

## Executive Summary

According to a survey of Internet traffic in Japan released by the Ministry of Internal Affairs and Communications in September of this year, the total download traffic of broadband service subscribers had reached 1.5Tbps as of this May, an increase of 22.6% compared to the same period for the previous year. Although the rate of increase has slowed, a rise of almost 23% shows that use of the Internet continues to grow at a rapid pace. In July we launched an IPv6 access service using NTT NGN, and we expect Internet traffic to continue to rise further.

Meanwhile, as indicated in this report, the overall ratio of spam has fallen over 30% compared to the previous year. Unfortunately, this does not simply mean that the Internet has become safer and more secure. Instead, it appears to be evidence that incidents have become more sophisticated in quality, as demonstrated by the rise in targeted attacks. To continue to support the rapid growth of the Internet while responding appropriately to increasingly sophisticated incidents, ISPs such as IJ must cope with increased volume while also striving to improve the quality of our operations.

This report discusses the results of the various ongoing surveys and analysis activities that IJ 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 report on the results of our ongoing statistics gathering and analyses for security incidents observed during the three months from July 1 to September 30, 2011. From this volume we have added a monthly summary that groups major incidents by month in a chronological table. We also present our focused research for this period, including examination of an Apache vulnerability and its handling, investigation and analysis of the SpyEye crimeware kit commonly used as an attack platform, and discussion regarding incidents of the fraudulent issue of public key certificates.

In the “Messaging Technology” section, we present long term trends in spam over the past 65 weeks, and examine spam ratio trends and regional source distribution, as well as trends in the main regional sources of spam, for the 13 weeks between July and September, 2011. We also look at the global penetration of leading authentication technologies SPF and DKIM, and analyze the situation in Japan.

In the “Network Technology” section, we discuss the basic principles behind 100 Gigabit Ethernet, which was set out in IEEE802.3ba and ratified as a standard in June 2010. We also report on the results of the 100 Gigabit Ethernet IX joint interoperability test conducted together with NTT Communications Corporation and Internet Multifeed Co. Additionally, we examine future trends in optical transceiver standards for 100 Gigabit Ethernet.

Under “Internet Topics,” we report on the results of proof-of-concepts tests conducted using 4rd (IPv4 Residual Deployment), which is currently under consideration for standardization at the IETF, on SEIL routers to provide IPv4 Internet over a native IPv6 access service.

Through activities such as these, IJ 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:

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