

Executive Summary

Information and Communications in Japan 2009, an annual white paper published by the Ministry of Internal Affairs and Communications on July 10, begins with a special feature titled "Why Information and Communications are Necessary for Recovery in Japan." This whitepaper points out the contributions that information and communications can make to the growth of the economy and society, while finding that although Japan has a world-class information and communications infrastructure, it is lagging behind in its utilization, with information and communications not being linked to economic strength. Furthermore, it presents the opinion that we can accelerate recovery from the economic crisis by promoting the utilization of our information and communications infrastructure, and addressing concerns about its use in both the private sector and the public sector, including government and local public bodies.

This is the fourth IIJ technical whitepaper that we have published. In Vol.4 we summarize the status of utilization and security, seen as the key to economic development in the previously mentioned whitepaper. We have approached this from the perspective of a company responsible for Internet technology infrastructure, focusing on statistical information from April 1 to June 30, 2009.

First of all, in "Broadband Traffic" we address utilization by analyzing the traffic conditions in our world-class broadband environment. The results show that due to active use of rich content such as video the average daily download usage levels for general users after excluding heavy users of P2P file sharing applications have skyrocketed a staggering 356% from 32 MB to 114 MB when compared to data from five years ago.

On the security front, in "Infrastructure Security" we comment on the Conficker malware for which large-scale infections continue, and Gumblar, which infects PCs simply through the viewing of Web content and steals information, in addition to demonstrating sophisticated behavior such as mutation and the destruction of evidence. In "Messaging Technology" we continue on from Vol.3 and explain the current status of sender authentication technologies and the importance of sender side countermeasures for the reduction of spam.

In this volume we also take on the topic of cloud computing, which is gaining a lot of attention in the field of infrastructure technology. Foreign corporations such as Google, Amazon, and Microsoft have taken the lead in this field, but evaluation of its applications in both the public and private sectors has also begun in Japan, and IIJ is proceeding with technical development in order to hopefully play a key role in its adoption here. In "Cloud Computing Technology", we introduce IIJ's initiatives towards constructing a distributed file system that will serve as infrastructure for a cloud environment, and in "Infrastructure Security" we discuss the topic of security for cloud computing.

It goes without saying that in order to utilize information and communications effectively, security for ensuring safe use is essential. There were reports that in July government agencies and key Websites in the United States and South Korea were targeted in large-scale DDoS (Distributed Denial of Service) attacks, causing some sites to become inaccessible, and significantly affecting social activities. To prevent incidents such as this, and operate information and communications infrastructure as a stable social infrastructure, it is crucial for organizations engaged in the administration of information and communications infrastructure to respond in a coordinated manner, using the sharing of perceptions on actual conditions such as those detailed in this IIR as a starting point.

IIJ actively adopts new technologies while providing Internet infrastructure with a focus on stability and safety, and will continue its cooperative initiatives with information transmitters and related organizations, striving to further enhance the benefits of the Internet as an infrastructure for enriching society.

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