

## Letter of Motivation

To: Second Security, Stability, and Resiliency of the DNS (SSR2) Review Team

Prepared By: Kazunori Fujiwara as an independent expert

I believe security, stability and resiliency of the DNS are the key elements for the Internet, as a social infrastructure, to be developed and deployed in a healthy manner. Especially, it is expected that the usage of the Internet will naturally increase in the future. For example, billions of devices will connect to the Internet and more users who currently do not use the Internet will also start using the Internet. Consequently, the usage and the importance of the Internet as well as the DNS will increase. I strongly believe that we as a part of the internet society are obliged to make the Internet more secure, stable and resilient in various aspects, and I'm certain that I will be able to contribute to the SSR Review in the aspect of the DNS technology.

I've been a researcher and a developer in a DNS-related area for about 15 years. As previously noted, I believe that although new services and new usage for the Internet and DNS will be introduced, and the users of the Internet will increase and the number of queries to DNS will also increase, the base protocols (IP, routing and DNS) shall not be changed. This is because if the changes to the base protocols occur, that shall cause the Internet to be fragmented.

In order to scale up the Internet stably, the DNS must be properly maintained and improved. I've been researching the DNS stability focusing on DNS protocols, operations and implementations. My typical interest lies on maintaining the current Internet and running DNS stably in a secure way. Hence, the title of my doctoral thesis was "DNS Traffic Analysis and Reduction of DNS Load" that discussed about the reduction of queries to Root DNS servers, and I believe such an approach is needed to keep the resiliency of the Internet as the infrastructure of the society.

As mentioned above, my motivation is to maintain the current Internet and DNS securely, stably, and resiliently as possible, through my daily activities. Even though, I have had no direct involvement in ICANN review activities in the past, I've had experiences in presentations and discussions in "Tech-days" and DNS-related workshops in ICANN meetings.

I've created a "DNS man-in-the-middle attack tool" to demonstrate DNSSEC importance, 12 years ago, and Dr. Bill Manning demonstrated attacks using my tool as well as my presentation slides at some of the ICANN meetings (ICANN 22, 23, ...). I've authored "DNS Terminology" RFC (RFC 7719) with Mr. Paul Hoffman and Mr. Andrew Sullivan. I've also authored two ENUM RFCs and four Email address internationalization RFCs. I was one of the developpers for BIND 10 project. These experiences also make me enthusiastic to join and share my experiences in the community.

I'm very much interested in participating in the SSR review team as a DNS researcher and/or a DNS engineer.

