the intrinsic evidence. This is merely what Chrimar asserts is infringing, and has no bearing on how one would understand the plain meaning of the claim.

111. The configuration suggested by Mr. Baxter in paragraphs 91 and 92 describes passing a DC current through the windings on one side of a transformer. The piece of coiled wire constitutes an electrical connection through which a DC current may travel. Contrary to his assertion, Defendants' proposed construction would not limit the claim to direct electrical connections; as stated above, a connection may be achieved through the winding of a transformer, as he states.

112. Mr. Baxter's proposed use of "coupling" is, in fact, too broad for the context of the Patents-in-Suit. As discussed above, Mr. Baxter and I agree that the use of "current" and "current flow" in the patents refers to direct current (DC), as opposed to alternating current (AC). Baxter Decl. at ¶¶ 57, 59. However, Mr. Baxter's proposed construction using "coupling" would include (according to his own cited definition), "inductive [coupling] through a transformer or choke, or capacitive [coupling] through a capacitor." Baxter Decl. at ¶ 89. DC cannot be inductively coupled through a transformer (mutual inductance), nor can it pass through a capacitor. Indeed, in many places in the disclosed circuits in the patents, capacitors are strategically placed specifically to block DC and contain it within the boundaries of the claimed invention. *See, generally,* Figs. 6, 8, 10.

113. The use of the term "coupling," as defined by Mr. Baxter, would improperly expand the scope of the claim to paths that could convey alternating current as well as direct current.

114. It should be noted that the isolation transformers in Figures 6 and 10 pass a constant net DC current through the secondary wiring of the transformer, which is sent back to the central module via two wires operating as a pair. The amount of DC current on each wire is the total, constant net DC current plus or minus the induction current supplied across the transformer. The changes in current sent across the

magnetic coupling of the transformer themselves are AC signals, but the overall flow of current through the Ethernet connector and wiring will not change in polarity.

(D) Loop Formed Over

115. Claim 1 of the '760 patent recites:

> 1. A BaseT Ethernet system comprising:
>
> a piece of central BaseT Ethernet equipment;
>
> a piece of BaseT Ethernet terminal equipment;
>
> data signaling pairs of conductors comprising first and second pairs used to carry BaseT Ethernet communication signals between the piece of central BaseT Ethernet equipment and the piece of BaseT Ethernet terminal equipment,
>
> the first and second pairs physically connect between the piece of BaseT Ethernet terminal equipment and the piece of central BaseT Ethernet equipment,
>
> the piece of central BaseT Ethernet equipment having at least one DC supply,
>
> the piece of BaseT Ethernet terminal equipment having at least one path to draw different magnitudes of current flow from the at least one DC supply through a loop formed over at least one of the conductors of the first pair and at least one of the conductors of the second pair,
>
> the piece of central BaseT Ethernet equipment to detect at least two different magnitudes of the current flow through the loop and to control the application of at least one electrical condition to at least two of the conductors.

116. Mr. Baxter asserts that "loop" is "a round trip path formed over [the claimed contacts]." Baxter Decl. at ¶ 78. Mr. Baxter asserts that "the only limitation in the loop as stated in the asserted claims is that the loop is formed over at least one of the conductors of the first pair and at least one of the conductors of the second pair when the first and second pairs are physically connected between the piece of BaseT Ethernet terminal equipment and the piece of central BaseT Ethernet equipment." Baxter Decl. at ¶ 82.

117. I fail to see the distinction between a round-trip path and a complete circuit. Newton's Telecom Dictionary defines a "circuit" as "[A] closed path through which current can flow." This seems indistinguishable from a round-trip path, and Mr. Baxter never shows, by example or otherwise, how a "round trip path formed over" is somehow different from a "complete circuit."

118. Mr. Baxter incorrectly asserts that Claim 1 of the '760 patent "merely requires the claimed device be configured to draw different magnitudes of current flow through a loop." Baxter Decl. at ¶ 82. The Claim additionally requires that "the piece of central BaseT Ethernet equipment [] detect at least two different magnitudes of the current flow through the loop … ." '760 Patent, Claim 1.

(E) Powered Off

119. The "powered-off" limitation is introduced in claims 103 and 104 of the '107 patent and claims 72 and 145 of the '760 patent. "Powered-off" in the claims directly modifies the "Ethernet terminal equipment" ("end device" in claim 104 of the '107 patent.) Accordingly, the claims attempt to read on an Ethernet terminal equipment or end device that is powered-off.

120. Mr. Baxter incorrectly asserts, "None of the asserted claims says that no power is applied to the Ethernet terminal equipment or the end device." Baxter Decl. at ¶ 111. In contrast, this is precisely what the claims assert, e.g.:

> "Claim 103: The piece of Ethernet terminal equipment of any one of claims 1, 17, …, wherein the piece of Ethernet terminal equipment is a piece of powered-off Ethernet terminal equipment."

121. The plain and ordinary meaning of "powered-off" is that no power is applied. This is exactly the meaning of "powered-off Ethernet terminal equipment" and "powered-off end device" as used in the claims. There is no ambiguity.

122. Any time there is DC current flowing through real-world components in a piece of Ethernet terminal equipment (or any other device), there is power being drawn

by that device, equal to the square of the current multiplied by the effective impedance (resistance) of the device. That is, $P = I^2 \times R$. Such a device is not powered-off, it is in fact consuming power (regardless of the level of power consumed).

123. Mr. Baxter instead asserts that "powered-off" means "without its operating power." Baxter Decl. at ¶¶ 108, 109, 112. To the extent that his construction is directed to the claim limitations recited, he offers a distinction without a practical difference. The operation being performed by the Ethernet terminal equipment (and end device) is that of drawing different magnitudes of DC current. That operation requires power in order to be performed. A device "without its operating power" is a device without the power necessary to perform the claimed function.

124. Such a claim can never be infringed because there will be no DC current flow when the device is "powered-off" (under either a construction of "without power applied" or "without its operating power"). Notwithstanding the poor drafting of these claims, this is their plain meaning. Neither Mr. Baxter or myself is allowed to rewrite this unambiguous claim language.

125. It appears that Mr. Baxter's reading of "powered-off" requires an additional, unclaimed power source that its present somewhere, and which provides "operating power", but which is turned off at the time the claim is infringed. In other words, "powered-off" according to Mr. Baxter does not apply to any of the claim limitations recited to be part of the Ethernet terminal equipment (or end device).

126. There is no antecedent basis in the claims for such a separate source of "operating power." Neither the Ethernet terminal equipment nor the end device are claimed to include a separate source of power beyond the drawing of current recited in the claims. For example, the Ethernet terminal equipment (or end device) as claimed does not recite one portion operable with power from one source, and another portion that is "powered-off."

127. A person of ordinary skill in the art would not interpret the claims to require an unwritten claim limitation that is both present and non-operational. Nothing about Ethernet terminal equipment or end devices inherently require a second source of power.

128. Mr. Baxter's interpretation renders "powered off" superfluous to the actual elements of the claim, because it has no application to any recited elements defined to be part of the "powered-off Ethernet terminal equipment (or end device)."

128. The difficulty with Mr. Baxter's interpretation arises from the fact that the patent specification envisions an environment where there is a remote module that is receiving power from a central module, for the purpose of either sending information to the remote module, or receiving identifying information from the remote module. The remote module is attached to an asset being tracked, which presumably is powered from another source, e.g., an AC mains power line. In such an environment, it may be possible for the remote module to be consuming power while the asset being tracked is "powered off." However, this is not what is claimed, and it is impermissible to read any limitations of the specified embodiment into the claim language. What is claimed is a piece of Ethernet terminal equipment (or end device) that is powered-off, not an asset attached to a piece of Ethernet terminal equipment that is powered off.

129. Mr. Baxter's citations to the specification fails to provide a basis for rewriting the claim language. In all of the citations listed in Baxter Decl. ¶ 109, the device without the operating power is the *asset to be tracked*, which in these embodiments is shown as a separate component from the remote module, notwithstanding the fact that it is physically connected to the asset.

130. The configuration taught by the patent specification serves a particular purpose; the asset, such a laptop computer, can be employed without any modifications to its internal structure, yet still be monitored by the external remote module. The remote module is the add-on device that needs to be powered and sends a unique

identifier. Indeed, it is a purported benefit of the invention that the asset can be turned off, while the remote module provides the tracking capability. However, the operation of the purported invention (the features of the claimed remote module) are the same whether the asset is powered-on or powered-off and whether or not Ethernet communications are being sent. In all of these cases, the remote module is receiving its power from the central module.

131. Claim 103 of the ’107 patent and claims 72 and 145 of the ’760 patent address the claimed Ethernet terminal equipment. Claim 104 calls for an “end device.” Both are claimed to draw DC current as supported by the specification. However, in an effort to try to draft claims that read on Power-over-Ethernet (PoE) powered devices, the applicants overreached by drafting claims that are not supported by the specification and that cannot, in fact, be infringed.

132. Whether the “asset” is powered-on or powered-off is of no consequence to the claim language. The claims are unambiguous with respect to the meaning of “powered-off Ethernet terminal equipment” and “powered off end device.”

(F) Condition Applied

133. As discussed above, the prosecution history of the ’107 patent confirms that several functions of the “Ethernet terminal equipment” and “end device” need to be performed. One such function is that the different magnitudes of DC current “result from at least one condition applied to the contacts.”

134. The plain meaning of “condition applied” is simply to do something to the contacts. This leaves no perceivable boundary as to what constitutes a “condition.” One of ordinary skill in the art would not know whether it meant:

- An electrical (voltage, current, impedance) condition as contended by Mr. Baxter;
- A temperature condition (it is indeed possible to cause the magnitude of the current drawn to change as a function of temperature);
- A mechanical change applied to the connector contacts so as to change the current flow, etc.

135. There is no reason to presume, as Mr. Baxter does, that the condition applied must be electrical. The fact that certain dependent claims recite voltage conditions or impedance conditions does nothing to limit the original recitation of "condition" to merely an electrical condition. As written, it would be unclear how one would determine the bounds of the claims to evaluate what you can or cannot do to the contacts to yield different magnitudes of DC current. The claims are indefinite because a person of ordinary skill in the art would not know what "condition applied" encompasses.

136. As discussed above, Ohm's law already inherently provides for achieving different magnitudes of current flow by applying different voltages to the contacts of the connectors in the path. Alternatively, thermodynamic changes can affect the impedance of the paths—e.g., by simply waiting for the weather to change, the magnitudes of DC current will change to some degree.

137. To the extent that a "voltage condition" is applied to the contacts, a person of ordinary skill in the art would understand what is required because it is a clear application of Ohm's law to a recited element of the claim.

138. The principle of claim differentiation demands that "condition" be read as being broader than "electrical condition." Claim 61 of the '107 patent recites "[t]he piece of Ethernet terminal equipment of claim 1 wherein the at least one path is a function of at least one *electrical condition* across the at least one of the contacts …" (emphasis added). If the "condition" recited in Claim 1 is already interpreted as an "electrical condition", then Claim 61 provides no new limitation and is rendered invalid. Thus, the

"condition" of Claim 1 must be broader than merely an "electrical condition," yet no guidance is given as to how broad it actually is, or what scope of conditions it covers.

139. In addition, Claim 80 of the '107 patent recites "[t]he piece of Ethernet terminal equipment of Claim 79 wherein the electrical component is responsive to an *electrical condition* across the contacts of the Ethernet connector." (emphasis added) Claim 79 is directly dependent on Claim 1, which recites "at least one condition applied to at least one of the contacts." If "condition applied" meant "electrical condition applied," then Claim 80 would include no new limitation over Claim 79, and would therefore be invalid. Under the principle of claim differentiation, therefore, "condition applied" in Claim 1 must be broader than "electrical condition applied."

140. Mr. Baxter asserts that the word "electrical" should be added to the claim. He does not explain why the intrinsic evidence would authorize reading in this new limitation. Nor does he reconcile this with dependent claims 61 and 81, which adds the limitation of "electrical condition."

(G) Part of a Detection Protocol

141. Numerous dependent claims assert that a current or impedance is part of a detection protocol. Such a determination is completely subjective. The value measured is only significant if a person decides to ascribe a meaning to it.

142. A person of ordinary skill in the art would have no way of determining, nor have any control over, whether the amount of current drawn or the impedance within a device is ascribed a particular meaning by one of the billions of people on earth.

143. Mr. Baxter asserts that "detection protocol" means that the equipment is configured or designed so that the magnitude of the current (flow) or the impedance of the path allow it to detect or determine some information about equipment at the other end of the device. Baxter Decl. at ¶ 74.

144. First, the detection protocol is directed to a magnitude of current or an impedance, not a piece of equipment. Moreover, his interpretation appears to be subjective concerning whether someone choses to use this magnitude for a reason (i.e., as part of a detection protocol), or whether it is of no consequence; the inherent ability to measure a current or impedance may provide a numerical value, but whether this value is part of a detection protocol is subject to the specifications (or whims) of some other individual or organization.

145. In particular, it is possible that at the time of design or manufacture of a piece of Ethernet terminal equipment, a given magnitude of current or impedance may be of no particular consequence. It is not measured, or used to characterize the device. Under Plaintiffs' interpretation, this device would not infringe since the equipment was not "configured or designed so that the magnitude of the current (flow) or the impedance in the path allow[s] it to detect or determine some information about the equipment at the other end of the path." Baxter Decl. at ¶ 74. At some later date, unbeknownst to the designer or manufacturer of the device, an individual or organization may now chose to characterize that device by the current or impedance that was previously of no import. Under Plaintiffs' interpretation, this previously non-infringing device has now magically become infringing, since it is now configured so that the magnitude of current or impedance is ascribed a meaning with regard to the piece of equipment.

146. This leaves designers with a predicament; they have no guidance as to how to avoid infringement of the claims, since they have no way of knowing if someone will ever determine information about their equipment from one of the multitudes of currents and impedances present within it. A person of ordinary skill would have no way of knowing, at the time of design or manufacture of a piece of equipment, whether it would or would not infringe, particularly with respect to a detection protocol that may be conjured up at a later time by a different party.

(H) BaseT

147. Mr. Baxter claims that a person of ordinary skill "would understand that the term 'BaseT' as used each claim [sic] is actually BaseT Ethernet and has its plain and ordinary meaning, namely "twisted pair Ethernet per the IEEE 802.3 Standards." I disagree with Mr. Baxter on this point.

148. First, as discussed above, there is no plain and ordinary meaning of "BaseT" or "BaseT Ethernet." The terms do not appear in any of the specifications of the Patents-in-Suit, including the '260 patent incorporated by reference. They also do not appear in any of the IEEE 802.3 Standards. The terms appear to be made up by the Applicants without providing any clear definition. While they appear in numerous *claims*, a person of ordinary skill would not understand the scope of the term beyond the sole system disclosed, i.e., 10BASE-T. '012 Patent, 12:13-14.

149. Mr. Baxter attempts to define "BaseT" as "twisted pair Ethernet per the IEEE 802.3 Standards (e.g., 10BaseT/IEEE 802.3i, 100BaseTX/IEEE 802.3u, and 1000BaseT/IEEE 802.3ab [sic])." Baxter Decl. at ¶ 98. However, even this definition is vague, as there are numerous uses of twisted pair cable in Ethernet beyond those alluded to, and it is not at all clear whether the described system could even operate on them, e.g.:

- 1BASE5: Ethernet operating at 1 Mb/s, using a *single unshielded twisted pair*.[4]
- AUI (part of 10BASE 5): Ethernet operating at 10 Mb/s using 4 shielded twisted pairs.
- 100BASE-T4: Ethernet operating at 100 Mb/s using 4 unshielded twisted pairs, but in an unusual asymmetrical configuration.
- 100BASE-T2: Ethernet operating at 100 Mb/s using 2 unshielded twisted pairs (with a more complex encoding scheme than is used in 100BASE-TX or 100BASE-T4).

[4] The system disclosed in the patents-in-suit all use two twisted pairs to deliver DC current and

- 10GBASE-T: Ethernet operating at 10,000 Mb/s using 4 pairs of Category 6a or better cabling.

150. Mr. Baxter minimally attempts to include 100BASE-TX and 1000BASE-T in his definition, yet these systems use considerably lower signal levels and more complex encoding schemes than 10BASE-T. *See, generally*, IEEE 802.3. While the teachings of the Patents-in-Suit (including the '260 patent incorporated by reference) may be able to operate in the relatively high-noise-margin environment of 10BASE-T, there is nothing in the specification that indicates the system would be operational in either a 100BASE-TX or 1000BASE-T environment without significant disruption of the Ethernet communications. In particular, 1000BASE-T uses a complex encoding scheme that operates at 250 Mb/s per pair, in a bi-directional manner. It is quite sensitive to disturbances on the Ethernet cable, and requires very careful installation and component selection, even without the intrusion of the system described in the patent specifications.[5]

151. 1000BASE-T was not even formally adopted by the IEEE at the time of the filing of the provisional patent application (April 10, 1998). While the specification was available in draft form, many details and features of the standard were unsettled and remained subject to change before final approval. Even if it were at all possible for the system described in the patents to operate in a 1000BASE-T environment, a person of ordinary skill would not assume this to be true while the specifications of the final standard were still in flux.

152. Had the Applicants wanted to claim that the system disclosed could operate in a 100BASE-TX or 1000BASE-T environment, they could have stated so. Instead, there is support only for the recited 10BASE-T system.

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[5] The situation is even worse for 10GBASE-T, which uses Tomlinson-Harashima precoded (THP) Pulse Amplitude Modulation with 16 levels (PAM-16), encoded in a two dimensional pattern and transmitted at 800 Megasymbols/second.

153. As explained above, the term "BaseT" has no meaning to a person of ordinary skill, and it surely cannot include Ethernet standards that were not even adopted at the time of filing.

SUPPLEMENTATION

154. As of today, this declaration represents my best opinion regarding the matters set forth above. In the event such discovery, changes to claim construction, additional data, or testimony are made available, I may find it necessary to revise or supplement my opinions.

Dated: 21 January 2016

Rich Seifert

Exhibit A

Rich Seifert

21885 Bear Creek Way
Los Gatos, CA 95033
(408) 395-5700
rich@richseifert.com

Overview

Mr. Seifert has over 45 years of experience in the computer industry, specializing in computer network architecture, systems, and product design. He was one of the original developers of the 10 Mb/s Ethernet technology at Digital Equipment Corporation, and is now President of *Networks and Communications Consulting*, providing services to a wide range of network, semiconductor, and computer systems manufacturers, investors, and users. He taught graduate-level courses at the University of California for over 15 years, has published three best-selling technology treatises, and has chaired and co-authored numerous international standards for computer communications. He has served as a technology consultant and testifying expert to law firms in more than thirty cases over the past fifteen years. He is an advisor to numerous venture capital investors, has founded high-tech companies both in the U.S. and abroad, and has served on the Executive Boards of a number of firms. Mr. Seifert is an attorney, admitted to practice law in California and in the United States District Court for the Northern District of California.

Education

B.E. (E.E.)	City College of New York, 1976
M.S.E.E.	Worcester Polytechnic Institute, 1979
M.B.A.	Clark University, 1984
J.D.	Santa Clara University, 2006 (summa cum laude)

Computer/Communications Industry Work Experience

1987-Present: *Networks and Communications Consulting* **(Los Gatos, CA)**
President and Founder

Technical and business consulting to manufacturers, integrators, investors, and users of LAN, semiconductor, internetworking, and computer systems products. More than 200 clients over 20 years, with projects ranging from strategic planning through product design, specification, and training.

1984-1987: ***Industrial Networking, Inc.*** **(Santa Clara, CA)**
Chief Technology Officer

First employee and founding CTO for start-up company developing factory LAN modems, controllers, and systems. Provided technical leadership for firm (over 100 employees), as well as design and implementation of new manufacturing and test processes.

1976-1984: ***Digital Equipment Corp.*** **(Maynard, MA)**
Principal Engineer/Engineering Supervisor/Consulting Engineer

Technical leader for group of engineers developing first commercial Ethernet products. Co-author (with Xerox and Intel Corp.) of industry-standard Ethernet specification. Designed and developed physical channel for 10 Mb/s Ethernet, including serial interface and transceiver silicon. Charter member of IEEE 802 LAN Standards committee, and co-author of IEEE 802.3 Local Area Network Standard.

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Teaching Experience

1986-2002: *University of California (Berkeley)*
Graduate level courses on computer network technology.

1999: *University of California (Santa Cruz)*
Undergraduate level course on business information systems.

1998: *Oxford University (U.K.)*
Graduate level seminar on computer network technology.

1993-95: *University of California (Santa Barbara)*
Graduate level seminars on computer network technology.

1987-2002: *Networks and Communications Consulting*
Nearly 100 public and private seminars delivered on computer network technology, plus videotape sales.

Entrepreneurial Experience

1992-2000: *Tut Systems* **(Pleasanton, CA)**
Technical Advisory Board
Helped develop initial business plan, technology validation. Company taken public, subsequently acquired by Motorola.

1997-2005: *Mysticom, Inc.* **(Netanya, Israel; Mountain View, CA)**
Founder, Chief Architect, Board of Directors, Technical Advisory Board
Key member of company start-up team. Helped with initial incorporation, financing, business plan, market validation. Company acquired by TranSwitch Corp.

1997-1998: *Juniper Networks* **(JNPR; San Jose, CA)**
Member of start-up team. Helped with initial product architecture, market validation. Company taken public.

1997-1998: *Yago Systems* **(Sunnyvale, CA)**
Member of start-up team. Helped with technology issues, market validation. Company acquired by Cabletron Systems.

1999-2003: *Nishan Systems* **(San Jose, CA)**
Technical Advisory Board
Consulted to executive team on technology issues. Company acquired by McData Corp.

2000-2002: *JatoTech Ventures* **(Austin, TX)**
Technical Advisory Board
Evaluated and advised general partners on technology investments.

2000-2003: *TeraBlaze, Inc.* **(Cupertino, CA)**
Founder, Chief Architect
Key member of company start-up team. Helped with initial incorporation, financing, business plan, market validation. Company acquired by Agere Systems.

2000-2003: *Storage Networks* **(Waltham, MA)**
Technical Advisory Board
Consulted to executive team on technology issues. Company taken public, later dissolved.

2001-2007: *Silverback Systems* **(San Jose, CA)**
Technical Advisory Board
Member of company start-up team. Helped arrange financing, consulted on technology issues. Company acquired by Brocade Communications.

2001-2003: *Cavium Networks* **(CAVM; San Jose, CA)**
Technical Advisory Board
Member of company start-up team. Consulted on technology issues. Company taken public.

Publications

Books:

The All-New Switch Book: The Complete Guide to LAN Switching Technology, John Wiley & Sons, August 2008

The Switch Book: The Complete Guide to LAN Switching Technology, John Wiley & Sons, June 2000

Gigabit Ethernet: Technology and Applications of High Speed LANs, Addison-Wesley, April 1998

The Design and Planning of Enterprise-Wide AppleTalk Internetworks, Apple Computer, 1993

Choosing Between Bridges and Routers, Infonetics Research Institute, 1989 (2nd ed., 1990, 3rd ed. 1991)

Articles and Papers:

The Use of Backpressure for Congestion Control in Half Duplex CSMA/CD LANs, Networks and Communications Consulting Technical Report 15, August 1996

Issues in LAN Switching and Migration from a Shared LAN Environment, Networks and Communications Technical Report 14 (also published by Kalpana, Inc.), November 1995

The Effect of Ethernet Behavior on Networks using High-Performance Workstations and Servers, Networks and Communications Technical Report 13 (also published by Auspex Systems), March 1995

When Worlds Collide, Data Communications, January 1991

Have Remote Bridge Vendors Made a Big Blunder?, Data Communications, April 1991

Ethernet: Ten Years After, *BYTE Magazine*, January 1991

Industry Standards (Author or Co-author):

IEEE 802.3ad: *Link Aggregation,* 1999

IEEE 802.3z: *Media Access Control (MAC) Parameters, Physical Layer, Medium Attachment Units, and Repeater for 1000 Mb/s Operation, Type 1000BASE-X*, 1998

IEEE 802.3ac: *Frame Extensions for Virtual Bridge Local Area Networks*, 1998

IEEE 802.3x: *Specification for 802.3 Full Duplex Operation*, 1997

ISO/IEC 8802-3 (IEEE 802.3): *Carrier Sense Multiple Access with Collision Detect (CSMA/CD) Media Access Control Method and Physical Layer Specifications*, 1985, 1989, 1993, 1996 (and supplements)

IEEE 802.3u: *Media Access Control (MAC) Parameters, Physical Layer, Medium Attachment Units, and Repeater for 100 Mb/s Operation, Type 100BASE-T*, 1995

ISO/IEC 10038 (IEEE 802.1D): *Medium Access Control (MAC) Bridges*, 1990, 1993 (and supplements)

IEEE 802: *Overview and Architecture*, 1990

IEEE 802.1E: *System Load Protocol*, 1990

ISO 8802-4 (IEEE 802.4): *Token-passing bus access method and physical layer specifications*, 1985, 1990 (and supplements)

Digital Equipment Corp., Intel Corp., Xerox Corp., *The Ethernet: A Local Area Network,—Data Link Layer and Physical Layer Specifications*, Version 1: September 30, 1980, Version 2: November 1982

Legal Consulting Experience

From 1994–present, served as technology consultant and expert witness in numerous cases (for both plaintiffs and defendants) involving patent infringement, breach of contract/warranty, and tort liability. Services have included: clarifying and interpreting technology details for counsel, preparation of expert declarations and reports, providing testimony (both deposition and open court), and prior art searches. Has also served as Special Master (Sup. Ct., CA) in a high-profile trade secret dispute. In 2006, admitted to the bar in California, and to the Federal bar for the Northern District of California.