Metric Issues for MANET

• How should metrics be calculated?
  – Mac layer specific solution?
  – A generalized hello based approach?
  – Cost value dependent (bandwidth vs power)
• How are metrics to be transmitted/shared?
• How to use this information?
  – Dependent on protocol.
  – Dependent on cost value being shared.
  – Does this new information break anything?
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How are metrics to be transmitted/shared?

• What type of numbers need to be represented?
• Solution should be efficient.
• Solution should be flexible
• Different cost values should be allowed to be represented.
Proposed method for sharing metrics

• What type of numbers need to be represented?
  – Flat 1-255 representation
  – Exponential 1-63488 representation using mantissa/exponent.

• Solution should be efficient.
• Solution should be flexible.
• Different cost values should be allowed to be represented.

Proposed method for sharing metrics

• What type of numbers need to be represented?
• Solution should be efficient.
  – Each cost value represented with an 8 bits
  – Multivalue TLV uses 6 byte overhead per metric type for any number of values.
• Solution should be flexible.
• Different cost values should be allowed to be represented.
Proposed method for sharing metrics

• What type of numbers need to be represented?
• Solution should be efficient.
• Solution should be flexible.
  – Defines a TLV to be used within the packetbb framework.
• Different cost values should be allowed to be represented.

Proposed method for sharing metrics

• Different cost values should be allowed to be represented.
  – Multiple metric TLVs can be assigned to the same addresses using differing subtypes.
  – Format generalizes 4 cost ideas
    • Outbound link metric
    • Inbound link metric
    • Symmetric link metric
    • Node metric
TLV subtype usage

- Subtype to allow for differing metrics to be assigned without using up packetbb tlv type space.
- 3 bits of 8 bit field define
  - flat/exponential
  - Inbound, Outbound, Symmetric, Node

Is this useful?