

The Optimized Link State Routing Protocol version 2

`draft-ietf-manet-olsrv2-12`

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Status

- Functionally equivalent to -I I
 - Cleaned up, nitpicking
- Except
 - Metrics now included
 - Folded in draft-dearlove-olsrv2-metrics

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From IETF '69, '72.....

`draft-dearlove-olsrv2-metrics`

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Motivation

- Is min-hop routing good enough?
 - two high-bandwidth links instead of one low-bandwidth link
 - routing around regions with high congestion/interference
 - “worst-path-first syndrome”

Can we do it?

- Technically
 - has been done in OLSR and elsewhere (MANET-OSPF)
- Organizationally
 - fairly straightforward update to OLSRv2

Future Extension?

Future Extension?

- Not a good idea
 - nodes **using** link metrics and nodes **not recognizing** link metrics cannot safely interwork

Link Metrics

- Proposed link metrics are
 - dimensionless
 - scalar
 - positive
 - directional
 - additive
- How to calculate link metrics from real-world information is **not** part of OLSRv2

Why directional?

- Links are naturally asymmetric
- No inconsistency
 - Link metrics defined without negotiation (lossy)
 - Proposed definition by receiving node

How are link metrics reported?

- HELLO messages
 - in both directions
- TC messages
 - outgoing only
- Using TLVs
 - default value - if you don't use it, you don't pay for it

MPRs

- Used for
 - relaying flooded messages
 - reduced topology advertisement
- For the latter, link metric aware calculation

Routing

- Build Routing Set
 - minimum distance algorithm
 - on Network Topology Graph
 - with link metrics

Key Changes to OLSRv2

- Separation of routing and flooding MPRs
 - Routing MPRs use incoming metrics
 - Flooding MPRs use outgoing metrics
- Advertise:
 - Incoming metrics in HELLO messages (local advertisement, routing)
 - Outgoing metrics in HELLO messages (flooding, 2-hop routing)
 - Outgoing metrics in TC messages (routing)

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Status

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- Just posted this morning
- Still needs polishing:
 - Section 18
 - Appendix A

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