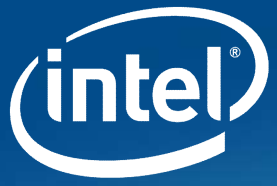


ZEPHYR NETWORKING OVERVIEW

Andrei Laperie

Intel Open Source Technology Center

Key Features

- Native TCP/IP stack (IPv4 & IPv6, minimal copy)
- IP forwarding support (multiple interfaces)
- L2: 802.15.4 RFD, Ethernet, Bluetooth LE (IPSP), USB CDC ECM
- IP offload model for chips with high level API (IP, AT etc)
- Support for emerging IOT technologies:
  - 6LoWPAN, RPL, TLS/DTLS, HTTP, COAP, MQTT, mDNS, LWM2M

More at http://docs.zephyrproject.org/subsystems/networking/networking.html

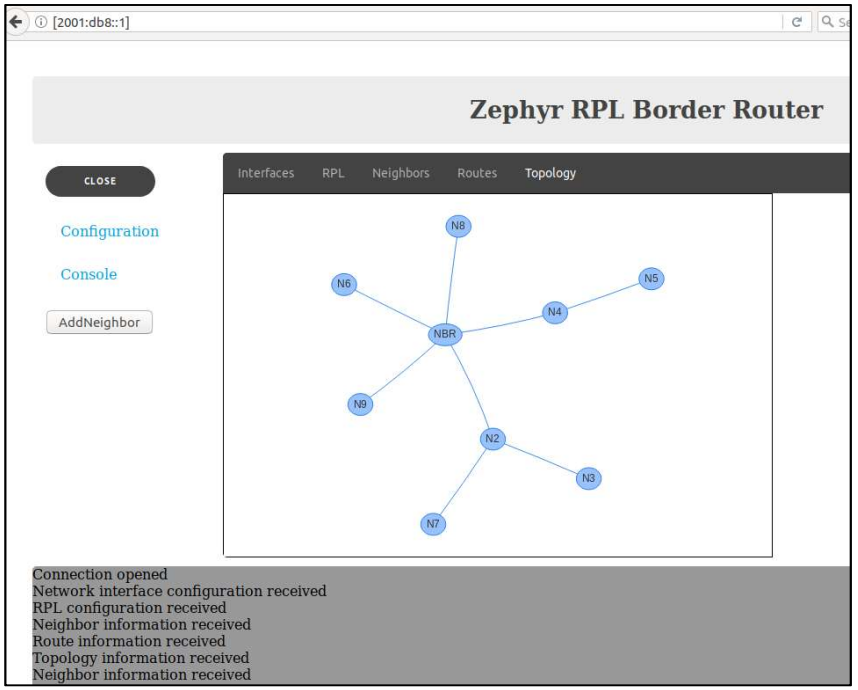
samples/net/rpl_border_router: RPL border router

Use Zephyr to control and route traffic to 15.4 RPL mesh of compatible nodes

Notable features

- IP routing
- RPL DODAG
- HTTP server
- Websocket
- Browser-based console
- CoAP-based node control

Reference platform: NXP FRDM-64 with CC2520



Interesting stuff in samples/net:

samples/net/telnet: Console access to Zephyr

samples/net/irc_bot: IRC bot

samples/net/sockets: BSD sockets for Zephyr

samples/wpan_serial: Use Zephyr as serial 15.4 radio (same as in SICS Sparrow)

samples/wpanusb: Use Zephyr as Linux 802.15.4 device

Plans

- WiFi offload support
- 4G modem offload support
- Thread protocol support
- Emul8 support (see emul8.org)
- Native OCF API support (see openconnectivity.org)
- Automated TTCN-3-based testing
- Tentative: 802.15.4e

THANK YOU!