Hackathon101 report

Reporter:
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LPWAN at Hackathon101

- Sat-Sun March 17-18th
- 7 local participants
  - Sandoche, Laurent, Cédric, Ivaylo, Juan Carlos, Diego, Dominique
- 1 remote participant
  - Shoichi Sakane (Japan)
Our goals for the Hackathon

• Disseminate awareness/practice of existing code
• Get some debug/testing done
• Integration of compression and fragmentation implementations, port to MicroPython
• Finish Python server-side implementation
• If time, discuss ICMPv6 for LPWAN
Hackathon ressources (1/2)

• Connectivity
  – LoRaWAN connectivity provided by Acklio
  – Sigfox connectivity provided by Sigfox

• Development boards
  – Pycom boards provided by IMT-Atlantique
  – Nucleo board provided by INRIA
Hackathon ressources (2/2)

• Code bases
  – SCHC compression/decompression
    • [https://github.com/ltn22/SCHC](https://github.com/ltn22/SCHC)
    • MicroPython on Pycom device (LoRaWAN or Sigfox)
    • Javascript on Server
  – Fragmentation/Reassembly
    • [https://github.com/tanupoo/schc-test](https://github.com/tanupoo/schc-test)
    • Python, uses UDP as transport
What we achieved

• Focused time and fun reuniting with long-time and new friends
• Dissemination of knowledge/skills
  – Pycom boards
  – Operation of existing code
• Implemented comp./decomp. on server side in Python instead of JS
• Fixed bugs in compression implementation
• Bridged computer-based fragmentation with LoRaWAN transmission (RIOT over Nucleo board), success!
To be continued

- Port of Fragmentation/Reassembly code to constrained Device
  - Micro-Python
  - Sigfox and/or LoRaWAN transport
- Integration of SCHC C/D and SCHC F/R
  - Device side and Server side
- Port to C on RiOT
- Application to firmware update (SUIT)
Thanks!