

Call for Papers

----- Special Section on Advancement of Internet Architecture, Applications and Platform Technologies Toward a Sustainable Society -----

The IEICE Transactions on Communications announces that it will publish a special section entitled "Special Section on Advancement of Internet Architecture, Applications and Platform Technologies Toward a Sustainable Society" in the **February 2026** issue.

The Internet and related communication infrastructures play a pivotal role in fostering a sustainable society, wherein various human activities can be sustained into the future. In particular, the Internet has already been widely integrated into society as a part of our daily lives, and it is conceivable that it will become an increasingly essential technology that facilitates the utilization and distribution of diverse information (data) emerging from an extensive range of places, people, and things involved in future human endeavors. In addition to various network technologies (Beyond 5G, ICN, NTN, etc.) for collecting diverse data from the real (physical) space into the cyber (virtual) space, the construction of large-scale platforms (such as cloud computing and Web 3) equipped with capabilities to accumulate, analyze, and then integrate the data from virtual spaces back into real spaces, is anticipated to foster the development of applications that offer novel value to society. In order to realize such a sustainable society, it is necessary to advance not only the architecture and protocol design of networks/platforms that traverse real and virtual spaces, but also security technologies to ensure safety, alongside AI/green technologies for sustainable, cost-effective operation, along with other advancements. In addition, technologies facilitating the development and operational management of advanced applications that support people's various activities in real and virtual spaces are also indispensable elements. In light of these considerations, this special section invites papers on "Special Section on Advancement of Internet Architecture, Applications and Platform Technologies Toward a Sustainable Society," focusing on Internet/platform technologies that contribute to the realization of a sustainable society and new applications leveraging these technologies.

1. Scope

This special section aims at timely dissemination of research in these areas. Possible topics include, but are not limited to:

- * Architectures and protocols for the Internet

Autonomous/distributed routing, network/transport protocols, traffic control for robustness and quality assurance, adaptive traffic control, data center networks, network virtualization technologies, SDN (Software Defined Networking)/NFV (Network Function Virtualization) technologies, sensor network technologies, ICN (Information Centric Network), content service technologies, delay-tolerant networks, network security, NTN (Non-Terrestrial Network), optical communication technologies, biomimetic design, etc.

- * Platform technologies for IoT(Internet of Things) / CPS(Cyber-Physical System)

IoT/CPS, distributed computing, grid computing, cloud computing, edge computing, intercloud technologies, social network technologies, technologies for building big data/social data analysis infrastructure, testbed construction technologies, M2M construction technologies, P2P construction technologies, Web 3, etc.

- * New applications for a Sustainable Society

IoT/CPS applications, big data analysis applications, simulations, digital twins, embedded applications, environmental monitoring (primary industries, climate change, pollution), smart metering, remote healthcare and education, cultural heritage preservation and sharing, etc.

- * Technologies Promoting Advancement

IoT/CPS device management technologies, security technologies, authentication infrastructure, tracking technologies, intrusion detection, access management, QoS/QoE management technologies, AI-based technologies, green technologies (energy saving, low power consumption), operational automation/automatic upgrading, renewable energy/energy harvesting, etc.

2. Submission Instructions

The standard number of pages is 8. The page charges are considerably higher for extra pages. Manuscripts should be prepared according to the guideline in the "Information for Authors." The latest version is available at the web site, https://www.ieice.org/eng/shiori/mokuji_cs.html. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for regular issues (60 days) because of the tight review schedule.

This special section will accept papers only by electronic submission. Submit a manuscript and electronic source files (LaTeX/Word files, figures, authors' photos and biographies) via the IEICE Web site https://review.ieice.org/regist/regist_baseinfo_e.aspx by **February 13, 2025(JST)**. Authors should choose the **Advancement of Internet Architecture, Applications and Platform Technologies Toward a Sustainable Society** as a "Journal/Section" on the online screen. Do not choose [Regular EB].

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3. Special Section Editorial Committee

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- * The accepted papers will be published online soon on the web site of Transactions Online after the payment of article processing charge has been completed. For detailed information, please visit https://www.ieice.org/eng/shiori/page2_cs.html#8.
- * All papers published in or after February 2024 issue of the IEICE Transactions on Communications are opened to all readers in the world through IEEE Xplore; visit <https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=10400553>