

Executive Summary

Today, with the proliferation of the cloud and the shift in focus to big data, we are seeing content that was previously found on individual computers uploaded to cloud storage, and a variety of data such as behavior and purchase histories collected and recorded in the cloud. Data such as traffic jam information and information on train service status are also increasingly gathered from user devices via crowdsourcing and put into circulation, and information that was once collected and managed by administrative bodies is beginning to be organized and published as open data. We are at the dawn of an age in which vast amounts of wide-ranging data are accumulated and analyzed in the cloud, and utilized in our daily lives through technologies such as smartphone applications. We have almost reached the stage where access to the cloud is an essential part of everyday life.

Meanwhile, Gartner estimates that by 2014, 30% of companies using SaaS will switch to on-premise solutions due to poor service levels. Additionally, cloud solutions constructed across multiple data centers and hybrid utilizations combining on-premise and cloud technology are becoming more common. It appears that the enormous quantity of data collected on the other end of the Internet is gradually being distributed across a number of clouds, and returning to the on-premise servers or devices of users. Technologies for managing and utilizing the data stored in a widely distributed manner across the Internet are likely to become crucial in the years ahead.

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 give a month-by-month chronological summary of major incidents observed during the three months from January to March, 2013, 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 discussion of a large-scale incident that occurred in South Korea in March, a look at incidents of malware infection in Japan caused by Apache module alterations, and our commentary on exercises for responding to cyber attacks.

In the “Messaging Technology” section, we examine trends in spam ratios and the main regional source distribution for the 13 weeks between January and March, 2013. We also comment on technology trends, including a report on the status of sender authentication technology, and an explanation of the Internet-Draft for DMARC, a new technological framework that uses sender authentication technology.

In the chapter on storage technology, we introduce the Tamias personal storage system that is currently under development at the IJ Research Laboratory. Tamias achieves distributed file sharing via multiple data centers and personal devices, while protecting privacy and featuring a robust authentication mechanism that prevents the unauthorized use of online data. In this report we explain the encryption, user authentication, and finely-tuned file sharing mechanisms, and verify file upload performance compared to Dropbox.

Under “Internet Topics,” we discuss the background and significance of our establishment of a London data center, as well as the extension of the IJ backbone, and our connection to LINX.

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.

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President and CEO, IJ Innovation Institute Inc. President and CEO, Stratosphere 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 executive vice president in charge of technical development in 2004. When the IJ 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.