

# Draft Charter Text

MANET session, IETF 121



The MANET working group is responsible for the standardization, maintenance, and extension of routing protocol functionality that enables the exchange of IP packets over wireless media, among network nodes that operate in a dynamic environment, both with respect to movement of nodes relative to each other and with respect to wireless propagation conditions. The ‘maintenance and extension’ part of the WG’s remit applies in particular to the standards track routing protocols developed in this group (OLSRv2, [RFC 7181] and supporting specifications) and in the Babel WG (Babel [RFC 8966]), as well as the protocol for exchange of link-related information between a router and its attached modem(s), DLEP ([RFC 8175] and extensions).

Approaches are intended to be relatively lightweight in nature, suitable for multiple hardware and wireless environments, and address scenarios where MANETs are deployed at the edges of an IP infrastructure. Hybrid mesh infrastructures (mixtures of fixed and mobile routers, and of wired and wireless links) should also be supported by MANET specifications and management features. As far as routing is concerned, Babel and OLSRv2 meet these requirements.

When routing devices rely on modems to effect communications over wireless links, they will benefit from timely and accurate knowledge of the characteristics of the link (speed, state, etc.) when making routing decisions. In mobile or other environments where these characteristics change frequently, manual configuration or the inference of state through routing or transport protocols is not practical. The WG is responsible for the maintenance and extension of the dynamic link exchange protocol (DLEP) between the router and the modem.

Early in the history of the WG, both pro-active and reactive ad hoc routing solutions were pursued. This resulted in four RFCs with status Experimental, two of those specifying protocols of the pro-active variety and two specifying reactive protocols. Only one of the pro-active protocols was successfully developed into a Standards Track specification (i.e., OLSRv2). The WG will revisit earlier work on AODVv2, aiming to progress it to a Standards Track specification.

Traditional multicast routing solutions, such as PIM-SM, are not applicable to the MANET environment due to their reliance on Reverse Path Forwarding (RPF) as well as to the high churn of maintaining group membership state in frequently changing network topologies. In recent years, solutions for efficiently handling multicast forwarding below the IP layer have gained ground. However, these solutions only apply to homogeneous link and physical layer technologies. The WG will explore multicast routing solutions that are applicable in mobile ad hoc networks and heterogeneous network topologies.

The MANET WG will coordinate with other Working Groups, such as the PIM and ROLL WGs for multicast support, as well as the Routing Area WG (RTGWG) and LSR WG on the general use of DLEP, as well as the IPPM WG on topics related to traffic classification.

# Work Items

- Multicast solutions for mobile ad hoc networks based on heterogeneous, wired and wireless technologies,
- Exploring feasibility of Standards Track reactive routing solutions, possibly based on AODVv2,
- Progressing DAT metric specification (RFC 7779, Experimental) to Standards Track,
- Babel extensions and maintenance,
- OLSRv2 extensions and maintenance,
- DLEP extensions and maintenance.