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THE PLATFORM FOR NFV — CLOUDBAND™

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SUPERFLUIDITY

Super-fluid, cloud-native, converged edge system

Main objectives

The main goal of SUPERFLUIDITY is to run network processing virtualised, on-demand, on third-party infrastructure located throughout the network, and to develop technologies allowing such services to be "superfluid":

Fast instantiation times (in milliseconds)

Fast migration (in hundreds of milliseconds)

High consolidation (running thousands of network functions on a single server)

High throughput (10Gb/s and higher)

5G PPP

SUPERFLUIDITY is a project funded in the frame of 5G Infrastructure PPP, a joint initiative between the ICT industry and the European Commission to create the Next generation of communication networks and services.

Get in Touch

in SUPERFLUIDITY – 5GPPP

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www.superfluidity.eu
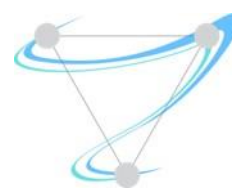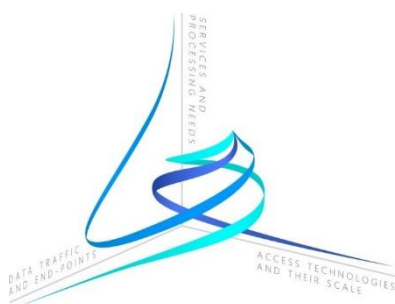
SUPERFLUIDITY's multi - pronged comprehensive strategy

Flexibility, via an architectural decomposition of network services into elementary, reusable functional blocks.

Simplicity, via a cloud-based architecture.

Agility, via virtualisation of radio and network processing tasks.

Portability and viability, through platform-independent abstractions, permitting reuse of network functions across multiple heterogeneous hardware platforms.

High performance, via software acceleration, specialisation and adaptation to hardware accelerators.

Project Coordinator: Prof. Nicola Blefari Melazzi, CNIT

University of Rome, Tor Vergata.

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Duration: July 2015 − December 2017   **Project funding:** 7 M€

Impact

SUPERFLUIDITY will provide a converged cloud-based 5G concept with four key properties:

location-independence
services can be deployed (and relocated) at various networks

time-independence
near instantaneous deployment and migration of services

scale-independence
transparently scale services in a cloud-like manner

hardware-independence
services with high performance irrespective of the underlying hardware.

Challenges

SUPERFLUIDITY offers a converged solution to counter the complexity emerging from three forms of heterogeneity:

Heterogeneous data traffic and end-points;

Heterogeneity in services and processing needs;

Heterogeneity in access technologies and their scale.