

**Call for Papers, 2nd Workshop on
5G Cloud Native Design
In conjunction with IEEE WCNC 2019
15-18 April 2019 // Marrakech, Morocco**

Scope and motivation:

5G is expected to introduce disruptive use-cases thanks to its ultra-reliable, low-latency, high-speed connectivity such as remote healthcare, autonomous cars, advanced robotics, AR/VR, IoT... But this “golden digital age” will not become a reality with today’s bulky mobile networks Infrastructure-As-A-Service model and a more agile and powerful model directly inspired by web scale players “cloud-native” approach is required. This model leverages Micro-Services Architecture (MSA) and is called the Platform-As-A-Service:

- Micro-service Architecture simplifies complex software systems by breaking them into sub-components distributed across computing servers. An application consists of independent services such as a 3GPP system made of Core, Access and Transport services combined to provide an end-to-end slice. MSA promises to make complex systems more easily operated and upgradable.
- Platform-As-A-Service (PaaS) provides standardized “ancillary services” (scalability, high availability, state management, controllers, orchestrator...) to developers hiding all infrastructure. Freed developers can focus on their (VNF) applications and (VNS) services. PaaS promises to deliver VNF and VNS with better agility, performance and time-to-market.

An ideal 5G PaaS should not only facilitate building, shipping and running virtual network functions (VNF) with “telco-grade” quality, it should also combine those VNF with all sorts of third-party applications (from start-ups, FOSS, Verticals...) for creating new more versatile and powerful cloud objects breaking silos between connectivity and computing.

As 5G should be designed and implemented to run on public and/or private cloud, the term “cloud-native 5G” collects the essential technology transformation, making 5G essentially a platform. Suggested topics include but are not limited to:

- Next Generation RAN Architecture: ORAN, RIC
- Microservice/Service based architectures for: CORE, RAN, MEC, etc
- Virtualization technologies
- Intent based programming
- Hybrid private/public clouds: security, deployment, cost, management
- Automation and Zero touch service management
- Open-source software and tools in cloud-native 5G
- Security in microservice architecture
- 5G testbed implementation and deployment
- Cloud Platforms and Serverless
- Software defined hardware accelerators (e.g. FPGA)
- Platform performance and abstraction: CORD, mobile CORD, Kubernetes, etc
- Multi-service and multi-tenancy and network slicing
- High availability (resiliency, self-healing, redundancy)
- Analytics based policy
- URLLC/IoT/eMBB enablers
- Technology enablers - Open source and standards (Open Source, ONAP, OPNFV, ONOS, CORD, Linux Foundation / TMF / ETSI / MEF)

The workshop is organized by the NGPaaS project (<http://ngpaas.eu>), a H2020 5G-PPP phase 2 project and endorsed by 5G-PPP Software Network working group (<https://5g-ppp.eu/5g-ppp-work-groups/>).

Important Dates:

Paper submission deadline on EDAS: **30 January 2019**

Paper Acceptance Notification: **15 February 2019**

Camera-Ready papers submitted: **1 March 2019**

Chairs:

- Bessem Sayadi, Nokia Bell-Labs, FR
- Jose Soler, DTU Fotonik, DK
- Paul Veitch, BT, UK
- Ilhem Fajjari, Orange-Labs, FR

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<http://ngpaas.eu/2nd-cloud-native-workshop/>

<https://edas.info/newPaper.php?c=25682&track=94541>