

Lightweight Ad hoc On-Demand Next Generation (LOADng) distance vector routing protocol

A reactive routing protocol intended
for use in MANETs

Large and active author group

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Bug Tracker

Viewing Issues (1 - 50 / 111) [Print Reports] [CSV Export] [Excel Export] [Graph]								[First Prev 1 2 3 Next Last]
	P	ID	#	Category	Severity	Status	Updated	Summary
<input type="checkbox"/>		000041	9	Editorial	minor	assigned (vj)	2012-11-06	Pending Ack Tuple should be added when sending RREP
<input type="checkbox"/>		000056	5	Editorial	major	new	2012-11-06	7.5 Pending Acknowledgement Set P_ack_timeout
<input type="checkbox"/>		000050	17	Editorial	minor	assigned (axelcdv)	2012-11-06	Indicate that FRR may be a good idea when doing RERR reporting?
<input type="checkbox"/>		000069	10	Editorial	minor	assigned (vj)	2012-11-06	What happens when the Routing Set has multiple entries for a de (possibly with different metric-types) for RERR messages
<input type="checkbox"/>		000090	3	Editorial	minor	new	2012-11-06	Multiple interfaces
<input type="checkbox"/>		000072	4	Editorial	minor	new	2012-11-06	Variables
<input type="checkbox"/>		000058	6	Submitter too lazy to select a category ;)	minor	new	2012-11-06	Is the parameter RREQ_MAX_JITTER a router or interface parameter?
<input type="checkbox"/>		000087	5	Editorial	minor	new	2012-11-06	Metrics TLV value
<input type="checkbox"/>		000076	10	Editorial	minor	resolved	2012-11-06	Section 10: Unidirectional Link Handling
<input type="checkbox"/>		000091	2	Editorial	minor	new	2012-11-06	Comparing the MSG.hop-count with MAX_HOP_COUNT
<input type="checkbox"/>		000088	4	Editorial	minor	closed	2012-11-06	Update introduction
<input type="checkbox"/>		000089	3	Editorial	minor	new	2012-10-21	Gateway handling
<input type="checkbox"/>		000048	33	Editorial	major	new	2012-10-21	Should we define (and use) "LLN"?
<input type="checkbox"/>		000055	9	Editorial	minor	resolved	2012-10-21	Change the title "The LLN On-demand Ad hoc Distance-vector ..." to "The Lightweight On-demand..."
<input type="checkbox"/>		000085	10	Editorial	minor	resolved	2012-10-16	Is a metric-TLV needed for hop-count?
<input type="checkbox"/>		000092	2	Editorial	minor	resolved	2012-10-16	Metric Type setting in RREP generation
<input type="checkbox"/>		000093	3	Editorial	minor	resolved	2012-10-16	RREQ.route-metric calculation before forwarding
<input type="checkbox"/>		000017	6	Additional Feature	minor	closed (tclausen)	2012-07-30	addr-length in packet?
<input type="checkbox"/>		000022		Editorial	block	closed (tclausen)	2012-07-30	IETF Boilerplate / IPR update
<input type="checkbox"/>		000075	4	Submitter too lazy to select a category ;)	major	new	2012-07-30	RREP.ackrequired flag
<input type="checkbox"/>		000086	2	Editorial	minor	new	2012-07-30	Strange problem in numbering the items...
<input type="checkbox"/>		000012	41	Editorial	minor	assigned (tclausen)	2012-07-30	hop-count or seqnum in RERR?
<input type="checkbox"/>		000037	6	Editorial	minor	assigned	2012-07-30	Sub-section for interface parameters
<input type="checkbox"/>		000081	18	Editorial	major	assigned (herberg)	2012-07-30	Initial value of hop-count
<input type="checkbox"/>		000082	5	Editorial	minor	new	2012-07-25	RREQ/RREP forwarding
<input type="checkbox"/>		000083	5	Editorial	minor	closed (herberg)	2012-07-23	Do we need to mandate the ACKREQUIRED TLV when using RFC5444?
<input type="checkbox"/>		000067	5	Editorial	minor	resolved (herberg)	2012-07-20	MAY in section 5.2 - out or appendix?
<input type="checkbox"/>		000078	2	Editorial	minor	closed (herberg)	2012-07-18	Draw example RFC5444 figures in the appendix B
<input type="checkbox"/>		000031	1	Editorial	major	assigned (axelcdv)	2012-07-18	Once all other issues are closed, re-draw pictures in appendix and verify alignment
<input type="checkbox"/>		000010	12	Editorial	minor	new	2012-07-13	Data packet buffering while RREQ
<input type="checkbox"/>		000077	3	Editorial	minor	new	2012-07-13	Section 10.1 Blacklist Usage
<input type="checkbox"/>		000073	5	Editorial	minor	new	2012-07-13	Signaling overview
<input type="checkbox"/>		000074	4	Editorial	minor	new	2012-07-13	Routing Set definition

Core Design Approach

- Derived from AODV
 - Well known/studied routing algorithm
 - Slim base feature set
 - Reduced complexity, i.e., easy to implement
 - Modular (similar to OLSRv2)
 - Options avoided in core spec unless proved to be useful in a general case, to avoid interoperability problems → Encouraged to draft companion documents
- Embedded in [manet] architecture using
 - RFC5444 (Packetbb)
 - RFC5498 (IANA)
 - RFC5148 (Jitter)
 - RFC6621 (SMF)
 - RFC6622 (security for RFC5444)
- Document uses similar terminology (e.g. router, interfaces) and structure (e.g. Information Base, Interface Sets) to other MANET working group documents.

LOADng Protocol Features

- Supports optimized flooding.
- Supports discovery of bi-directional links and routes.
- Messages are constructed of mostly immutable fields, allowing for end-to-end security mechanisms.
- Supports multiple interfaces per router.
- Is extensible and modular through the use of RFC5444, RFC5498, RFC6622 etc.

Working Code

- Deployments
 - E.g., real-world deployment (2000 routers) from ERDF
- Interop
 - At least four interoperable implementations of the latest revision, three interop events [1]
- Companion MIB document [2]
 - Mature MIB document with all we learned from RFC6779

[1] draft-lavenu-lln-loadng-interoperability-report-03

[2] draft-herberg-lln-loadng-mib-01

Way forward?

- Merge of the **specifications** is possible
 - Author group is willing to accept working group consensus on modifications to specification
 - Technical differences from AODVv2 are minor
 - Starting point for the merge: let's use the more mature document that fits into the [manet] modular and extensible design approach (**please review both documents!**)
 - Consider surrounding documents (MIB, interop) and **running code**
 - Proposed design approach: slim core + extensions
- Pick one or drop reactive protocol