

# MANET WG Update

Routing Area Open Meeting, IETF 117, July 26, 2023

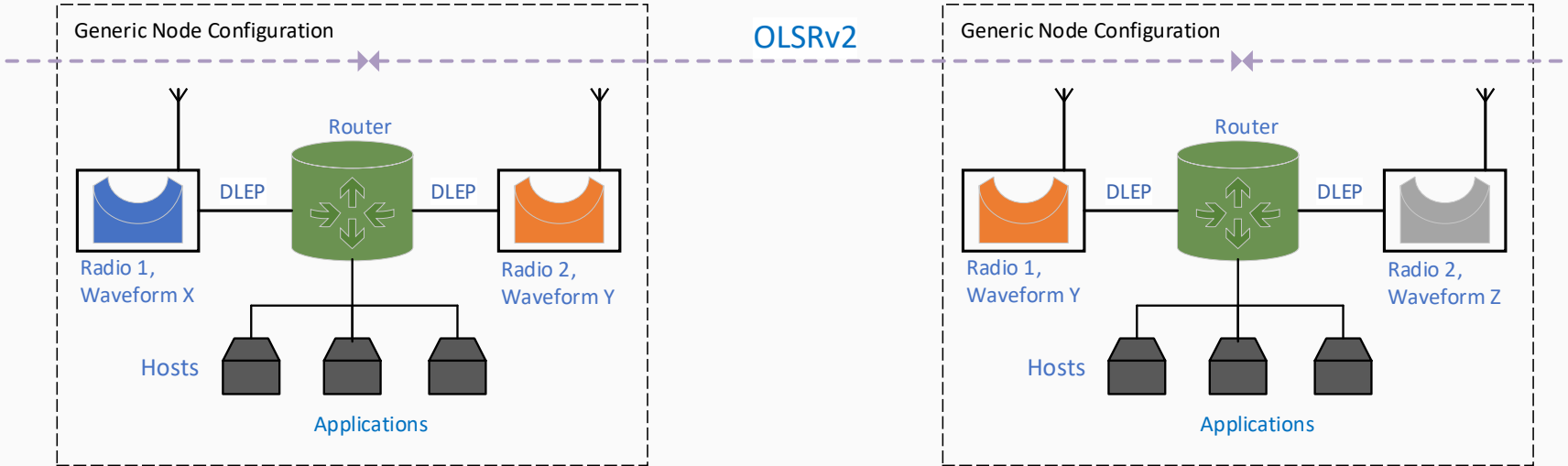
Ronald in 't Velt



# MANET refresher

- Mobile Ad Hoc Networks
- Wireless communications
- Mobile: Nodes move all the time
  - Obstacles to radio propagation can move too
- Ad Hoc: Node movements are not pre-determined / predictable

# MANET Generic Node Model



- Hosts, router and radios are sometimes collapsed into a single device, but the generic model has them as separate entities

# WG STATUS

- MANET needs to recharter in order to be able to take on new work
- The Babel WG will be closed down as soon as the last draft that the group is working on (draft-ietf-babel-rtt-extension) will be in the RFC Editor Queue.
- ‘Babel Maintenance & Extensions’ will then become a work item on the new MANET charter
- New Babel-related work, such as ‘Babel for IEEE 802.11 Mesh Mode’ *may* also be on the new charter (to be decided)
- MANET met yesterday, but discussion on new charter items fell off the agenda
  - will be initiated on the ML
  - Interim meeting will be held (probably in September)
  - Approach is to start from a long list and reduce this to a ‘manageable’ number of work items, based on WG participants interests

# Personnel

- Anticipating the merger with Babel, Donald Eastlake was added as co-chair to MANET
- Now three co-chairs:
  - Donald Eastlake
  - Don Fedyk
  - Ronald in 't Velt

# WG Document Status

- Credit-based flow control I-Ds
  - draft-ietf-manet-dlep-credit-flow-control
  - draft-ietf-manet-dlep-traffic-classification
  - draft-ietf-manet-dlep-da-credit-extension
  - draft-ietf-manet-dlep-ether-credit-extension
- These have been around for too long, were expired, now revived
- The first three are still under TSV ART early review, some smaller issues need to be resolved;- draft-ietf-manet-dlep-ether-credit-extension needs to be added to the pack
- Working shepherd's write-ups for draft-ietf-manet-dlep-credit-flow-control
- Next step: RtgDir review

# Individual I-D Status

- PHY-related DLEP extensions
  - draft-rogge-manet-dlep-radio-band
  - draft-rogge-manet-dlep-channel-utilization
  - draft-rogge-manet-dlep-radio-quality
- Useful as ‘better-than-nothing’ information on link status
  - DLEP specifies only ‘modem’ (= radio) – router interactions, NOT how radios obtain information on destination and link status
  - On low (shared!) capacity links, signaling among radios must be kept to a minimum
- These were expired as well, now revived
- Chairs will initiate WG Adoption Calls for these I-Ds soon
- New: draft-lou-manet-sturp
  - Presented yesterday, discussion in the session as well as on the ML
  - Needs work

# Rechartering: what to keep and what to shed from current charter - 1

Current charter (<https://datatracker.ietf.org/wg/manet/about/>), explicit work items:

- Develop a dynamic link exchange protocol (DLEP) – **Done**
- DLEP extension to provide a credit-windowing scheme for destination-specific flow control – **Nearly done**
- DLEP extensions for reporting statistics by traffic classification – **Never undertaken**; traffic classification is there, but not the reporting of statistics. **Keep?**
- Multicast MANET protocol framework based on Simplified Multicast Forwarding [[RFC 6621](#)] for scoped forwarding within MANET networks. As part of this framework the WG will produce a well defined MANET multicast forwarding information base (FIB) – **Never undertaken**; no real work on MANET multicast since last charter revision in 2016; ideas discussed during ROLL/Babel/MANET session at IETF 114. **Keep?**
- Document outlining challenges and best practices for deploying and managing MANET networks – **Never undertaken, to be abandoned**

# Rechartering: what to keep and what to shed from current charter - 2

Current charter, implicit work item:

- The MANET WG is responsible for the maintenance of OLSRv2 [[RFC 7181](#)], NHDP [[RFC 6130](#)] and the Generalized MANET Packet/Message Format [[RFC5444](#)], and their extensions – **Keep, no-brainer**. Potential topics:
  - Guidance on OLSRv2 restart
  - RFC 7779 (DAT Metric) to Proposed Standard
  - RFC 7722 (Multi-Topology Extension to OLSRv2) to Proposed Standard
  - Others?

# Rechartering: potential new work items

Potential **new** work items on the revised charter:

- DLEP Maintenance & Extensions – **No-brainer**
  - Clarifications / Implementers' Guidance document – **Authors needed**
- Babel Maintenance & Extensions – **No-brainer**
- Babel for IEEE 802.11 (Wi-Fi) Mesh – **For discussion**
- Energy-efficient routing in MANETs – **For discussion**
- New approaches to multicast in MANETs – **For discussion**
  - Bitstring-based (inspired by BIER)
  - Federation of heterogeneous MANETs with proprietary solutions
- Autonomous / 'asynchronous' management for MANETs – **For discussion, more speculative**. (Former AD: "I don't want to see a DTNMA for MANET")
- Reactive MANET routing protocol – **We failed before with AODVv2**
- Other topics that WG participants would want to work on?

Thanks! Questions?

