



POLITECNICO
MILANO 1863

Contiki-NG

Evaluation Lab

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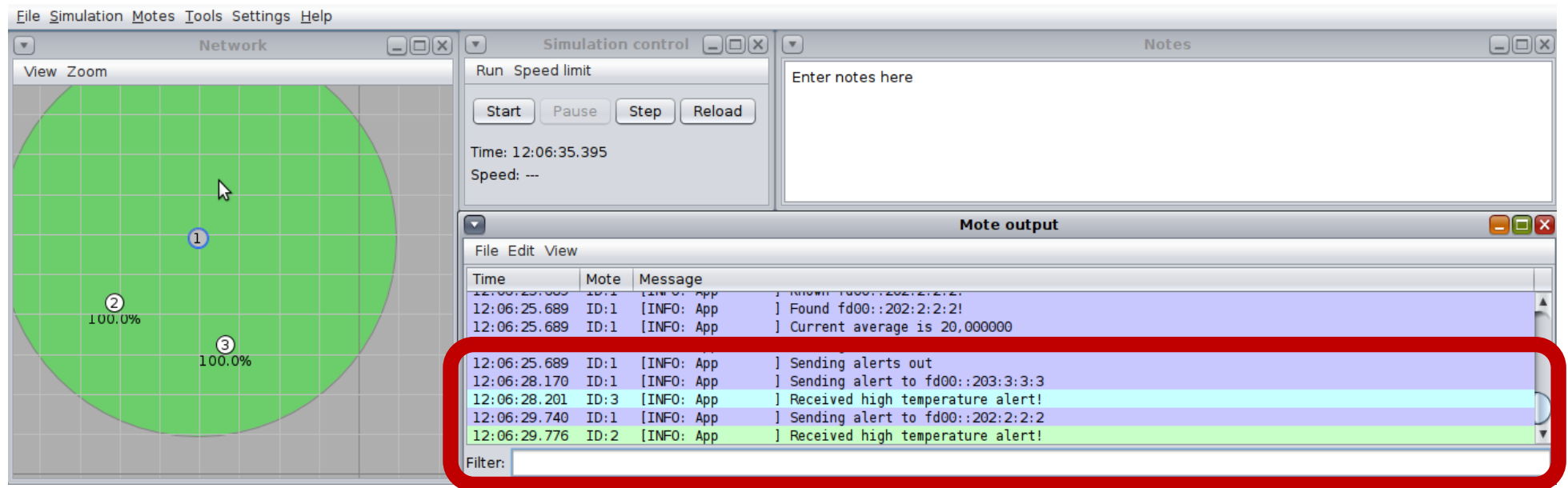
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A Simple Sensing Application

- You are to implement a simple sensing application
 - A UDP client sends (fake) temperature readings to a server every ~ 1 minute
 - The UDP server collects the last **MAX_READINGS** temperature readings coming from clients
 - Every time a new reading is received, the server
 - Computes the average of the received temperature readings
 - If the average is above **ALERT_THRESHOLD**, it immediately notifies back-to-back all existing clients of a “high temperature alert”
 - Nothing is sent back otherwise

Example



Considerations

- Clients may appear at any time, but they never disappear
- Your solution must be able to handle up to **MAX_RECEIVERS** clients, no more
- You can use COOJA motes
- Multiple calls to **simple_udp_sendto** in sequence are **unlikely** to succeed
 - The outgoing queue has size **one**

Suggestions and Tips

- Useful functions
 - **uip_ipaddr_cmp(*addr1, *addr2)**
compares two IPv6 addresses
 - **uip_ipaddr_copy(*dest, *source)**
copies IPv6 **source** address into **dest**

It's Xmas

- In the assignment, you find
 - Templates for both server and client
 - The client has a **get_temperature()** function to generate fake temperature readings
 - The server already implements collection and average of temperature readings!
 - Makefile
 - Project configuration file
 - Only use if needed!
- The templates can be modified!

Rules

- Complete the README.md file with
 - Your group identifier
 - From the group registration document
 - Name of each group member
 - A 200-word (max) description of your solution
 - What piece of code does what when...
- Create and submit a single zip file with
 - The README.md
 - All necessary source files and Makefile(s)
 - A **.csc** file useful to test your solution
 - Deploy one server and multiple clients
 - Remove everything that is not the project you want to submit
 - Binary files...
 - Name of the file: contiking-groupXX.zip
 - XX is the group identifier from the group registration document
 - Submit by the user corresponding to the contact email specified in the group registration document