

Executive Summary

2025 has been called a watershed year for AI agents. GPT-5 was announced in August 2025, three years after the release of ChatGPT in 2022 sent shockwaves around the world. GPT-5 not only supports multimodal inputs, such as images and video, but also features significantly enhanced external integration capabilities, making it possible for autonomous agents to interact with external data sources as needed. The deployment of AI agents is also being driven by growing momentum within enterprises, which, having largely worked through their experimental phases with AI, are now looking to use it in real-world business applications.

In this issue, we bring you the latest Internet trends along with examples of IJ's development efforts involving generative AI and AI agents.

Chapter 1 presents our periodic observation report on Internet trends. IPv6 traffic on IJ's backbone increased a hefty 25.2% year over year and now accounts for around 24% of overall traffic. IPv6-enabled rates on mobile devices have also improved (iOS: 86.9%, Android: 35.5%). The report also discusses trends as seen from IJ's Internet backbone.

Chapter 2 discusses the design philosophy and implementation of bowline, a full-service DNS resolver developed in-house by IJ. Implemented in Haskell, bowline has been released as open source. I encourage you to read the article for the background discussion and other details on the Haskell implementation, but I would also like to note that this kind of internal software development is what underpins the reliability of the services IJ provides.

Chapter 3 looks at the history of LEO (Low Earth Orbit) satellite Internet, an area of rising interest in recent years. The report also discusses the latest developments, with a focus on Starlink. When the Noto Peninsula earthquake struck Japan on New Year's Day 2024, LEO satellites came into play, serving as a means of communication in a disaster situation. A whole range of possibilities lies ahead, including high-speed, low-latency networks using inter-satellite laser communication and applications for interplanetary communication. The IJ Group officially began offering Starlink in December 2025.

Chapter 4 introduces sbdGPT, an internal RAG (Retrieval-Augmented Generation) platform developed and operated by IJ, and its multi-agent extensions. IJ has been working to integrate its vast stores of knowledge distributed across the company and using generative AI to improve operational efficiency. Since we put sbdGPT into service in the summer of 2023, it has delivered efficiency gains equivalent to around 1,500 hours per month. We are in the process of greatly expanding the scope of AI utilization at IJ. These efforts include a multi-agent architecture that also incorporates external information, integration with Deep Research tools to provide advanced research capabilities, and the in-house development of Panorama, a tool for automatically generating plans, proposals, and strategies.

I hope the wide range of topics covered in this issue, from familiar areas such as Internet trend analysis and the full-service DNS resolver we developed in-house to cutting-edge topics like satellite Internet and generative AI, will prove useful to our readers. Guided by our mission of supporting society through technology, we will continue to evolve, in terms of both providing stable services and taking on the challenge of new technologies.



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Mr. Someya joined IJ in 1998 and was seconded shortly thereafter to IJ Technology (which was merged into IJ in 2010). At IJ Technology, he was involved in the launch of the systems integration (SI) business and worked on building numerous Internet systems as well as providing consulting services. In 2016, he transferred to IJ's Service Business Division, where he was responsible for medium-term strategy for the cloud business. In 2019, he became head of the cloud business. As of this fiscal year, he serves as editor-in-chief of the IIR, with his aim being to proactively deliver practical, cross-cutting technical insights from across IJ to readers.