Executive Summary

On December 15, 2012, the Ministry of Internal Affairs and Communications announced it would not sign the amended International Telecommunication Regulations (ITR). The ITR is an international treaty that legally binds signatory governments. It establishes general principles regarding the provision and operation of international telecommunication affairs. The current ITR was enacted in 1988, and mainly concerns international telephone communications. The new revisions were based on discussions regarding changes to provisions in light of widespread Internet usage.

The announcement from the Ministry of Internal Affairs and Communications mentions that the revisions added provisions concerning security measures and anti-spam measures, provisions concerning international mobile roaming rates, and the adoption of resolutions regarding the Internet. A total of 55 countries including Japan and the United States did not sign due to concerns that articles were worded in a way that could lead to a tightening of regulations, such as the restriction, censorship, or blocking of Internet content.

The Internet now stretches around the globe, and one of the main reasons its reach has extended so far is its open nature, with anyone able to connect and use it freely. However, there is also a sense that without a certain level of regulation or some kind of international agreement, it may not be possible to maintain order when the need arises. It will undoubtedly be very difficult to draw up articles that keep illegal, malicious behavior in check without obstructing the freedom to engage in legal and democratic behavior. It will also be challenging to ensure that these articles can be applied equally to all countries. We will have to keep a close eye on developments in this area.

This report discusses the results of the various ongoing surveys and analysis activities that IIJ carries out to support the Internet infrastructure and enable our customers to continue to use it safely and securely. We also regularly present summaries of technological development as well as important technical information.

In the "Infrastructure Security" section, we give a month-by-month chronological summary of major incidents observed during the three months from October 1 to December 31, 2012, and report on the results of our statistics gathering and analyses for the entire period. We also present our focused research for this period, including an overview of the Tor tool for anonymous communications, discussion of the Citadel Trojan that steals authentication information for financial institutions from users, and a look at the spate of issues that have been plaguing cryptographic protocols and implementations, as well as our thoughts on the way forward.

In the "Messaging Technology" section, we examine trends in spam ratios and the main regional source distribution for the 13 weeks between October 1 and December 31, 2012. We also report on recent incidents of fraudulent mail pretending to be from major financial institutions in Japan. On the subject of technology trends, we provide an overview of authentication technologies other than sender authentication such TLS and S/MIME, and explain how they are different to sender authentication.

In the "Cloud Computing Technology" section, we examine an initiative to move access networks into the cloud to implement large-scale content distribution, which IIJ conducted in collaboration with RIKEN Advanced Institute for Computational Science and Tokyo Institute of Technology as part of research sponsored by the National Institute of Information and Communications Technology.

Through activities such as these, IIJ continues to strive towards improving and developing our services on a daily basis while maintaining the stability of the Internet. We will keep providing a variety of solutions that our customers can take full advantage of as infrastructure for their corporate activities.

Author:

Toshiya Asaba
President and CEO, IIJ Innovation Institute Inc. President and CEO, Stratosphere Inc. Mr. Asaba joined IIJ in its inaugural year of 1992, becoming involved in backbone construction, route control, and interconnectivity with domestic and foreign ISPs. He was named IIJ director in 1999, and executive vice president in charge of technical development in 2004. When the IIJ Innovation Institute Inc. was founded in June 2008, Mr. Asaba became its president and CEO. When Stratosphere Inc. was founded in April 2012, he also became president and CEO of that organization.