



Offer #2025-09143

Integration of a Secure Protocol for Zero-Touch Network Enrollment in the OpenSwarm Testbed

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Assignment

The main task is to work on the integration of lightweight security protocols and infrastructure for embedded platforms.

It includes contributing to the integration of the ELA protocol -- designed for secure and automated device onboarding -- with the OpenSwarm testbed, enabling zero-touch network association for large numbers of embedded nodes.

This work includes extending the lakers Rust library, which implements ELA and EDHOC, and collaborating on the embedded-cal project to improve modularity and portability of cryptographic operations across microcontroller architectures.

Main activities

- Integrate the ELA protocol with the OpenSwarm testbed
- Perform experiments and measure the performance of ELA in the testbed
- Write software in Rust, C, and Python to improve our lakers implementation of EDHOC for constrained IoT devices

Skills

Technical skills and level required : Systems-level programming, embedded development, distributed systems

Languages : English

Relational skills : Communication and team work

Other valued appreciated :

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
- Social security coverage

General Information

- **Theme/Domain** : Networks and Telecommunications
Software engineering (BAP E)
- **Town/city** : Paris
- **Inria Center** : [Centre Inria de Paris](#)
- **Starting date** : 2025-10-01
- **Duration of contract** : 7 months
- **Deadline to apply** : 2025-08-09

Contacts

- **Inria Team** : [AIO](#)
- **Recruiter** :
Fedrecheski Geovane / geovane.fedrecheski@inria.fr

About Inria

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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.