

The Assimilation of BABEL by MANET

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https://www.youtube.com/watch?v=AyenRCJ_4Ww&t=16s

About BABEL

- Babel is based on the distance-vector algorithm (also known as distributed Bellman-Ford) augmented with mechanisms for loop avoidance and starvation avoidance. Babel has been described as “RIP on speed” since it is based on the same principles but has refinements that make it react much faster to topology changes.
- In practice, Babel had proven to be particularly effective in networks consisting of a mixture of high- and low-quality links such as wireless or hybrid wireless/wired networks.
- Multiple opensource implementations.
- In Depth:
 - <https://www.irif.fr/~jch/software/babel/babel-20150804.pdf>

BABEL RFCs

- RFC 8965: Applicability of the Babel Routing Protocol
- **RFC 8966: The Babel Routing Protocol**
- **RFC 8967: MAC Authentication for the Babel Routing Protocol**
- **RFC 8968: Babel Routing Protocol over Datagram Transport Layer Security**
- RFC 9046: Babel Information Model
- **RFC 9079: Source-Specific Routing in the Babel Routing Protocol**
- RFC 9229: IPv4 Routes with an IPv6 Next Hop in the Babel Routing Protocol

BABEL WG Drafts in Process

- **AUTH 48: draft-ietf-babel-mac-relaxed-05**
 - Relaxed Packet Counter Verification for Babel MAC Authentication
- **MIS REF: draft-ietf-babel-yang-model-13**
 - YANG Data Model for Babel
- **AD Review: draft-ietf-babel-rtt-extension-04**
 - Delay-based Metric Extension for the Babel Routing Protocol
- **There are now no drafts in the BABEL WG.**

Optional item in BABEL Charter

- **Not Completed**
- **Multicast:**
 - As a non-primary focus, the Working Group may work on multicast aspects of Babel. This may include discussion of any potential issues for supporting Babel running with PIM-SM in an auto-configuration profile. It may include exploring Babel carrying separate metrics for multicast. It may include discussion and consultation with the PIM WG about Babel providing the ability to build multicast routing tables.

MANET Charter + BABEL

- Most of the MANET Charter does not require change for BABEL. The last two paragraphs would need to be changed as follows:
 - The MANET WG will coordinate with other Working Groups, such as the pim WG for multicast support, the Routing Area WG (rtgwg), and the OSPF WG ~~and Babel WG~~ on the general use of DLEP, as well as the IPPM WG on topics related to traffic classification.
 - The MANET WG is responsible for the maintenance of OLSRv2 [RFC 7181], NHDP [RFC 6130], BABEL [RFC 8966] and the Generalized MANET Packet/Message Format [RFC5444], and their extensions.

MANET Charter + BABEL

- **Possible New MANET Milestones**

- Multicast extensions for BABEL

- BABEL for IEEE 802.11 Wi-Fi

- <https://datatracker.ietf.org/meeting/117/materials/slides-117-manet-babel-for-ieee-80211-wi-fi-mesh-00>

END

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