

**Application of Google Inc. for Certification to Provide Spectrum Access
System and Environmental Sensing Capability Services**

GN Docket No. 15-319

Appendix C: Key Personnel

Milo Medin

Milo Medin has been part of the Internet development community for more than 25 years. He is currently the Vice President of Access Services at Google Inc., where he oversees a number of projects to improve access to the Internet.

Prior to joining Google in 2010, he was founder and Chief Technology Officer of M2Z Networks, a company that sought to deploy a national broadband wireless network system, and before that, he was co-founder and the Chief Technology Officer of Excite@Home, where he led the development of the company's national infrastructure, including the development of the Data Over Cable Service Interface Specification (DOCSIS) cable modem standard, and helped deliver the first large scale residential broadband access service in partnership with major cable operators.

Earlier, Milo worked at NASA's Ames Research Center, where he developed the first peering point between backbone networks, and managed primary west coast interconnect for the Internet, and architected and managed the global NASA Science Internet, including the deployment of the first Internet connections to a number of countries around the world.

Milo holds a B.S. in computer science from University of California, Berkeley (1985). He has participated in a number of public policy forums, including two National Academy of Sciences panels, given testimony in Congress and before the Federal Communications Commission (FCC) on broadband technology policy, and served on the President's Council of Advisors on Science and Technology working group on spectrum sharing. He holds several patents in the field of network access technology, and sits on the FCC's Technical Advisory Council.

Preston Marshall, Ph.D.

Dr. Preston Marshall is a Technical Program Manager at Google Inc. He leads Google's effort to design a SAS supporting the 3.5 GHz band. He is also a co-founder of the Wireless Innovation Forum Spectrum Sharing Committee, which is developing industry consensus positions on key aspects of the Citizens Broadband Radio Service ecosystem.

Prior to joining Google, Pres served as deputy director of the Information Sciences Institute, where he was responsible for developing research programs in evolving networking concepts, wireless, radio and networking technologies, and information-theory based approaches to computation and network analysis. In that role, he worked with government organizations, such as Defense Advanced Research Projects Agency (DARPA) and National Science Foundation, to develop new research and engineering initiatives. He also participated in policy initiatives through Office of Science and Technology Policy (OSTP), Department of Commerce's National Telecommunications and Information Agency (NTIA), and the Congressional Research Service.

Earlier, Pres served as a program manager at DARPA's Advanced and Strategic Technology Offices. At DARPA, he was responsible for program concept development, formulation, obtaining agency sponsorship, selection of research performers, and providing technical, programmatic and financial direction of all program activity. He led DARPA research on low cost, adaptive wireless and networking technology, cognitive radio, dynamic spectrum, and content-based networking, and computational policy-based systems. He also worked to achieve regulatory acceptance of new technologies, such as dynamic spectrum sharing, through interaction with U.S. and international agencies, such as the FCC, NTIA, National Academies, and UN International Telecommunication Union (ITU).

Pres also worked as a director of communications, engineering, and analysis for Coleman Research Corporation. In this role, he developed and led technical and research programs in the area of spectrum management and communications technology development.

Pres holds a B.S. in electrical engineering (1972) and an M.S. in information science (1974) from Lehigh University, and a Ph.D in electrical engineering from Trinity College in Dublin, Ireland (2009).

Andrew W. Clegg, Ph.D.

Dr. Andrew Clegg has been part of the government and private-industry spectrum management community for over 22 years. He is presently spectrum engineering lead at Google Inc., where he contributes engineering and regulatory expertise to a variety of wireless projects.

Prior to joining Google in 2014, he was program director for the Electromagnetic Spectrum Management Unit at the National Science Foundation (NSF). He represented the interests of NSF-funded science and engineering programs at the Department of Commerce's National Telecommunications and Information Agency (NTIA) Interdepartment Radio Advisory Committee. He also represented the science- and engineering-related spectrum interests of the United States as a delegate to two ITU World Radiocommunication Conferences. While at NSF, Andrew also conceived and implemented the Enhancing Access to the Radio Spectrum (EARS) program, which, to date, has funded nearly \$100 million in advanced spectrum-related research within academia and small business.

From 1997 to 2003, Andrew was lead member of technical staff for BellSouth Mobility and Cingular Wireless, which are now doing business as AT&T Mobility. He contributed to several major projects, including developing the company's technical strategy for meeting the FCC's Phase II E911 wireless location accuracy mandates. He also represented the company within a variety of standards fora, including ANSI T1P1, TIA, and GSMA.

Earlier, Andrew was a senior engineer at Comsearch, where he contributed algorithms to the company's suite of software products, particularly in the domain of microwave relocation during the build-out of the Personal Communications Service industry in the United States. He was also a research scientist at the Naval Research Laboratory's Remote Sensing Division, working on synthetic aperture radar, passive microwave, and hyperspectral sensor projects. Andrew is the creator of SpectrumWiki.com, a web resource dedicated to information on spectrum use.

Andrew holds a B.A. (with highest distinction) in physics and astronomy from the University of Virginia (1985), and M.S. (1989) and Ph.D. (1991) degrees in radio astronomy (major) and electrical engineering (minor) from Cornell University. He has served on advisory panels for the National Academy of Sciences, NSF, and U.S. Department of Justice, and has served as president and director of the National Spectrum Management Association. He was also appointed by the U.S. Chief Technology Officer as founding co-chair of the White House Office of Science and Technology Policy's Wireless Spectrum Research and Development Committee.

Greg Leon

Greg Leon has been active in the wireless industry for 10 years, specifically focused on propagation modeling, geographical data for propagation modeling, wireless network design and spectrum/interference modeling. He is presently responsible for the propagation modeling platform at Google Inc.

Prior to joining Google, Greg spent 9 years at EDX Wireless, a leading provider of propagation and wireless network design software. He supported propagation modeling and network design activities for a diverse set of users including public safety, military, utilities, CMRS providers, and government agencies. This provided him a wide view of wireless technologies, architectures and the coexistence challenges amongst them.

Greg holds a B.S.E. in biomedical engineering from the University of Iowa (2005) and M.S. in telecommunications from the University of Colorado-Boulder (2013). His master's studies focused on spectrum policy and propagation modeling to better inform spectrum policy making. He also sits on the wireless advisory committee at University of Colorado-Boulder's Interdisciplinary Telecommunications Program.