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iMRC

Keep control of your IoT network

What is iMRC?

As the IoT has become an entry point for hackers, CEA-Leti is working with CEA-List and Tiempo to develop a new type of IoT component that can:

- Detect attacks
- Take back control of the system if attacks occur

This demonstrator illustrates the detection of DoS (Denial of Service)-type malware corresponding to a loss of communication between the object and its control server. It reproduces an attack on a home automation unit controlling several sensors and actuators—camera, light bulb, house door, meter—linked to a smartphone/tablet or PC app.

Applications

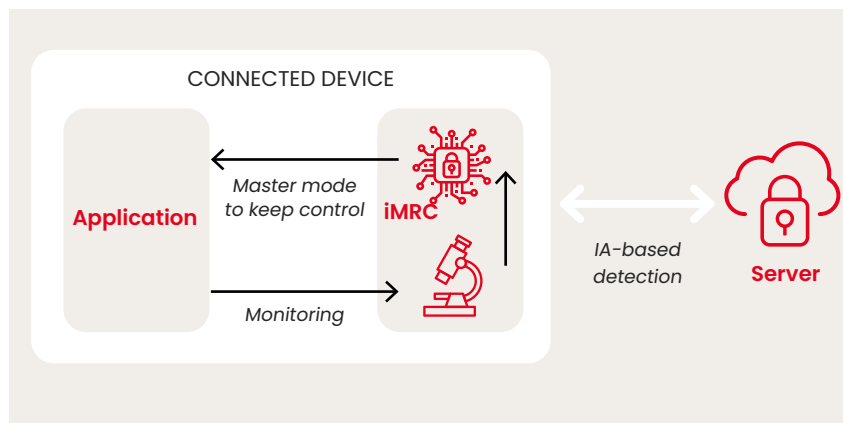
This technology covers all the IoT's high-level security needs and is essential for many sectors, including:

- Transports
- Future of medicine
- Smart grids
- Smart cities
- Industry 4.0

What's new?

To ensure the IoT network resilience after an attack, the iMRC solution includes the following innovations

- Integrating a certified secure element, developing its ability to take control of the rest of the system and integrating it into a smart object
- Extracting internal signals to monitor the object's behavior
- Detecting attacks using artificial intelligence algorithms on a secure server
- Secure communication between the secure element and the server to send behavioral data and updates



What's next?

Future versions of iMRC and the updated demonstrator will include:

- Automatic detection of attacks by the object thanks to an automatic connection to an AI server
- Taking back control of an infected object remotely
- Updates to a fleet of objects when a vulnerability is detected in one or more smart objects

Key fact

- Winner of the "Great Cyber Challenge" (French 2021 recovery plan)



Interested in this technology?

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