

Future Generation Computer Systems Journal Special Issue on the Economics of Computing Services

Guest Editors: Jörn Altmann¹, José Ángel Bañares², Bernhard Egger¹

¹ Seoul National University, South Korea

² University of Zaragoza, Spain

Motivation and Scope

Computing infrastructure, particularly cloud computing, faces substantial managerial and economic challenges. Among these, the risk of platform lock-in is a significant barrier to widespread adoption. Additionally, the costs, portability, and the lack of fungibility in cloud services, resulting from diverse hardware, architectures, software, interfaces, and administrative policies, present major challenges. Overcoming these challenges requires the establishment of standards, best practices, legal frameworks, economics-aware technological solutions, and innovative business models.

This special issue aims to achieve this by exploring mechanisms for efficient and cost-effective deployment, orchestration, and resource management across diverse virtualization technologies and different cloud service providers. Moreover, this special issue focuses on manageability of cloud services, supported by a deep understanding of value creation and economic dynamics within the cloud industry.

This special issue invites submissions that are interdisciplinary and integrate business and economic aspects with engineering and computer science themes. Potential submissions may include extensions to existing technologies, successful technology deployments, economic analyses, assessments of technology adoption, and theoretical models on economics of computing services. Related topics are:

- Business models for cloud computing infrastructures
- Decision support for service selection and procurement
- Revenue and energy-aware resource management
- Pricing schemes, service level agreements (SLAs), and revenue models
- Economic aspects of blockchain applications
- Economically efficient resource allocation, scheduling, and capacity planning
- Auction models, automated trading and bidding support tools
- Game theory, incentive design, market mechanism, strategic behavior for computing resources
- Economics of desktop grids, volunteer computing, and crowd-sourcing
- Ecosystems, service value chains, and value networks
- Trust, reputation, security, and risk management
- Economics of big data, software, services, service composition, and selection
- Community networks, social network systems, and resource sharing models
- Economic modeling of networks, systems, and software

The overall purpose of this special issue is, to build a strong community in this interdisciplinary area of computing and economics. As part of this, the special issue is linked to the International Conference on the Economics of Grids, Clouds, Systems, and Services (GECON). It aims at soliciting papers from the conference series that are most promising for achieving a high impact. Ideas for a submission to the FGCS Special Issue can also be presented and discussed at the GECON 2024 conference by submitting an abstract/article via EasyChair (indicating "FGCS VSI: GECON"), obtaining valuable feedback for a submission to the special issue. The submission deadlines for the GECON conference is August 30th.

Guest Editors

Jörn Altmann

Technology Management, Economics, and Policy Department; College of Engineering; Seoul National University;
1 Gwanak-ro; Gwanak-gu; Seoul, 08826; Republic of Korea;
jorn.altmann@acm.org



José Ángel Bañares

Department of Computer Science and Systems Engineering; University of Zaragoza;
C/María de Luna 1; 50018 Zaragoza; Spain;
banares@unizar.es



Bernhard Egger

Department of Computer Science and Engineering; Seoul National University;
1 Gwanak-ro; Gwanak-gu; Seoul 08826; Republic of Korea;
bernhard@csap.snu.ac.kr



Important Dates

- 1.Aug.2024: Opening of submission to FGCS Special Issue "FGCS VSI: GECON"
- 30.Aug.2024: deadline for submission of an idea for a Special Issue journal manuscript at GECON conference (<http://gecon2024.gecon-conference.org/>) via EasyChair, indicating "FGCS VSI: GECON".
- 26-27.Sep.2024: GECON 2024 conference
- 30.Nov.2024: Submission deadline to FGCS Special Issue "FGCS VSI: GECON"
- 15.Mar.2025: Latest acceptance notification for all manuscripts
- 1.Apr.2025: Publication of Special Issue

Manuscript Submission Instructions

All manuscript (double column formatting; complying to the formatting requirements of FGCS) need to be submitted via the Future Generation Computer Systems Journal (FGCS) manuscript submission website. When submitting your manuscript, please select submission to "FGCS VSI: GECON". For any specific questions, please contact the guest editors via email, using the subject tag "FGCS VSI: GECON".