

Embedded Hardware and Operating System - Cooja-Contiki Hands-on

Assignment

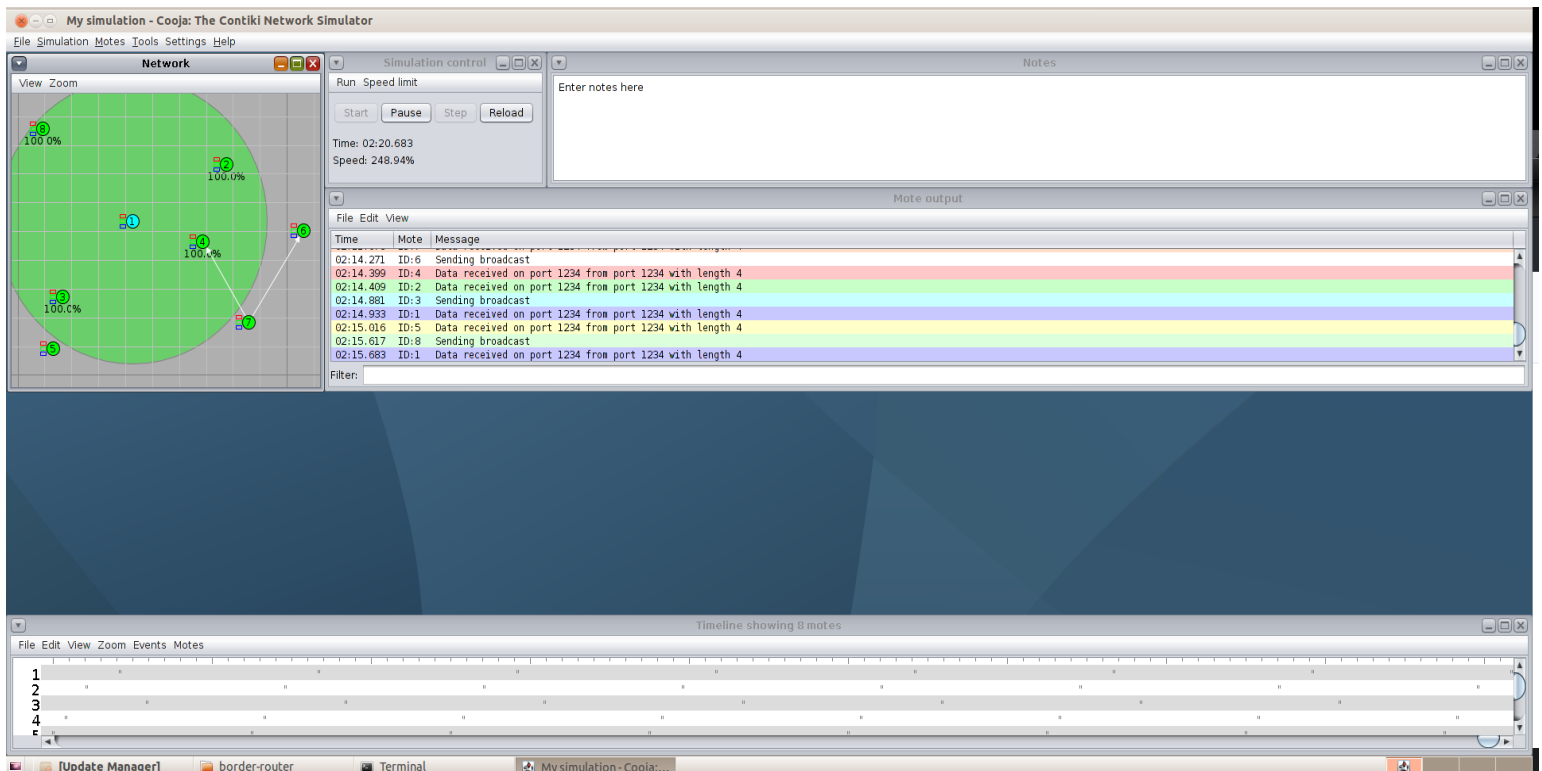
Task 1: 8 motes task

Setup

In this task is to simulate IPv6/UDP packets with ContikiMAC sleepy router functionally using 8 motets. So, the setup is done by

- Starting Cooja and a new simulation
- Adding 8 motes with the compilation of IPv6/UDP packets with ContikiMAC sleepy router functionally
- Simulating it on Cooja and check about the expected deliverables

Simulation

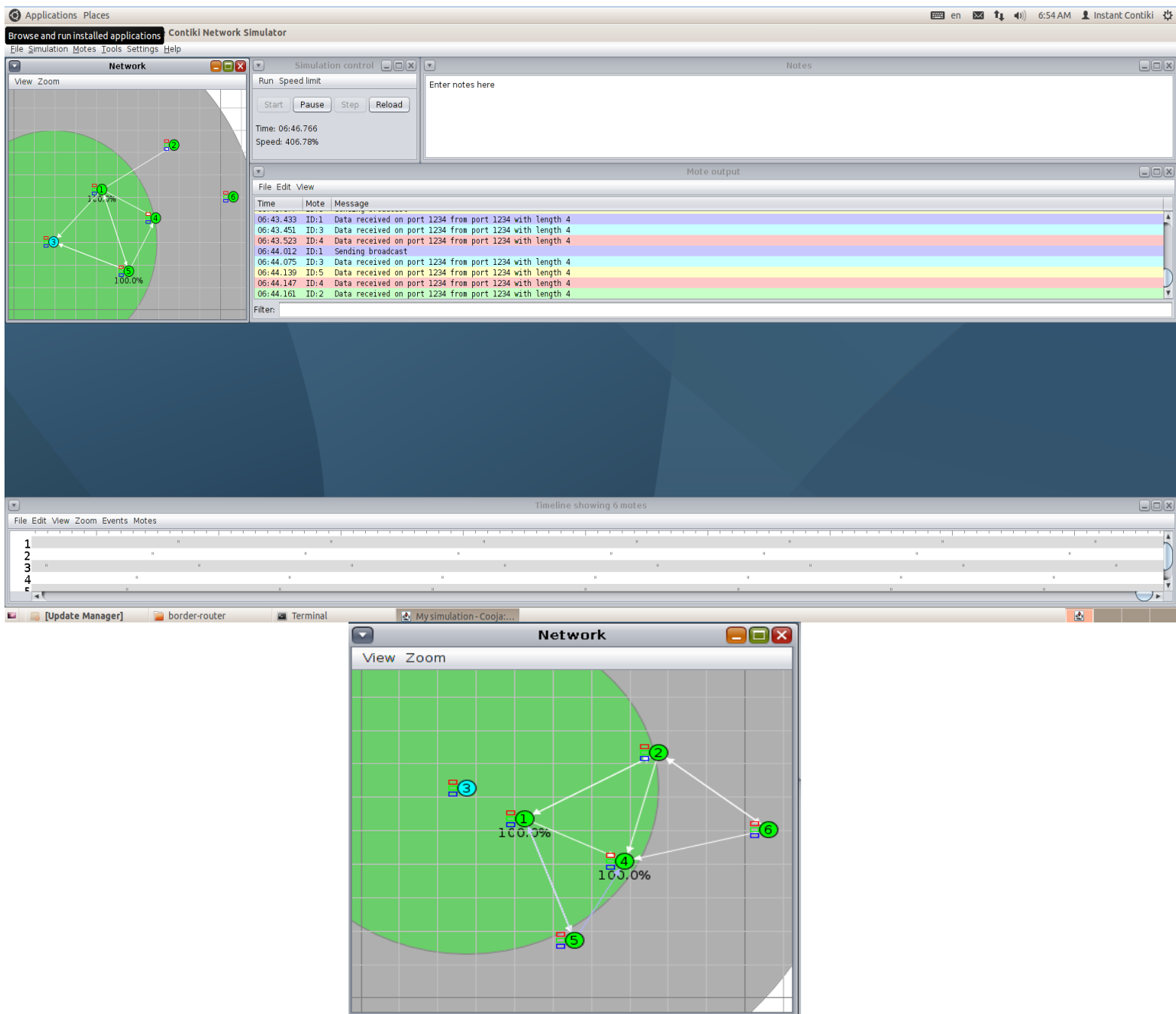


Task 2: 6 motes task

Setup

Setup is almost likely the previous and here I used only 6 motes to do the simulation. So, the packet handling was not much that severe since the hop between each other routes very well.

Simulation

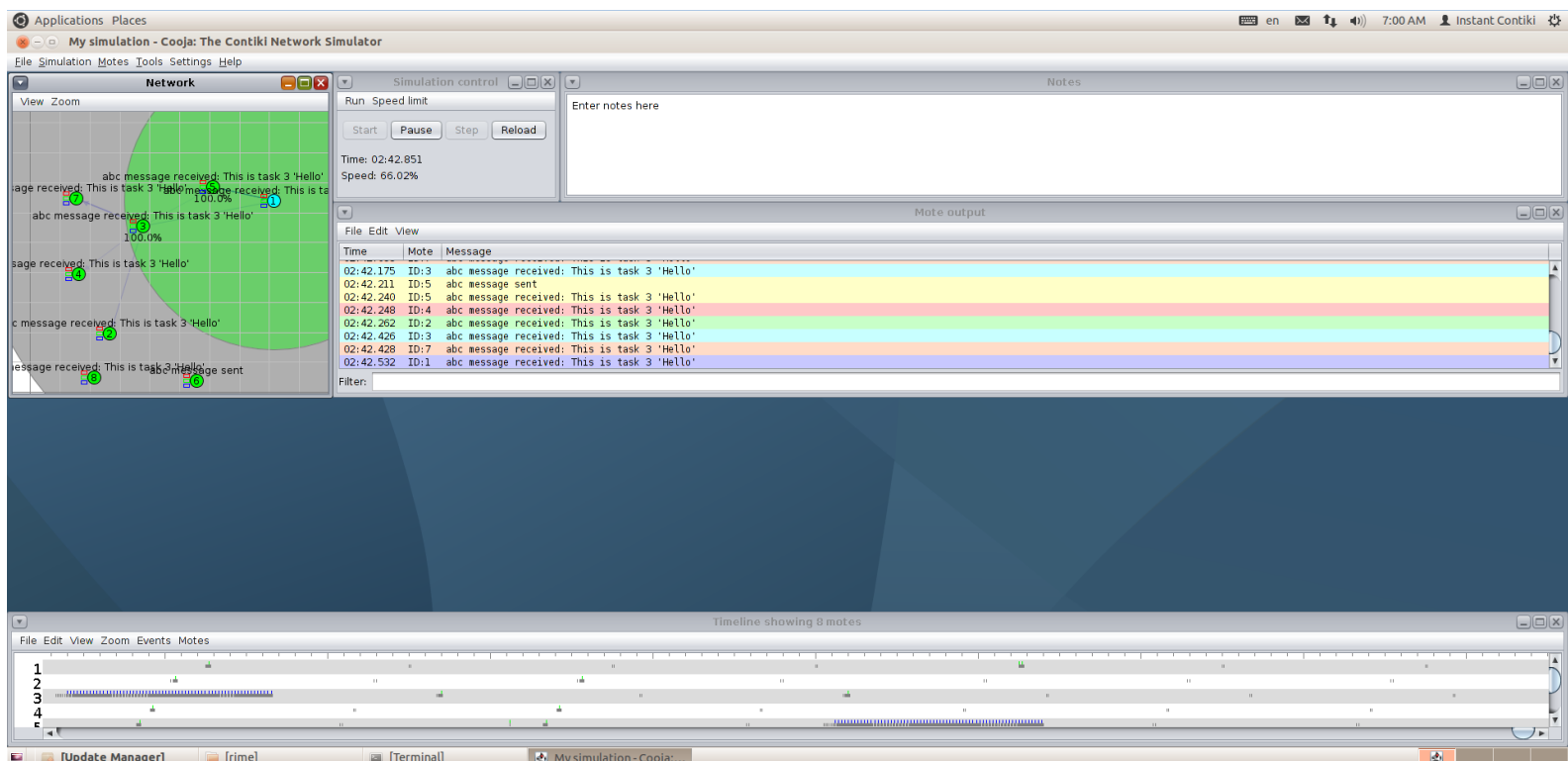


Task 3: Changing existing scenario

Setup

In the source code, there is a `printf()` function that used to print the message received. I basically edited that printing string to what I want to print.

Simulation



The screenshot shows the Cooja: The Contiki Network Simulator interface. The main window displays a network topology with nodes and links. The 'Mote output' panel shows a list of messages received and sent by various nodes. The 'Timeline' panel at the bottom shows a sequence of events over time.

Time	Mote	Message
02:42.175	ID:3	abc message received: This is task 3 'Hello'
02:42.211	ID:5	abc message sent
02:42.240	ID:5	abc message received: This is task 3 'Hello'
02:42.248	ID:4	abc message received: This is task 3 'Hello'
02:42.262	ID:2	abc message received: This is task 3 'Hello'
02:42.426	ID:3	abc message received: This is task 3 'Hello'
02:42.428	ID:7	abc message received: This is task 3 'Hello'
02:42.532	ID:1	abc message received: This is task 3 'Hello'

Time	Mote	Message
00:02.750	ID:4	abc message received: This is task 3 'Hello'
00:02.776	ID:6	abc message received: This is task 3 'Hello'
00:03.085	ID:7	abc message sent
00:03.115	ID:5	abc message received: This is task 3 'Hello'
00:03.125	ID:4	abc message received: This is task 3 'Hello'
00:03.137	ID:2	abc message received: This is task 3 'Hello'
00:03.175	ID:3	abc message received: This is task 3 'Hello'
00:03.607	ID:8	abc message sent