RAINBOW

Open & Trusted FOG Computing Platform

Manage Scalable Heterogeneous & Secure IoT Services

www.rainbow-h2020.eu info@rainbow-h2020.eu

Rainbow Project

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RAINBOW has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 871403

In May 2022, RAINBOW reached a significant milestone by delivering the second version of its integated fog computing platform. RAINBOW's second release offers enhanced functionality and several new features:

- Policy Editor has been updated. Policies and Service-level objectives (SLOs) can now be visually created and applied.
- The pre-deployment constraint solver is implemented and integrated through the policies, allowing to allocate specific compute nodes based on needs, while RAINBOW now offers deployment topology optimization.
- The CJDNS is now integrated with the key management which allows the secure enrolment for onboarding new computes nodes in the cluster.
- The analytics and SLO editors have been significantly improved so that more complex SLOs can be supported and tested.

Decrease effort and investment for developing and managing the lifecycle of fog computing services and increase software delivery cycles speed.

Improved interoperability of cloud-based services used in fog and edge execution environment

Improved efficiency and performance of fog nodes due to more efficient service development and orchestration

Increased trust feeling of data and services relying on fog-based services and improved security and privacy guarantees

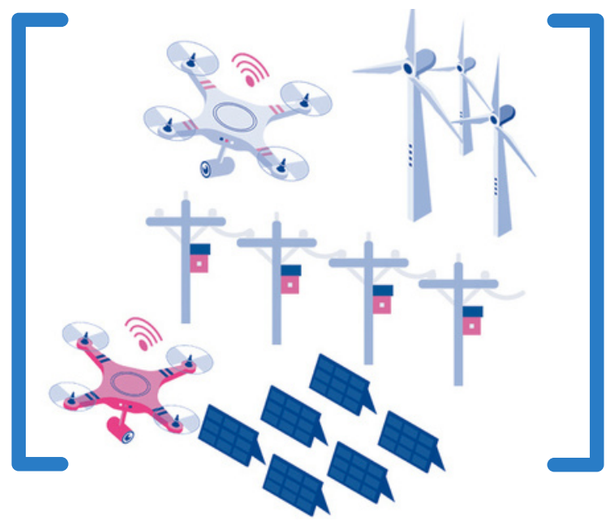
Increased productivity of business applications which rely on, or can be developed based on fog computing services

RAINBOW CONSORTIUM

RAINBOW USE CASES

DIGITAL TRANSFORMATION OF URBAN MOBILITY

The Digital Transformation of Urban Mobility use case is focused on low-latency and overall system reliability as well as node trust-enabling. The early-stage technical evaluation under this use case successfully completed testing pertaining to automatic power consumption and bandwidth occupancy optimization.



HUMAN ROBOT COLLABORATION

The Human-Robot Collaboration in Industrial Ecosystems use case is focused on low-latency and physical personnel safety for optimal human-robot symbiosis in a working environment. The early-stage technical evaluation under this use case successfully completed testing pertaining to scaling in and out of localization and collision avoidance services, monitoring and data sharing.

POWER LINE SURVEILLANCE VIA SWARM OF DRONES

The Power Line Surveillance via Swarm of Drones use case is focused on automatic deployment, node trust-enabling and extending current system capabilities on a technical level. The early-stage technical evaluation under this use case successfully completed testing pertaining to time-efficient drone handover from ground station to ground station, increase in productive flight distance per drone and reduction of temporal overhead in terms of data acquisition.