
Executive Summary

Over the past three months, there have been a series of reports on cryptocurrencies being misappropriated from cryptocurrency exchanges, which has attracted public attention. These incidents were not caused by the cryptocurrency itself. Thus, we must exercise caution to ensure there is no adverse effect on the utilization of cryptocurrency, which has great potential.

While writing this executive summary, an alert regarding memcached access controls was issued. A few days later, it was announced that a DDoS attack of 1.35 Tbps--one of the largest ever--had been made against GitHub by exploiting this issue. Previous attack techniques have also maliciously used functions that amplify traffic, such as DNS and NTP. However, memcached has unprecedented destructive power, with an amplification factor of over 10,000. At IJ, we would like to handle incidents such as these while collaborating with other providers.

IJ aims to introduce the wide range of technology that we research and develop in this IIR, which is comprised of periodic observation reports that provide an outline of various data we obtain through the daily operation of services, as well as focused research where we examine specific areas of technology.

In Chapter 1, we discuss our SOC Report as the periodic observation report for this volume. As announced in the previous volume, the security report formerly found in this IIR will now be posted in a timelier manner on a website called the wizSafe Security Signal. We will continue to cover security in our periodic observation report once a year. This time we introduce the new Data Analytics Platform that has been renewed to create unique security intelligence at IJ's SOC, and discuss the activities that were discovered using this platform, based on the details reported in the wizSafe Security Signal over the past six months.

Chapters 2 and 3 are our focused research. First, in Chapter 2 we give an overview of IJ's full MVNO initiatives. MVNO refers to a mobile virtual network operator, but there are a variety of business models based on the scope of functional elements you will own and operate yourself. A full MVNO uses a business model where you own all functional elements yourself except for the wireless access. Though owning a range of equipment, it is possible to offer services as an MVNO that until now only an MNO (a traditional mobile communications operator that has wireless access) could provide. We explain what it means to be a full MVNO, and what this enables you to do.

In Chapter 3, we discuss the "Hayabusa" open-source software implemented by IJ Innovation Institute as a system capable of quickly storing and retrieving a large amount of logs output by a range of devices from multiple vendors. In the field of network and system operations, it is necessary to store logs output from hardware and software and display any statistical information or search through the logs for troubleshooting. Log information is also crucial when handling security incidents. Hayabusa was developed as a system to fulfill the need to perform high-speed searches through the vast amount of logs stored by large-scale systems. Here, we introduce the results of tests based on actual ShowNet syslog data collected at Interop Tokyo, along with information about Hayabusa's implementation and future challenges.

IJ continues to strive towards improving and developing our services daily, while maintaining the stability of the ICT environment. We will keep providing a variety of services and solutions that our customers can take full advantage of as infrastructure for corporate activities.



Junichi Shimagami

Mr. Shimagami is a Senior Executive Officer and the CTO of IJ. His interest in the Internet led to him joining IJ in September 1996. After engaging in the design and construction of the A-Bone Asia region network spearheaded by IJ, as well as IJ's backbone network, he was put in charge of IJ network services. Since 2015, he has been responsible for network, cloud, and security technology across the board as CTO. In April 2017, he became chairman of the Telecom Services Association of Japan MVNO Council.