

## Executive Summary

I am writing this as the annual Mobile World Congress (MWC) takes place in Barcelona. As many of you know, MWC is the mobile communications industry's biggest event, hosted by the GSM Association, an industry organization comprising mobile network operators, device and equipment manufacturers, and other companies involved in mobile communications.

The theme of this year's MWC is "Converge. Connect. Create." And looking back, the themes over the past five years were "Velocity," "Connected Impact," "Connectivity Unleashed," "Connected Impact," and "Limitless Intelligent Connectivity." With this being a mobile communications industry event, connectivity remains consistently in focus, but with AI now garnering attention, as at other IT-related events, the key phrase "beyond connectivity" is also being used.

With companies around the globe apparently working hard to monetize 5G, the issue of how to go about expanding businesses other than telecommunications services is being discussed, and alongside this there is also a lot of discussion about what the infrastructure that would make such businesses possible should look like and what sort of technologies need to be developed. Creating new services not confined to the traditional notion of connectivity and new infrastructure to enable such services is an important mission for us as a telecommunications business.

The IIR introduces the wide range of technology that IIJ researches and develops, comprising periodic observation reports that provide an outline of various data IIJ obtains through the daily operation of services, as well as focused research examining specific areas of technology.

The periodic observation report for this issue in Chapter 1 is our annual SOC Report. This report looks at the major security topics over the past year that IIJ's SOC was focused on, with a deep dive into DDoS attacks this year. Many DDoS attacks were observed throughout 2024, and Japan faced a constant onslaught of DDoS attacks from the end of 2024 through early 2025, with incidents of this impacting on everyday life also being reported. The report discusses the methods used and the evolving trends in these DDoS attacks, and then takes a detailed look at mirai-toushi, an analysis support tool for Mirai and variants, which are used in many DDoS attacks.

Our focused research report in Chapter 2 takes you behind the scenes of the ID Gateway Service, which IIJ provided for 26 years. Today, with the evolution of mobile communication networks and cloud services, we have access to the information and computing resources we need anytime, from anywhere. When the ID Gateway Service was launched in 1998, dial-up Internet access was still the mainstream, and both information and computing resources resided within corporate networks. Various improvements were made to the ID Gateway Service over the years in response to technological advances and societal changes, and the article walks through the history of IIJ's in-house software that supported this service.

Through activities such as these, IIJ continues striving to improve and develop its services on a daily basis while maintaining the stability of the Internet. We will continue to provide a variety of services and solutions that our customers can take full advantage of as infrastructure for their corporate activities.



**Junichi Shimagami**

Mr. Shimagami is a Director and Executive Vice President and the CTO of IIJ. His interest in the Internet led to him joining IIJ in September 1996. After engaging in the design and construction of the A-Bone Asia region network spearheaded by IIJ, as well as IIJ's backbone network, he was put in charge of IIJ 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's MVNO Council, stepping down from that post in May 2023. In June 2021, he also became a vice-chairman of the association.