible for the design and development of a sign on web site which managed and authorized users for different services in a broadband CDMA network. This system consisted

of multiple Apache Web Servers providing the web pages to the users and a centralized key storage facility to manage the various keys needed to authorize the different services. In addition, I was responsible for the layer 2 and layer 3 aspects of the video transport within the Navini System.

10. Since 2003, I have been a member of the technical staff at McAlexander Sound as well as the sole consultant at Olivier Consulting. In these roles, I have provided Technology Research and Intellectual Property investigations into a number of different network technologies, which allows me to interact with engineers and their managers.

11. For example, consulting at Telstrat, I lead technology investigations related to the research, specification, design, and architecture of Telstrat's Next Generation Access Product, which delivered video, including analog, digital, HDTV and IPTV. Consulting at Crane Aerospace, I investigated scalability, address assignment, access, and security for a large Wireless Sensor Network.

12. I have opined on the meaning of claim terms to one of ordinary skill in the art on numerous occasions. For example, I provided opinions on the meanings of claim terms in QPSX Developments 5 Pty Ltd. v. Nortel Networks, Inc and In the Matter of Certain Wireless Devices, Including Mobile Phone and Tablets II, USITC Inv. No. 337-TA-905.

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