5GZORRO at EUCNC2020
Virtual Conference

Path to intelligent connectivity for everyone, everywhere

June 18, 2020 – During these difficult times of Covid-19 pandemic outbreak; the need for a deployed 5G infrastructure was more than ever needed to keep up with pervasive virtual connectivity, improved communications, and new services.

#5G has demonstrated to be one of the main catalysts of the pervasive digitalisation of our society: ultra-high bandwidth, low latency, increased density and continuity of connectivity for various innovations prepared by our Vertical industries (Media, eHealth, Smart Cities, Digital Factories, etc.). The step forward is to achieve intelligent connectivity and to implement all this at large scale, without limits.

[5GZORRO](), a new research project funded by the European Commission in the context of the *[5G Public-Private Partnership Phase 3]()*, is working for a **Zero-touch automation, security and trust among multiple parties through blockchains, network slicing across ubiquitous computing and connectivity.** These are key aspects of investigation with the ambitious goal to define solutions for the *5G evolution in longer terms*; and R&I is essential to realize this roadmap.

5GZORRO paper presentation by Gino Carrozzo – Source: 5GZORRO

During the **EUCNC2020 Virtual edition,** last 16 – 17 June 2020, representatives of 5GZORRO Consortium had the opportunity to present on 17th June, in the NET3 – Software-based and Self-driving Networks section; a relevant paper: ***AI-driven Zero-touch Operations, Security and Trust in Multi-operator 5G Networks: a Conceptual Architecture.***

The Authors of the work are: Gino Carrozzo (Nextworks, Italy); Muhammad Shuaib

Siddiqui (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain); August Betzler (i2CAT Foundation, Spain); Jose Bonnet (Altice Labs, Portugal); Gregorio Martinez Perez (University of Murcia, Spain); Aurora Ramos (Atos, Spain); Tejas Subramanya (University of Trento & FBK CREATE-NET, Italy).

This first 5GZORRO paper, after the outbreak, pointed out how 5G network solutions currently standardised and deployed do not yet enable the full potential of pervasive networking and computing foresee in 5G initial visions: network services and slices with different QoS profiles do not span multiple operators; security, trust and automation is limited. The evolution of 5G towards a truly production-level stage needs to heavily rely on automated end-to-end network operations, use of distributed Artificial Intelligence (AI) for cognitive network orchestration and management and minimal manual interventions (zero-touch automation). All these elements are key to implement highly pervasive network infrastructures.

Moreover, Distributed Ledger Technologies (DLT) can be adopted to implement distributed security and trust through Smart Contracts among multiple non-trusted parties.

In this paper, the consortium proposes an initial concept of a zero-touch security and trust architecture for ubiquitous computing and connectivity in 5G networks. 5GZORRO architecture aims at cross-domain security & trust orchestration mechanisms by coupling DLTs with AI-driven operations and service lifecycle automation.

Full presentation can be seen at: **https://youtu.be/5FO6M8zzR20**

The project will concentrate its efforts in three representative use cases. The results will be tested at 5GBarcelona and 5TONIC/Madrid facilities; with the vision to build innovative solutions which can address the new ***Intelligent Connectivity.***

The project will explore and test a new approach to:

- Share and discover heterogeneous types of resources (i.e. spectrum, virtualized radio access, virtualized edge/core, software defined WAN, etc.) across multiple operators and infrastructures.

- Multi-party agreements to build distributed and pervasive 5G infrastructures, from data centres down to edge and fare edge computing.

- Full automation of network and service management (zero-touch network and service management).

- Coexistence of Cloud-native and traditional IaaS network functions (containers, service meshes, microservices).

- Distributed Ledger Technologies for spectrum sharing and cross-operator/cross-domain service chains.

5GZORRO project has the goal of developing envisaged solutions for zero-touch service, network and security management in multi-stakeholder environments (ubiquitous), making use of Smart contracts based on Distributed Ledgers Technologies to implement required business agility.

The **5GZORRO consortium is formed by 13 partners from 7 European countries** and funded by the **European Commission** under the **5G PPP Phase 3, Part 4: 5G Long Term Evolution programme.**

More info:
www.5gzorro.eu

Follow us in:
Twitter: **@5Gzorro**
LinkedIn: **5GZORRO**

Contacts:
Shuaib Siddiqui
shuaib.siddiqui@i2cat.net
+34 638 687 554
Gino Carrozzo
g.carrozzo@nextworks.it
Carla Bressan
bressan@comunicaredigitale.it
+34 606 516 106

PROJECT FUNDED

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 871533