IEEE Netsoft 2021 :: 4th Workshop on Advances in Slicing for Softwarized Infrastructures (S4SI) [Jun 28, 2021]

The current industry trend of convergence between computing and networking ecosystems highlights that computing, storage, and connectivity services, as well as any other present and future application instances, will be deployed in the form of virtualized assets within software-defined infrastructures. All of these will be managed and made available under the "as a Service" paradigm. This concept is summarized under the idea of a Slice, which has become a central piece in the evolution of telecom networks. Yet the topic of Slicing is very much fragmented across conceptual views, approaches, technologies, standardization, and so on.

In its fourth edition, the S4SI workshop aims at bringing consolidation around slicing and discussing advances and challenges related to Slicing in Softwarized Infrastructures for faster and improved deployment of services in 5G and beyond environments. There are clearly many open questions to be addressed, including:

- Fragmented landscape and gaps, from concepts to standards towards multi-domain, end-to-end slicing;
- How do the existing resource technologies of computing, storage and network can seamlessly be managed, orchestrated and controlled as part of end-to-end slices?
- How end-to-end slices can automatically be defined and allocated on-demand – as a service – to host network services with similar requirements in terms of SLA and QoS;
- How can cross-slice communication be orchestrated and set up in a secure and optimized manner in order to enable interactions between services deployed in co-located slices?
- How to integrate novel approaches that could facilitate the lifecycle management of slices on SDI, like intent-based mechanisms, smart operation based on Artificial Intelligence, etc

S4SI aims at providing an international forum for researchers and practitioners from academia, industry, network operators, and service providers to discuss and address the challenges deriving from the emerging scenarios around *Slicing* where systems, processes, and workflows used in both computing and communications domains are converging. Altogether, S4SI seeks to improve the common understanding of Slicing, the expected benefits, including the new business model opportunities between slice providers and tenants. A concluding panel will contribute with a rich discussion on the lessons learned and the path ahead towards the consolidation of *Slicing*.

The workshop welcomes contributions from both computing and network-oriented research communities, with the aim of facilitating discussion, cross-fertilization and exchange of ideas and practices, and successfully promotes innovative solutions toward a real use of *slices*. We are interested in papers (Up to 4 pages for short and 7 pages for Full including tables, figures and references. IEEE 2-column US-letter style using IEEE Conference template and submitted in pdf format.) that cover some of the following topics:

- Efficient provisioning and operation of Slices
- Intent-based systems facilitating slicing
- Cross-domain Slicing, federation, interconnection
- Issues in adapting existing systems for Slicing
- Novel control and data planes for slicing
- High precision slicing with QoS/KPIs guarantees
- Slicing with guarantees for quality, performance, reliability, scalability, high elasticity, resilience safety and security
- Service Slicing assurance and fulfilment
- Energy-efficiency and green operation in slicing
- Digital twins support of Slicing for cyber networking

- Abstractions models and APIs for a Slice
- Smart scaling and elasticity on E2E slices
- Monitoring and Analytics systems for Slicing
- Slicing for 5G and beyond
- Effective Integration in software-based control, Multi-Domain Management and Orchestration
- Effective slicing integration in network programmability
- Cloud and Network Edge-native slicing
- AI/ML-assisted Slicing
- Self-management and Zero-configuration network slicing

Best papers presented will be invited to submit an extended version for fast-track review in selected journals, e.g.:,
IEEE Communications Magazine Series on Telecom Software, Network Virtualization, and Software Defined Networks.

Important Dates

- ❏ **Paper Submission: March 5, 2021 [FIRM!]**
- ❏ Notification of Acceptance: March 28, 2021

- ❏ Camera ready: April 11, 2021
- ❏ Workshop date: June 28, 2021

Link to submit papers: https://edas.info/N28057

More information:
https://intrig.dca.fee.unicamp.br/s4si2021/