



Call for Papers

Workshop on Metaverse-based Networking and Computing (MetaNC)

SCOPE

Metaverse, a reality-virtuality continuum, is blending physical and digital worlds, creating theoretically unlimited virtual environments with geographically distributed end-users who interact using digital avatars and experience heterogeneous activities in real-time. The immersive experience in Metaverse is revolutionizing various industries, paving the way for the realization of virtual remote environments, in turn enabling real-time interactions amongst geographically distributed users around the globe.

The realization of the Metaverse is facilitated by the convergence of various technologies, including image processing and computer vision to create the virtual environment inside the Metaverse. The network protocols, and edge computing techniques, on the other hand, enable a real-time immersive experience using dedicated network paths and proximate computations from outside; thus, certainly signifying the Metaverse reliance on pervasive network access and efficient computing technique. However, traditional networking solutions, and edge computing techniques—in the context of enabling dedicated network paths for seamless multimedia communication, computations offloading and execution—are incapable of delivering the real-time experience owing to considerable latency incurred by the in-efficient network protocol design, and limited edge computing capabilities. The “Metaverse-based Networking and Computing” (MetaNC) workshop aims at presenting the latest advances in networking for instance the emergence of New-IP/future vertical communication networks (FVCN) in conjunction with information-centric networking (ICN), and edge and fog computing integration to enable distributed proximate computations offloading which have the potential to resolve the Metaverse challenges presented above.

TOPICS OF INTEREST

We seek original completed and unpublished work not currently under review by any other journal/ magazine/conference. Topics of interest include, but are not limited to:

- Collaborative content sharing network protocols for Metaverse
- Metaverse-based customized network protocol design
- Proximate computation offloading techniques for Metaverse
- Latency reduction techniques for Metaverse applications
- Integration of edge and fog computing for Metaverse
- Information-centric Metaverse
- New IP / future vertical communication networks for Metaverse
- Protocol design for distributed edge and fog computing for Metaverse
- Microservices architectural requirements & design implementation for Metaverse
- Resource orchestration in Metaverse
- Distributed resource allocation in Metaverse
- Intelligent networking for Metaverse

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IMPORTANT DATES

Paper Submission Deadline:
20 January 2023

Paper Acceptance Notification:
6 March 2023

**Camera Ready and Registration
for accepted papers:**
15 March 2023

- *Distributed microservices deployment models for the heterogeneous compute nodes in Metaverse*
- *Secure and reliable communications for Metaverse*

PAPER SUBMISSION

The workshop accepts only novel, previously unpublished papers. The page length limit for all initial submissions for review is SIX (6) printed pages (10-point font) and must be written in English. All final submissions of accepted papers must be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. No more than one (1) additional printed page (10-point font) may be included in final submissions and the extra page (the 7th page) will incur an over-length page charge of USD100. For more information, please see IEEE ICC 2022 official website: <https://icc2023.ieee-icc.org/authors>.

SPONSORS

Partially sponsored by IEEE SIG on Metaverse: <https://www.ieee-metacom.org/sigmata/>.

WEBPAGE LINK

<https://icc2023.ieee-icc.org/workshop/ws-17-workshop-metaverse-based-networking-and-computing-metanc>