#### UNITED STATES DISTRICT COURT WESTERN DISTRICT OF TEXAS WACO DIVISION

SABLE NETWORKS, INC. AND SABLE IP, LLC,

Plaintiffs,

Civil Action No.\_\_\_\_

JURY TRIAL DEMANDED

v.

**DELL TECHNOLOGIES INC., DELL INC., AND EMC CORPORATION,** 

Defendants.

## COMPLAINT FOR PATENT INFRINGEMENT

Sable Networks, Inc. and Sable IP, LLC (collectively, "Sable" or "Plaintiffs") bring this action and make the following allegations of patent infringement relating to U.S. Patent Nos.: 6,977,932 (the "932 patent"); 7,428,209 (the "209 patent"); 7,630,358 (the "358 patent"); and 8,243,593 (the "593 patent") (collectively, the "patents-in-suit"). Defendants Dell Technologies Inc., Dell Inc., and EMC Corporation (collectively, "Dell" or "Defendants") infringes the patents-in-suit in violation of the patent laws of the United States of America, 35 U.S.C. § 1 *et seq*.

## **INTRODUCTION**

1. The patents-in-suit arise from technologies developed by Dr. Lawrence G. Roberts - one of the founding fathers of the internet.<sup>1</sup> The patents relate to technologies for efficiently managing the flow of data packets over routers and switch devices. Dr. Roberts and engineers at Caspian Networks, Inc. and later Sable Networks, Inc. developed these technologies to address the increasing amount of data sent over computer networks.

<sup>&</sup>lt;sup>1</sup> Chris Woodford, THE INTERNET: A HISTORICAL ENCYCLOPEDIA VOLUME 2 at 204 (2005) ("Widely regarded as one of the founding fathers of the Internet, Lawrence Roberts was the primary architect of ARPANET, the predecessor of the Internet.").

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2. Dr. Roberts is best known for his work as the Chief Scientist of the Advanced Research Projects Agency (ARPA) where he designed and oversaw the implementation of ARPANET, the precursor to the internet. Dr. Roberts' work on ARPANET played a key role in the development of digital network transmission technologies.<sup>2</sup> Initially, ARPANET was used primarily to send electronic mail and Dr. Roberts developed the first program for reading and sending electronic messages.



Keenan Mayo and Peter Newcomb, *How The Web Was Won*, VANITY FAIR at 96-97 (January 7, 2009); *One of the Engineers Who Invented the Internet Wants to Build A Radical new Router*, IEEE SPECTRUM MAGAZINE (July 2009); Katie Hafner, *Billions Served Daily, and Counting*, N.Y. TIMES at G1 (December 6, 2001)("Lawrence Roberts, who was then a manager at the Advanced Research Projects Agency's Information Processing Techniques Office, solved that problem after his boss began complaining about the volume of e-mail piling up in his in box. In 1972, Dr. Roberts produced the first e-mail manager, called RD, which included a filing system, as well as a Delete function.").

3. Dr. Roberts' work on ARPANET played a key role in the development of packet

switching networks. Packet switching is a digital network transmission process in which data is broken into parts which are sent independently and reassembled at a destination. Electronic messages sent over the ARPANET were broken up into packets then routed over a network to a destination. "In designing the ARPANET, Roberts expanded on the work he'd done at MIT, using

<sup>&</sup>lt;sup>2</sup> Katie Hafner, *Lawrence Roberts, Who Helped Design Internet's Precursor*, N.Y. TIMES at A2 (December 31, 2018) ("Dr. Roberts was considered the decisive force behind packet switching, the technology that breaks data into discrete bundles that are then sent along various paths around a network and reassembled at their destination.").

those tiny data packets to send information from place to place."<sup>3</sup> Packet switching has become the primary technology for data communications over computer networks.



George Johnson, From Two Small Nodes, a Mighty Web Has Grown, N.Y. TIMES at F1 (October 12, 1999).

4. After leaving ARPANET, Dr. Roberts grew increasingly concerned that existing

technologies for routing data packets were incapable of addressing the increasing amounts of data

traversing the internet.<sup>4</sup> Dr. Roberts identified that as the "Net grows, the more loss and

transmission of data occurs. Eventually, gridlock will set in."5

*The Internet is broken. I should know: I designed it.* In 1967, I wrote the first plan for the ancestor of today's Internet, the Advanced Research Projects Agency Network, or ARPANET, and then led the team that designed and built it. The main idea was to share the available network infrastructure by sending data as small, independent packets, which, though they might arrive at different times, would still generally make it to their destinations. The small computers that directed the data traffic-I called them Interface Message Processors, or IMPs-evolved into today's routers, and for a long time they've kept up with the Net's phenomenal growth. Until now.

<sup>&</sup>lt;sup>3</sup> Code Metz, *Larry Roberts Calls Himself the Founder of The Internet. Who Are You To Argue*, WIRED MAGAZINE (September 24, 2012); John C. McDonald, FUNDAMENTALS OF DIGITAL SWITCHING at 211 (1990) ("The ARPANET was, in part, an experimental verification of the packet switching concept. Robert's objective was a new capability for resource sharing.").

<sup>&</sup>lt;sup>4</sup> eWeek Editors, *Feeling A Little Congested*, EWEEK MAGAZINE (September 24, 2001) ("Lawrence Roberts, one of the primary developers of Internet precursor ARPANet and CTO of Caspian Networks, recently released research indicating that Net traffic has quadrupled during the past year alone.").

<sup>&</sup>lt;sup>5</sup> Michael Cooney, *Can ATM Save The Internet*, NETWORK WORLD at 16 (May 20, 1996); Lawrence Roberts, A RADICAL NEW ROUTER, IEEE Spectrum Vol. 46 34-39 (August 2009).

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Lawrence Roberts, *A Radical New Router*, IEEE SPECTRUM Vol. 46(7) at 34 (August 2009) (emphasis added).

5. In 1998, Dr. Roberts founded Caspian Networks.<sup>6</sup> At Caspian Networks, Dr. Roberts developed a new kind of internet router to efficiently route packets over a network. This new router was aimed at addressing concerns about network "gridlock." In a 2001 interview with Wired Magazine, Dr. Roberts discussed the router he was developing at Caspian Networks – the Apeiro. "Roberts says the Apeiro will also create new revenue streams for the carriers by solving the 'voice and video problem.' IP voice and video, unlike email and static Web pages, breaks down dramatically if there's a delay - as little as a few milliseconds - in getting packets from host to recipient."<sup>7</sup>



Jim Duffy, *Router Newcomers take on Cisco, Juniper*, NETWORK WORLD at 14 (April 14, 2013); Stephen Lawson, *Caspian Testing Stellar Core Offering*, NETWORK WORLD at 33 (December 17, 2001); Tim Greene, *Caspian Plans Superfast Routing For The 'Net Core*, NETWORK WORLD at 10 (January 29, 2001); Andrew P. Madden, *Company Spotlight: Caspian Networks*, MIT TECHNOLOGY REVIEW at 33 (August 2005); and Loring Wirbel, *Caspian Moves Apeiro Router To Full Availability*, EE TIMES (April 14, 2003).

<sup>&</sup>lt;sup>6</sup> Caspian Networks, Inc. was founded in 1998 as Packetcom, LLC and changed its name to Caspian Networks, Inc. in 1999.

<sup>&</sup>lt;sup>7</sup> John McHugh, *The n-Dimensional Superswitch*, WIRED MAGAZINE (May 1, 2001).

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6. The Apeiro debuted in 2003. The Apeiro, a flow-based router, can identify the nature of a packet – be it audio, text, or video, and prioritize it accordingly. The Apeiro included numerous technological advances including quality of service (QoS) routing and flow-based routing.

7. At its height, Caspian Networks Inc. raised more than \$300 million dollars and grew to more than 320 employees in the pursuit of developing and commercializing Dr. Roberts' groundbreaking networking technologies, including building flow-based routers that advanced quality of service and load balancing performance. However, despite early success with its technology and business, Caspian hit hard times when the telecommunications bubble burst.

8. Sable Networks, Inc. was formed by Dr. Sang Hwa Lee to further develop and commercialize the flow-based networking technologies developed by Dr. Roberts and Caspian Networks.<sup>8</sup> Sable Networks, Inc. has continued its product development efforts and has gained commercial success with customers in Japan, South Korea, and China. Customers of Sable Networks, Inc. have included: SK Telecom, NTT Bizlink, Hanaro Telecom, Dacom Corporation, USEN Corporation, Korea Telecom, China Unicom, China Telecom, and China Tietong.

<sup>&</sup>lt;sup>8</sup> Dr. Lee, through his company Mobile Convergence, Ltd. purchased the assets of Caspian Networks Inc. and subsequently created Sable Networks, Inc.

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