**DESCRIPTION**

IEEE Std 802.3ah-2004 is an outstanding resource for those building products compatible with the Ethernet in the First Mile standard. This book brings the standard to life by explaining the basic principles behind the standard, presenting the tradeoffs that led to the standardization of the specific technologies, and providing a guide to help you navigate through the formal prose. Presented in a concise and easy to read format, *Ethernet in the First Mile: Access for Everyone*, is a must have for end users, deployers, service providers, venture capitalists, IT professionals, and students. In order to give readers quick access to the information they need, each chapter begins with an overview, defines what the reader should expect to learn in that section, and ends with a summary of concepts, which gives readers quick access to the information they seek. Authors Wael Diab and Howard Frazier provide the story of Ethernet in the First Mile: why it happened, how it happened, what exactly happened, and what it will do for you. As the leaders of the standards project, these authors saw it all, from beginning to end. Facts are separated from fiction, giving you the straight scoop, and the inside story. This work is meant to serve as a companion to the IEEE standard; a Rosetta stone to help you decipher the hieroglyphics. Tutorial material not allowed in formal standards documents is provided, giving insights and illuminating the murky corners of the standard. The end result is a must-have resource for anyone interested in Ethernet in the First Mile technology.

**ABOUT THE AUTHOR**

Wael William Diab has over ten years experience in defining, architecting, and building next generation networking products. He has been a key member of the industry, as well as in the standards community setting strategy for emerging networking technologies. He is currently with Broadcom as Director of Marketing looking at next generation products for the Networking
Infrastructure Group. Prior to Broadcom, he worked at Cisco Systems in various capacities ranging in scope from technical and architectural leadership to business leadership, focused on next generation networking products and technologies. Mr. Diab has been responsible for representing Cisco and Broadcom at industry forums like the IEEE and others. He has given a number of industry talks and keynote addresses on Ethernet in the First Mile (IEEE 802.3ah), access technologies, and emerging Ethernet technologies. He is an active member and contributor within the IEEE standards community. During the Ethernet in the First Mile (EFM) project, he was elected Chief Optics Editor in 2001 and was later elected and promoted to the position of Chief Editor for the entire IEEE 802.3ah standard where he oversaw all of EFM's technical teams including optics, copper (DSL), OAM, and P2MP (EPON). Mr. Diab has been a key contributor on previous Ethernet projects such as IEEE 802.3af (Power over Ethernet) and 802.3ae (10 Gigabit Ethernet). He was also a key member of the team at Cisco that delivered the first Gigabit Ethernet and Power over Ethernet products to the industry. Today, Mr. Diab serves as Secretary of IEEE 802.3 (Ethernet) and is an Officer in Ethernet's Executive Committee overseeing on organization of 300+ members as well as all current projects and Ethernet standards. He has served on the Board of Directors for the Ethernet in the First Mile Alliance, as well as vice-chairman for the Marketing (MSAD) group of the Fiber to the Home (FTTH) Council and several program committees focused on networking and first mile activities. Mr. Diab has also been a contributing author on Ethernet. He is a strong advocate of academic research and innovation focused on the networking space. At Cisco he served as a technology research Director in addition to his regular duties and was a member of both Cisco's University Research Board as well as Cisco's Patent Committee. In the area of academic research, he has championed several projects including an optical PON project with UNH and a high speed copper PHY project with PDG (now The Technology Collaborative, TTC). Mr. Diab holds BS and MS degrees in Electrical Engineering from Stanford University, a BA degree in Economics from Stanford, and an MBA with honors from the Wharton School of Business. He has developed over twelve patents in the networking space.

Howard M. Frazier is an independent consultant on matters relating to networking standards and technology. He was the founder and Chief Technical Officer of Dominet Systems, Inc., a Silicon Valley startup building Ethernet in the First Mile systems for broadband subscriber access networks. Previously, Mr. Frazier was a Distinguished Engineer at Cisco Systems. He is one of the co-inventors of Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet, as well as the Chairman of the IEEE 802.3 Task Forces that wrote the standards for Fast Ethernet and Gigabit Ethernet. He also served a term as the Recording Secretary of the IEEE 802 LAN/MAN Standards Committee. Among other accomplishments in high-speed networking, he developed the world's first 10/100BASE-T network interface card in 1993 while working at Sun Microsystems. Mr. Frazier served as the Chairman of the IEEE 802.3ah Ethernet in the First Mile Task Force, is a former Chairman of the IEEE Standards Association's Review Committee (RevCom), and was the Vice Chairman of the IEEE-SA Standards Board. He is a graduate of Carnegie-Mellon University.