# The Optimized Link State Routing Protocol version 2

draft-ietf-manet-olsrv2-12

T. Clausen, C. Dearlove, P. Jacquet

T.Clausen@computer.org

#### Status

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

T.Clausen@computer.org

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

draft-dearlove-olsrv2-metrics

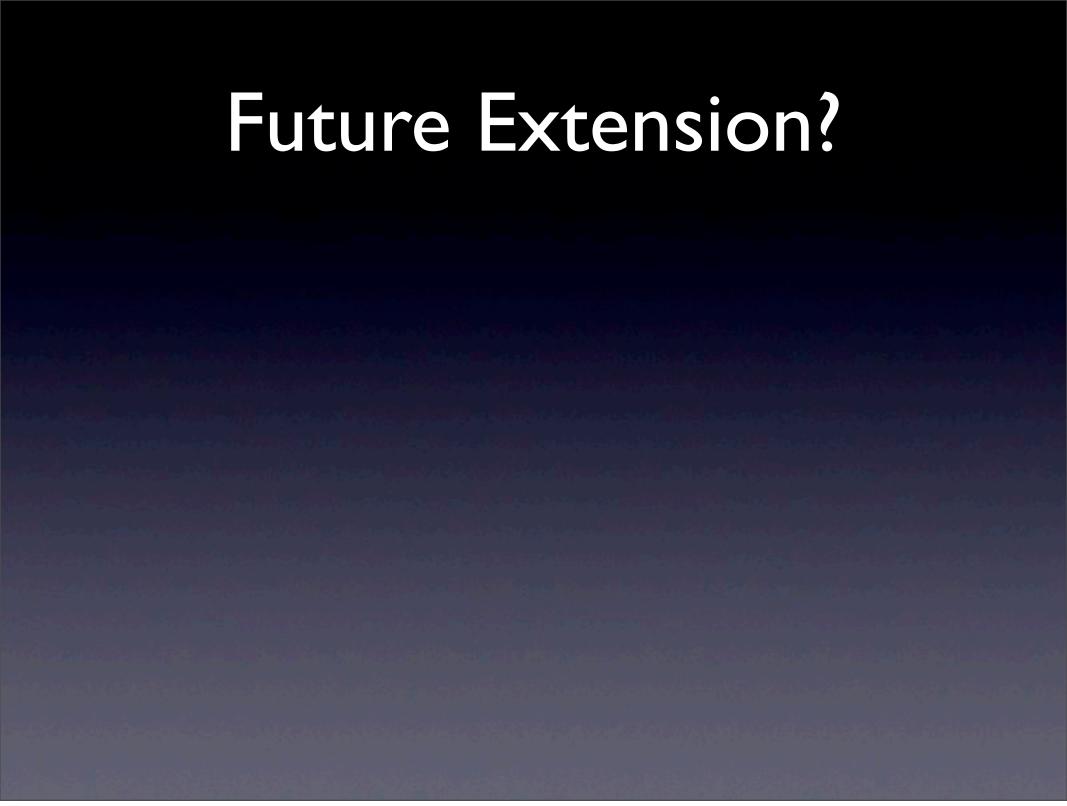
C. Dearlove, T. Clausen, P. Jacquet

#### 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?

- 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 realworld 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)

T.Clausen@computer.org

# Status draft-ietf-manet-olsrv2-12

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

T.Clausen@computer.org