



Offer #2022-04988

Zero-touch onboarding with IETF LAKE

Contract type : Fixed-term contract

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Assignment

The ZERO-TOUCH ADT position is in the scope of RIOT-fp Inria Challenge and IETF LAKE standardization activity. The project proposes the implementation and demonstration of a zero-touch draft standard, under standardization in IETF in collaboration with Ericsson Research. The zero-touch draft standard leverages IETF LAKE and enables zero-touch scalable device onboarding.

Main activities

In the context of the project, we will implement the draft standard and its three separate components: Joining Node, Network Manager and Manufacturer. Joining Node component will execute on constrained devices based on microcontrollers and will consequently be implemented in C or in Rust. The Network Manager and Manufacturer components will execute on more powerful devices that can interpret Python code.

Apart from implementing the draft standard as a generic OpenWSN/RIOT library, the project envisions a large component that tackles the integration and demonstration of the solution with ongoing Inria projects: swarm robotics such as DotBots and SailBots (autonomous sailing bot developed in the context of SticAmSud Emistral project) and crystal-free architectures. In that context, the developed code will be ported and its use demonstrated on these platforms.

Skills

- Embedded C programming
- Familiarity with crypto protocols and networking
- Good software development practices: unit testing, CI/CD

Benefits package

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training

General Information

- **Theme/Domain :** Networks and Telecommunications
System & Networks (BAP E)
- **Town/city :** Paris
- **Inria Center :** [Centre Inria de Paris](#)
- **Starting date :** 2022-10-01
- **Duration of contract :** 1 year, 6 months
- **Deadline to apply :** 2022-10-31

Contacts

- **Inria Team :** [AIO](#)
- **Recruiter :**
Vucinic Malisa / malisa.vucinic@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

Warning : you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Defence Security :

This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :

As part of its diversity policy, all Inria positions are accessible to people with disabilities.