

Stephen L Squires, PhD

Dr Stephen L Squires is focused on advancing the frontier of trustworthy systems to overcome the inherent challenges as the technology continues to advance and becomes increasingly interconnected and pervasive. In general terms, a system is trustworthy to the extent that it behaves as expected in a given context.

Dr Squires is the founder of three organizations based on his extensive expertise and experience:

- Kelvin 1687 Inc., named after the melting point of silicon, is focused on overcoming the most serious and damaging and unexpected challenges to existing and emerging systems.
- Kelvin Trustworthy Systems LLC is focused on enabling the progressive transition of existing and new systems to increasing their trustworthy behavior.
- Kelvin ZERO, named for ZERO trustworthy issues, is focused on research to achieve intrinsic trust and enabling effective engineerable geometric advantage over threats in a given context.

Each of these organizations are strategically related and focused on complementary time frames.

Dr Squires provides consulting services to industry, academia, and government in diverse areas of information technology including high performance computing, networking, and trusted systems. He is a recognized IT expert with a demonstrated ability to provide leadership based on over 30 years of experience in formulating and translating long term visions into practical executable programs that build on and extend beyond existing and emerging science and technology.

Dr Squires served as vice president and chief science officer for Hewlett-Packard Company with responsibility for providing leadership in establishing overall strategic scientific and technical directions, including the architecture of the digital renaissance for the 21st century Internet. During his five years at HP from November 2000 through January 2006, he made major contributions enabling HP to improve its position in National Security sectors. He led the Accelerating Trustworthy Internetworking and related community building activities in the aftermath of 9/11. He developed a Trusted Systems Initiative that provided important guidance to the HP information system security programs including its implications for HP Laboratories and HP Business. He introduced the concept of Critical and Pervasive Information Systems as essential to enabling sustained growth in the context of public and private sector information technology based systems. He also continued to work closely with DARPA and other parts of the US Government National Security Community. Most recently, he contributed to the vision and overall strategy for the National Terabits Initiative in the context of a Petaops Technology basewithin the US Government focused on enabling Integrated Reality.

Prior to joining HP in November 2000, Dr Squires was the special assistant for Information Technology to the director of the Defense Advanced Research Projects Agency (DARPA). During his career at DARPA, he was responsible for advancing the frontier of progressively larger sectors of information technology. He developed plans for, managed, and directed the scalable systems parts of the DARPA Strategic Computing Program, the Federal High Performance Computing and Communications Program and its extension to the National Information Infrastructure. These programs are recognized as having helped enable the modern Internet, including its scalable parallel and distributed high-performance computing systems and the introduction of an explicit service layer. He formulated the vision and framework for the DARPA Bio/Info/Micro Initiative that became the foundation for the Nano-technology programs. He joined DARPA in 1983 as a program manager.

At the age of 18, while a freshman undergraduate electrical engineering student at Drexel University, he was recruited by the National Security Agency (NSA). He worked in the advanced computing and communications laboratories of the NSA. Throughout his career at NSA he gained early access to the full range of advanced technologies as they emerged, including many in cooperation with DARPA. The advanced technologies included the early interactive time sharing systems with advanced security features, the early interactive graphics interface systems, the first UNIX system, the first ARPAnet, the first digital packet radios, the first packet satellites, extensible programming systems, local area networks, the early Internet, the first personal computing systems before there were any such systems, the first VLSI design systems, the first rapid prototyping environment along with and the highest performance information system technologies.

Dr Squires often referred to the laboratory environment he grew up in as a technology time machine and has continued to extend the concepts throughout his career and into his current activities.

Dr Squires earned his PhD from Harvard University.