Executive Summary

According to a survey on the state of broadband traffic in Japan published by the Ministry of Internal Affairs and Communications in March 2012, as of November 2011 the total download traffic volume of broadband service subscribers had reached an estimated 1.7Tbps. This is a 24.4% increase over the same period the previous year, and traffic has more than doubled over the past four years. On the other hand, upload traffic volumes began declining from May 2010. As this change happened after the amended Copyright Act came into effect in January 2010, making the download of copyright infringing material illegal, we believe the means of obtaining video and music content are shifting from P2P to Web services. In June 2012 an amended Copyright Act that incorporates criminal punishment for the illegal download of commercial copyrighted work was passed. It will come into effect from October 1, 2012. Considerable attention will be paid to how this amendment affects Internet traffic in the future.

There have also been a series of website alterations and DDoS attacks targeting government institutions and related organizations in protest against this amended Copyright Act, as well as the CISPA and ACTA bills. In light of this it could be said that operation of the Internet, in a broad sense of the word, now requires comprehensive assessment of a range of information covering a myriad of social situations.

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 April 1 to June 30, 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, examining attack campaigns by Anonymous targeting Japan, as well as the Flame malware that launches MITM attacks on Windows Update, and the ZeuS malware and its variants.

In the "Messaging Technology" section, we present long-term trends in spam over the past year and three months (65 weeks) including the same period for the previous year, and examine spam ratio trends and trends in distribution of the main regional sources of spam for the 13 weeks between April and June, 2012. We also comment on technology trends such as the adoption rate of the SPF and DKIM sender authentication technologies, and examine the authentication identifiers usable with the DMARC message authentication technology presented in our previous report, in addition to summarizing their current issues.

In the "Broadband Traffic Report" section, we analyze the state of traffic over IIJ's broadband access services for the week of May 28 to June 3, 2012, and compare it to the results of our analysis for the previous year (May 30 to June 5, 2011, detailed in IIR Vol.12) to verify changes in the characteristics of traffic over a year.

Under "Internet Topics" we discuss the status of the Matsue Data Center Park container-based data center that was established in April 2011, and briefly introduce proof-of-concept tests for the integrated operation of IT and facilities that we plan to conduct this summer, in an effort to achieve a PUE closer to the ideal value of 1.0.

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.