

## **Letter of Motivation (Daniel A. Reed)**

The ATRT2 is central to ICANN's accountability and transparency under the Affirmation of Commitments. Transparency and commitment to the multistakeholder model have never been more important nor more critical to sustain. There is no doubt that the Internet's evolution is at an interesting and critical point. Rapid technical change, the rising importance of the Internet for economic development and information flow, globalization, and cultural diversity are all challenging the ability of ICANN and associated Internet governance bodies to satisfy a diverse set of stakeholders. I cannot think of a more interesting time to be deeply involved in these issues, as they affect the DNS, IP address allocations, and associated policies.

I have long been active in global policy and advisory bodies, both as a member and as a leader, responding to queries and expectations from governments, industry and academia. I believe my decades of work in multiple environments, academic and industry, and with technical and policy leaders has equipped me to effectively bridge diverse perspectives and help find common ground. I bring an academic perspective and history to Internet policy, based on 25 years of academic research and interaction around computing infrastructure and science policy. This is complemented by industrial experience in prototyping next-generation infrastructures for cloud data centers, which exposed the strengths and weaknesses of today's local and wide area networks.

In both cases, as well as in the business challenges around global Internet service delivery, I have seen the intersection of research and business interests with the expectations of the community of users and consumers. This perspective has relevance because the Internet's success rests on a unique combination of business, academic, technical, social, political and economic forces. Simply put, I have been on almost all sides of this discussion. I believe this combination of academic research background, industrial technology development, and technology policy can be of value in addressing the big issues we now face in a global environment.

### **Background**

I have been heavily involved in high-performance networking in many ways, both as an enabler of large-scale scientific and engineering research and as a conduit for global commerce and cloud services. I have been an Internet user since the early 1980s and have worked closely with many of the founding figures of the Internet on telecommunications and research policy. As a computer science professor and later head of the National Center for Supercomputing Applications (NCSA), I saw firsthand the explosive growth of the Mosaic web browser and its stimulation of today's Internet. At Microsoft, I saw the business aspects of Internet services, with deep visibility into Microsoft and its Internet services. Today, I remain deeply interested in the global discussions around the governance of the Internet, telecommunications policy, network privacy and security, and transnational data flows.

I was an early participant in the U.S. gigabit test beds, which explored future applications for extreme-scale networking. At Illinois, I was also part of a team that analyzed the performance of what was then the world's busiest web site, developing tools and techniques to understand server load, request types and traffic implications. At NCSA, I also oversaw teams and programs that measured and optimized end-to-end network performance for high-performance computing users, nationally and internationally. Finally, as chief architect and co-principal investigator for the U.S. NSF TeraGrid, I worked to deploy a 40 Gb/s transcontinental network connecting the sites in Illinois and California

At the University of North Carolina, I was a university CIO, where I dealt with all the operational issues of a network and communication system that supported tens of thousands of daily users. This brought decisions and exposure around all of the issues one might expect – network and subnet management, security and access, service coordination and voice over IP. In addition, I was the university representative for statewide management of North Carolina’s research and education network, which connected all of the state’s major universities and Internet2/National Lambda Rail.

At Microsoft, have studied the performance and limitations of today’s network stacks in supporting cloud-scale data centers. In addition, much of Microsoft’s advanced security and cryptography teams once reported to me, which has exposed me to many of the operational and emerging issues around Internet services security and protection. At Microsoft and at the U.S. FCC, I was also involved in IPv6 uptake issues, debates over gTLDs and their implications, and the broader issues around Internet governance, meeting with global stakeholders. In this latter role, I led Microsoft’s global technology policy team and was the point person on Internet governance issues.

Most recently, at the University of Iowa, I have seen the shifting nature and influence of the Internet of research collaboration, electronic course delivery and economic development.