Our sites

Part of larger Federations

FIT IoT-lab
A very large scale open testbed for the Internet of things

Availability of FIT IoT-LAB components

<table>
<thead>
<tr>
<th>Component</th>
<th>Current</th>
<th>Dec 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSN430 nodes</td>
<td>1024 nodes</td>
<td>1144 nodes</td>
</tr>
<tr>
<td>M3 nodes</td>
<td>232 nodes</td>
<td>938 nodes</td>
</tr>
<tr>
<td>A8 nodes</td>
<td>Summer 2014: 200 nodes</td>
<td>Dec 2014: 550 nodes</td>
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<tr>
<td>M3 nodes on robots</td>
<td>End of 2015</td>
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FIT IoT-LAB is a platform built to help foster the development, tuning and experimentation of protocols and applications for Internet of Things and wireless sensor networks.

FIT IoT-LAB is a very large scale testbed with:
- 2700+ nodes on six sites
- wireless nodes (IEEE 802.15.4 or sub-1 GHz)
- remote accessibility by users
- open access, open software, open tools.

FIT IoT-LAB offers:
- simple and quick experiment deployment
- easy evaluation, result collection and analysis
- ready to use protocols and OSes (for IoT).

How does it work?

**Register / login**
FIT IoT-LAB offers open access to the testbed. Any user can register at [www.iot-lab.info](http://www.iot-lab.info) under terms of use [www.iot-lab.info/charter/](http://www.iot-lab.info/charter/).

*Soon: federated access through OneLab*

**Select / build your application**
Starting guide, Tutorials, Dev Center (with sample applications and more) available at [www.iot-lab.info/get_started/](http://www.iot-lab.info/get_started/)

**Configure your experiment and reserve resources**
Reservation through web interface, from command line or from REST API.

**Interact with nodes during your experiment**

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**FIT IoT-LAB in 4 steps**

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4. **Interact with nodes during your experiment**

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**First generation (class 0 devices)**

**WSN430 Node**
- TI MSP430™ microcontroller
- 48 kB Flash
- 10 kB RAM
- IEEE 802.15.4 radio (2.4 GHz), or sub-1 GHz transceiver (CC1101)

**Second generation (class 1 devices)**

**M3 Node**
- Cortex™-M3 microcontroller
- 64 kB RAM
- 512 kB Flash
- IEEE 802.15.4 radio (2.4 GHz Atmel™ AT86RF231)

**A8 Node**
- Integrates a M3 Node
- Cortex™-A8 microcontroller (600 MHz)
- 256 MB RAM
- Integrates a GPS receiver
- Linux support

**IoT-LAB provides three layers of API:** Drivers, Operating Systems, and Communication Libraries.

**IoT-LAB provides ports of Operating Systems for the “Internet of Things” (IoT):** Contiki-OS, FreeRTOS™, TinyOS, OpenWSN, RIOT.

**IoT-LAB supports IETF/IoT protocols:** 6LoWPAN, RPL, COAP, 6TiSCH (with IEEE 802.15.4e).

https://www.iot-lab.info/dev-center/