



ACROSS

Automated zero-touch cross-layer provisioning framework for 5G and beyond vertical services

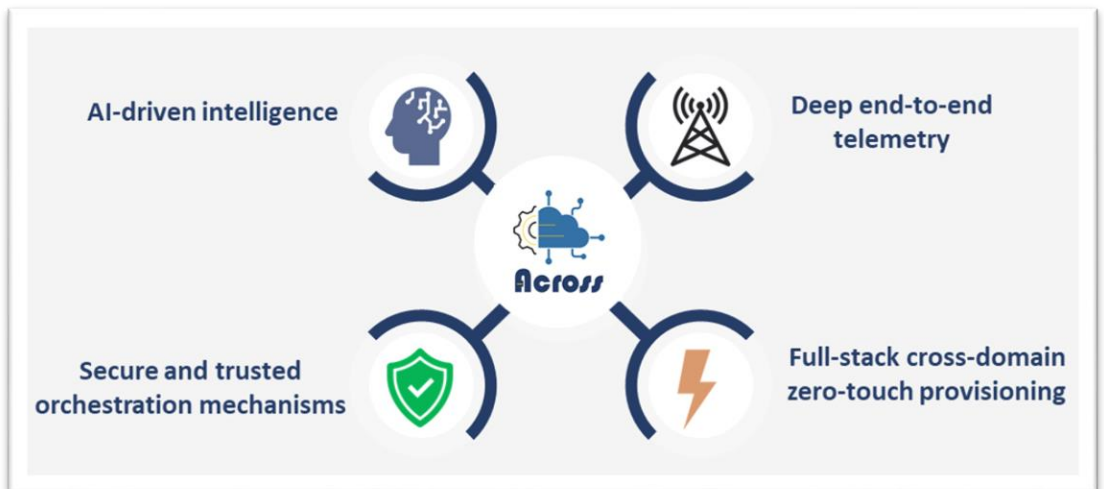
Newsletter #4

March 2024

Pioneering the Future of 5G and Beyond

Discover the world of cloud computing and networking with ACROSS – *Newsletter Edition #4*

Welcome to the **Fourth Edition** of our Newsletter, featuring all the latest news from **ACROSS (Automated zero-touch cross-layer provisioning framework for 5G and beyond vertical services)**. This Research and Innovation Action, funded by the Horizon Europe framework Programme, designs and implements an end-to-end service deployment and management platform for next generation networks and services, aiming at unprecedented levels of automation, performance, scalability, and energy efficiency.





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Conferences

IEEE Global Communications Conference

(Kuala Lumpur, Malaysia, 04-08 December 2023)

K3Y authored and presented the paper entitled "5GCIDS An Intrusion Detection System for 5G Core with AI and Explainability Mechanisms" which involves the development of PFCPFlowMeter - a new flow statistics generator which is capable of generating bidirectional flow statistics related to the application-layer attributes of the Packet Forwarding and Control Protocol (PFCP) used for control-plane communication at the N4 interface of the 5G core. The work also concerns the detection of PFCP-related attacks through ML methods such as eXtreme Gradient Boosting (XGBoost) and decision tree. Lastly, the work considers the development of a new AI-powered IDS with an explainability mechanism leveraging the SHAP (SHapley Additive exPlanations) method.



5GCIDS An Intrusion Detection System for 5G Core with AI and Explainability Mechanisms

P. Radoglou-Grammatikis, G. Nakas, G. Amponis, S. Giannakidou, T. Lagkas, V. Argyriou, S. Goudos,
P. Sarigiannidis





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Conferences

**The 38th Annual AAAI Conference on Artificial Intelligence
(Vancouver, Canada, 20-27 February 2024)**



**The 38th Annual AAAI Conference on
Artificial Intelligence**

FEBRUARY 20-27, 2024 | VANCOUVER, CANADA

Sébastien Andreina (NEC) attended the AAAI-24 Conference in Vancouver, Canada (Feb. 20-27, Vancouver Convention Center). The Association for the Advancement of Artificial Intelligence (AAAI) is the premier scientific society dedicated to advancing the scientific understanding of the mechanisms underlying thought and intelligent behavior and their embodiment in machines. At AAAI-24, Sébastien Andreina presented the ACROSS-acknowledged publication “Closing the Gap: Achieving Better Accuracy-Robustness Tradeoffs Against Query-Based Attacks” as a poster. In this work, NEC and the Ruhr-Universität Bochum show how to efficiently establish, at test-time, a solid tradeoff between robustness and accuracy when mitigating query-based attacks. The approach taken is independent of training and supported by theory. In this paper, NEC and RUB verify the effectiveness of such approach for various existing defences.

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EVENTS

OSL kick-off

(Castelldefels, Barcelona, 19-20 October 2023)

The picturesque Castelldefels, Barcelona, served as the backdrop for the highly anticipated launch of the OpenSlice project, with the Centre Tecnològic de Telecomunicacions de Catalunya (CTTC) hosting the event on October 19-20, 2023. This inaugural meeting brought together an eclectic mix of institutions and industry leaders, including the University of Patras, Instituto de Telecomunicações, Telefonica, Universidad de Murcia, K3Y, OdinSolutions, and UBITECH, uniting under the shared goal of driving forward advancements in telecom and network technologies. The kick-off was not just a ceremonial start but a strategic conclave that laid down the foundational features and the forward-looking roadmap of the OpenSlice project. It was a moment of collaborative visioning, where the contours of future telecom innovations were sketched out with collective wisdom and insight.

A significant outcome of this assembly was the establishment of The Leadership Group, with the mandate to craft and communicate the overarching vision of the OpenSlice initiative. Complementing this strategic body, The OSL Technical Steering Committee was also formed, tasked with the critical role of guiding the technical direction and ensuring the project's milestones are met with precision and innovation. As OpenSlice embarks on this journey, the kick-off meeting in Barcelona will be remembered as the pivotal point where ideas converged, partnerships were forged, and a new chapter in telecom technology was set in motion.





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Events

OSM

(Online, 29 November 2023)

On November 29, 2023, the ETSI Open Source MANO (OSM) community welcomed Christos Tranoris, the Chair of the Leadership Group (LG) from ETSI OpenSlice (OSL), during their 16th Ecosystem Day, held remotely. This event serves as a platform for various organizations within the OSM Ecosystem to exchange insights and experiences regarding their use of Open Source MANO, a crucial component in network management and orchestration. ETSI OSL seized this opportunity to articulate their group's vision and strategic roadmap, fostering a dialogue aimed at potential collaborations. This engagement underscored the importance of community-driven initiatives in shaping the future of open-source solutions in the telecom sector and highlighted the potential for synergies between ETSI OSL and the broader OSM community in advancing mutual objectives.



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Events

OSL#2 TECH Day

(Online, 29 February 2024)



The ETSI Open Source Lab (OSL) community is thrilled to announce a successful showcase at the OSL#2 TECH Day on the leap day of 2024, February 29th. Hosted virtually to accommodate a global audience, the event spotlighted the latest advancements in the OpenSlice Release 0, offering a deep dive into the future of open-source solutions in telecommunications. The highlight of the TECH Day was the OSL Demo, meticulously designed for those eager to explore the capabilities of the OpenSlice Release 0. Participants had the unique opportunity to witness the installation of the latest OSL release firsthand and delve into two practical use cases, providing a comprehensive understanding of the platform's potential and user-centric approach. In conjunction with the TECH Day, the OSL community conducted its second plenary session, where pivotal decisions were made regarding the introduction of new features in the upcoming release. The collaborative spirit of the community shone through as members collectively shaped the roadmap for the next phase of OpenSlice, ensuring that it continues to meet the evolving needs of the industry. The post-plenary demonstration was a highlight, open to the public and offering hands-on insights into the practical aspects of OpenSlice, from installation to deployment. This session not only demonstrated the technical prowess of the OSL platform but also emphasized its accessibility and relevance to a broad spectrum of users, from developers to industry stakeholders. We extend our heartfelt thanks to all participants and contributors who made the OSL#2 TECH Day a resounding success. As we move forward, the ETSI OSL community remains committed to fostering innovation, collaboration, and open-source excellence in the telecommunications domain. Stay tuned for more updates and join us in shaping the future of open-source telecom solutions.



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Meetings

3rd Plenary Meeting

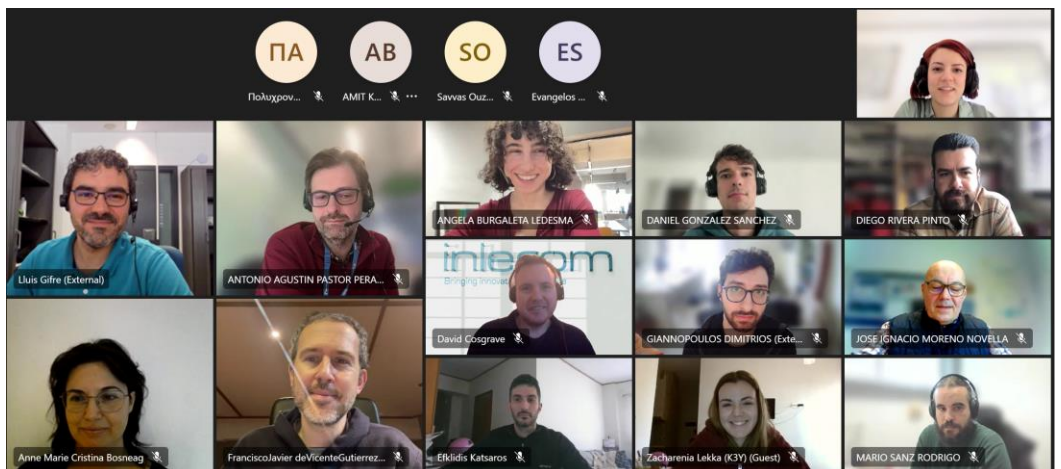
(Online, 16-17 January 2024)

On the 16th and 17th of January 2024, ACROSS partners convened for a productive 2-day event, marking the 3rd plenary meeting of our project.

The atmosphere was charged with enthusiasm and dedication as representatives from various sectors embarked on a comprehensive exploration of our project's trajectory. Over these enriching two days, our partners engaged in enlightening and constructive discussions that spanned the diverse facets of our ambitious project. From evaluating advancements to brainstorming innovative solutions, every moment was dedicated to furthering our collective vision.

The meeting served as more than just a review of achievements. It was a platform for collaboration, learning, and growth. Each participant brought valuable insights and expertise to the table, contributing to the rich tapestry of ideas that define ACROSS. As we reflect on the outcomes of this plenary meeting, we are filled with renewed determination to continue our journey towards realizing our shared goals. The passion and commitment demonstrated by our partners underscore our collective resolve to overcome challenges and seize opportunities on the path ahead.

With the momentum gained from this gathering, we are poised to accelerate our efforts and make meaningful strides towards making a lasting impact in our respective fields. Together, we will continue to push boundaries, innovate, and inspire change. The 3rd plenary meeting of ACROSS was a collaborative and collective action in driving progress.





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Our Team

NOVA



ERICSSON

Orchestrating a brighter world

NEC



Telefónica

ttc^R

Centre Tecnològic de
Telecomunicacions de Catalunya



UNIVERSITY OF
PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ



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