임베디드 시스템

2019년 2학기

오승민 (smoh@kongju.ac.kr)

Today

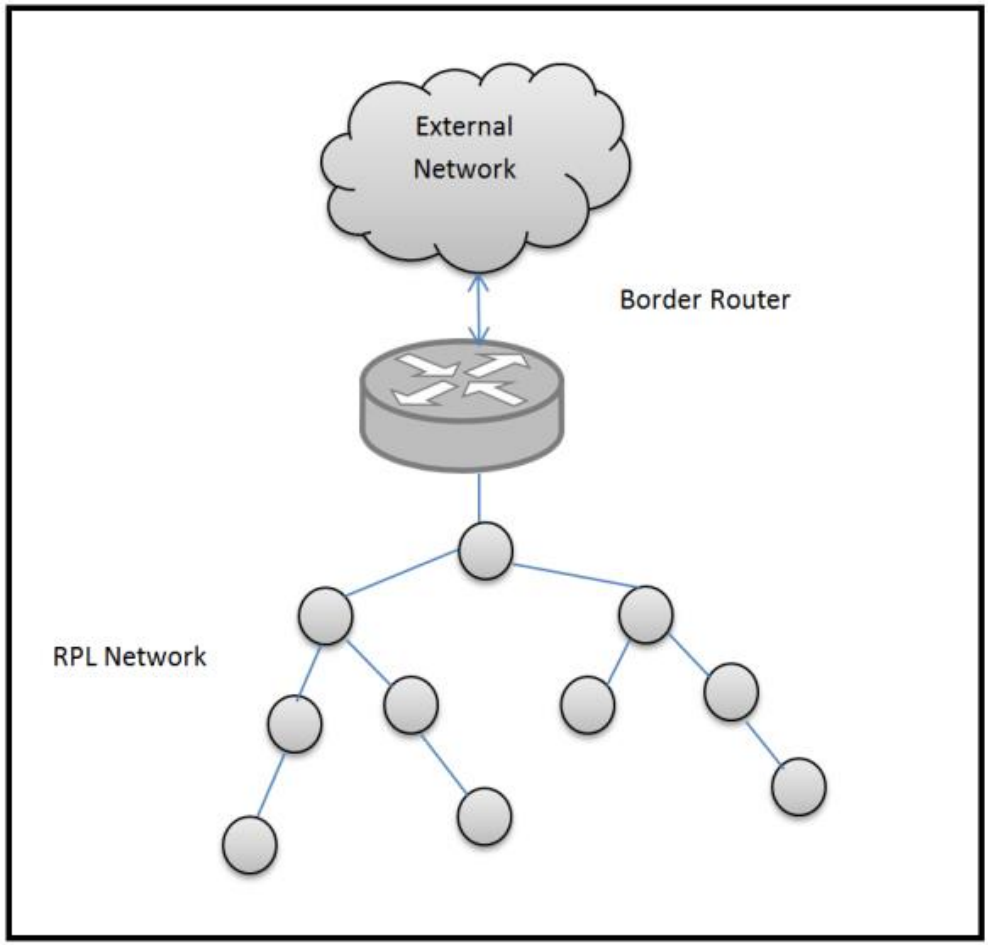
- Contiki-OS

RPL Border Router and Access to the Motes

RPL Border Router

- Border Router: Routers that can be found at the edge of a network
  - Main function: to connect one network to another
  - Border router will be used to route data between a WSN (RPL network) and an external IP network
  - Example location: <contiki_folder>/examples/ipv6/rpl-border-router/

RPL Border Router



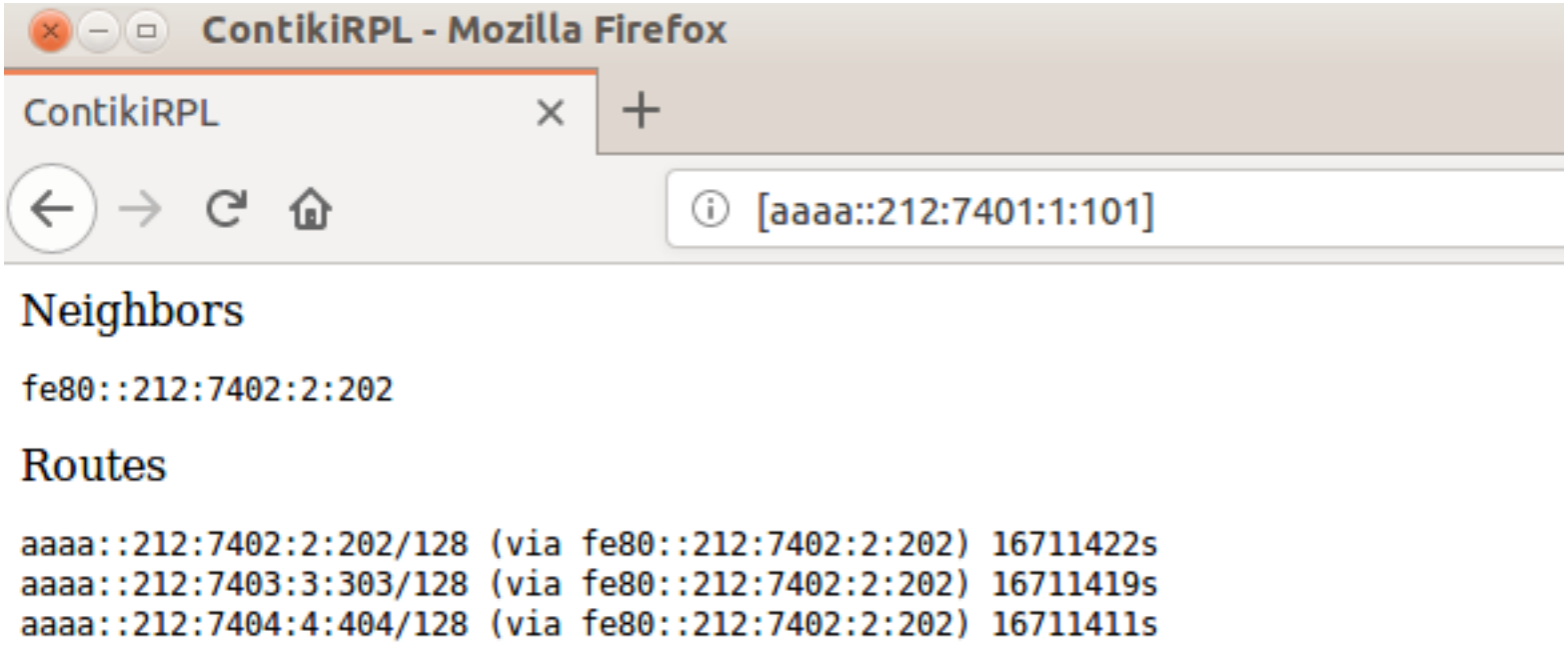
Tunslip Utility

- The border router is used to route data between an RPL network and an external network.
  - Till now we have only created the RPL network.
  - Now we need to simulate the scenario in which this **RPL network is connected to an external network**.
- For this purpose we will use the **Tunslip utility** provided in Contiki.
  - In this example tunslip creates a bridge between the RPL network and the local machine. tunslip6.c can be found in /<Contiki_Folder>/tools
  - Compile the tunslip6 code.

Tunslip Utility

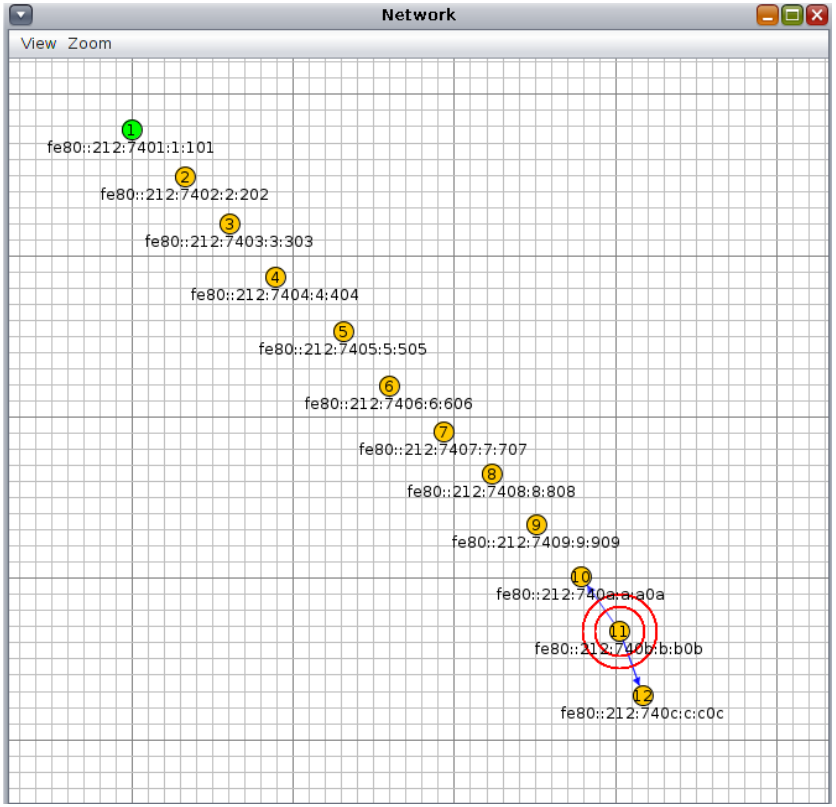
- $ make tunslip6
- $ sudo ./tunslip6 -a 127.0.0.1 aaaa::1/64
  - password required: user

Access to the Router via Web Browser



Topology of Today's mission

- Border Router: 1
- UDP-server: 11
- Address:
  - aaaa::212:740**1**:**1**:**1**0**1** ~ aaaa::212:740**c**:**c**:**c**0**c**



Verifying Results

- You can verify that the address of the border router has been set by using the **ping command**.
  - ping6 aaaa::212:7401:1:101
- You can also ping one of the other nodes in the network. Here we are pinging node 4
  - ping6 aaaa::212:7401:4:404

오늘의 할 일!

- No coding!
- 토폴로지 구성: Border router 1, UDP client 11
  - 선형 토폴로지, 랜덤 토폴로지
- 실험
  - 핑 테스트
  - 웹 접속 (to the border router)
- 보고서 작성!
  - 토폴로지, 핑 테스트 결과, 웹 접속 결과