

Executive Summary

On April 8, 2014, a security advisory that outlined a vulnerability discovered in OpenSSL and called for measures to be taken was published, and a range of companies were forced to take urgent action. OpenSSL is open source software that implements a system called SSL, which is used when encrypting and transferring personal or confidential information, such as for online shopping or Internet banking. It is used extensively in Unix-like environments. The vulnerability that was discovered apparently allowed remote access to a relatively large slice of memory space on servers. If exploited, data such as passwords and private keys could be easily stolen, so it posed a serious threat. As a result it was given the name **Heartbleed**.

In July there was also a major leak of customer information at a prominent company in the field of education. This incident involved a contract employee who took the personal information of customers off premises and sold it to what are known as list traders. The company at which the leak occurred stated they have earmarked a total of 20 billion yen for compensation. This figure is apparently equal to the company's projected net profit for the current fiscal year. Companies have a heavy responsibility to manage the personal information of their customers, so the losses suffered in the event that an information leak does occur will have a considerable impact on their business.

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, 2014, 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 explanation of the OpenSSL vulnerability disclosed on April 8, as well as analysis results and countermeasures for the "Vawtrak" malware that steals authentication information for Japanese financial institutions. Additionally, we discuss security checks and audit systems for cloud services.

In the "Broadband Traffic Report" section, we analyze changes in the average monthly traffic over IIJ's broadband access services for the past seven years since 2007, and report the conclusions we have drawn regarding long-term broadband traffic trends. We also analyze traffic data for the week of May 26 to June 1, 2014, and compare the results with those from the last survey spanning June 3 to June 9, 2013, followed by a report on our detailed analysis of changes in traffic trends over this past year.

In the "Technology Trends" section, we discuss the latest trends in the environment surrounding DNS, which is an important Internet service. In particular, we cover the name collision issue that has emerged due to the addition of TLDs in recent years, and look at the current practice of DNS-based communication control that content providers and others are employing, as well as the issues involved. We also explain the current state of attacks on DNS in detail, along with their countermeasures.

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.

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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.