

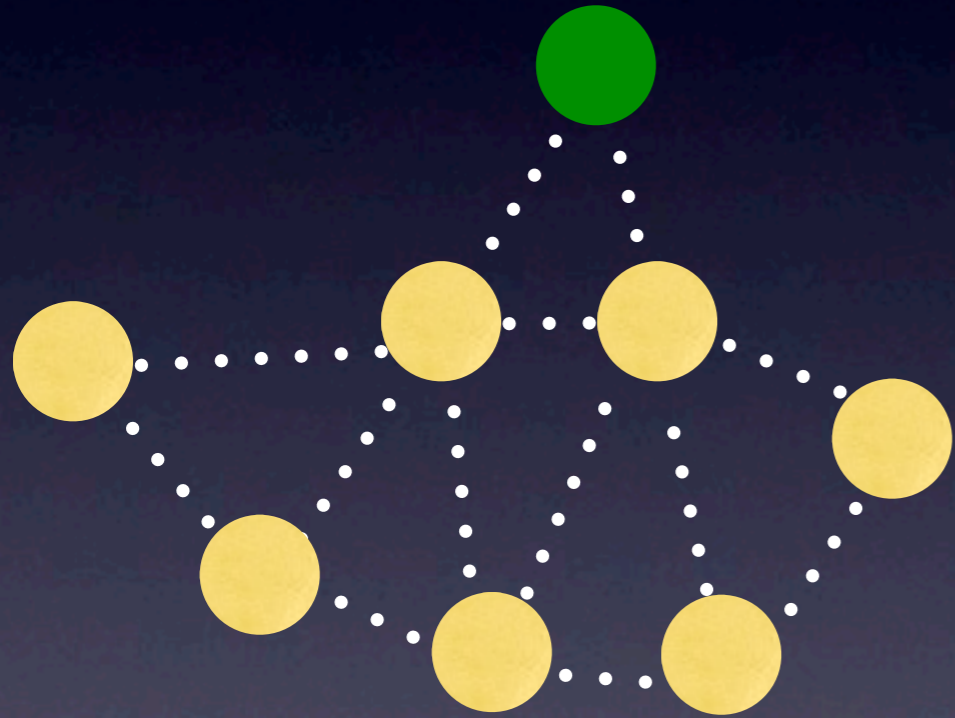
# Some Considerations on Routing In Particular and Lossy Environments

T. Clausen, U. Herberg

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# DODAG Construction

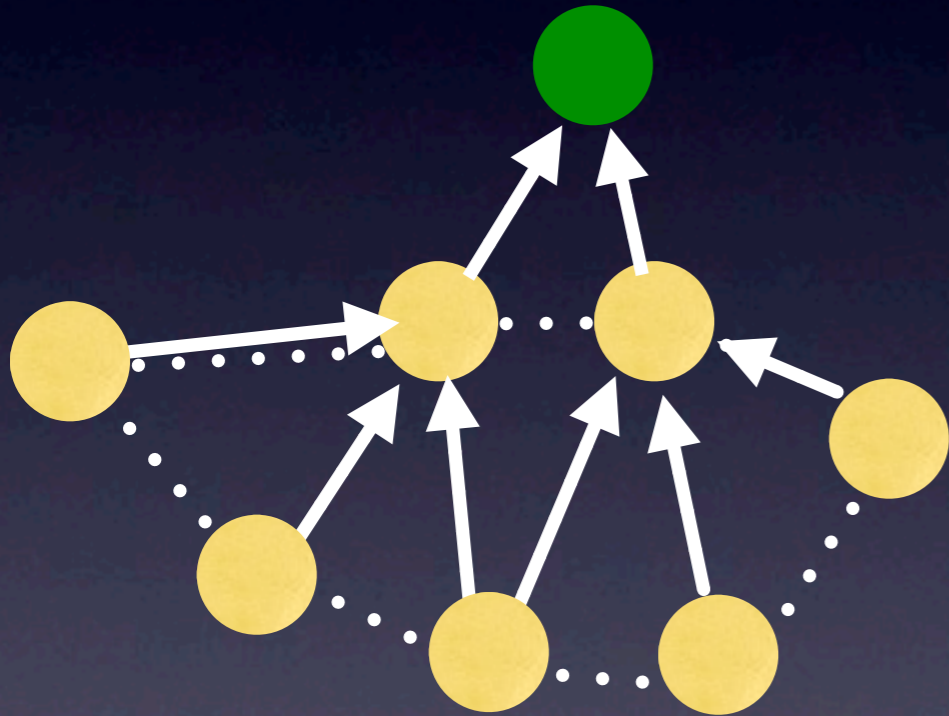


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# DODAG Construction

- Connectivity  $\uparrow$  based on messages received  $\downarrow$



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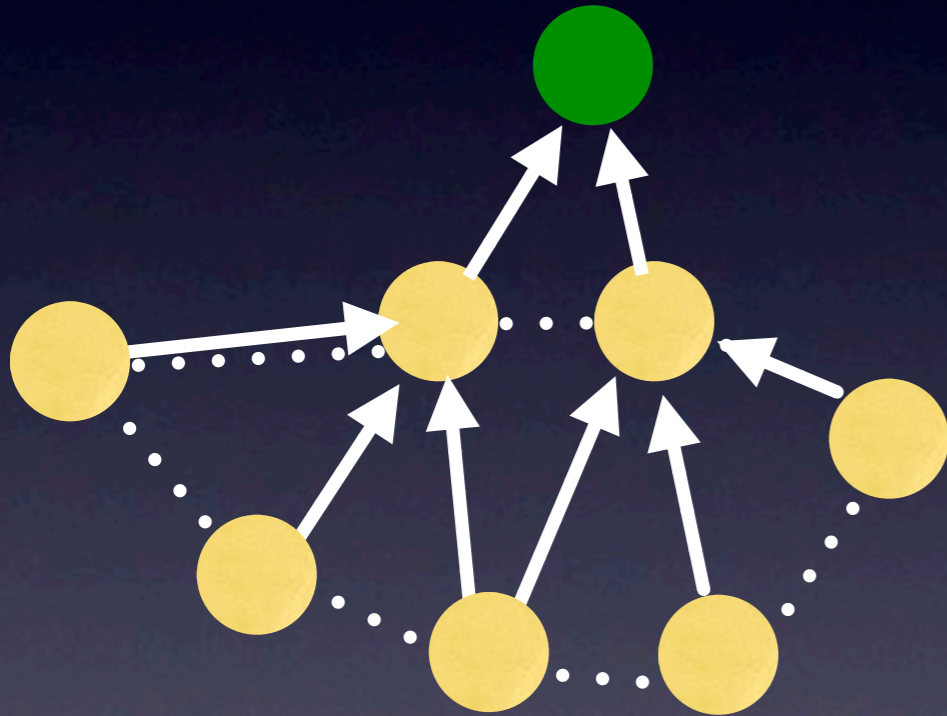
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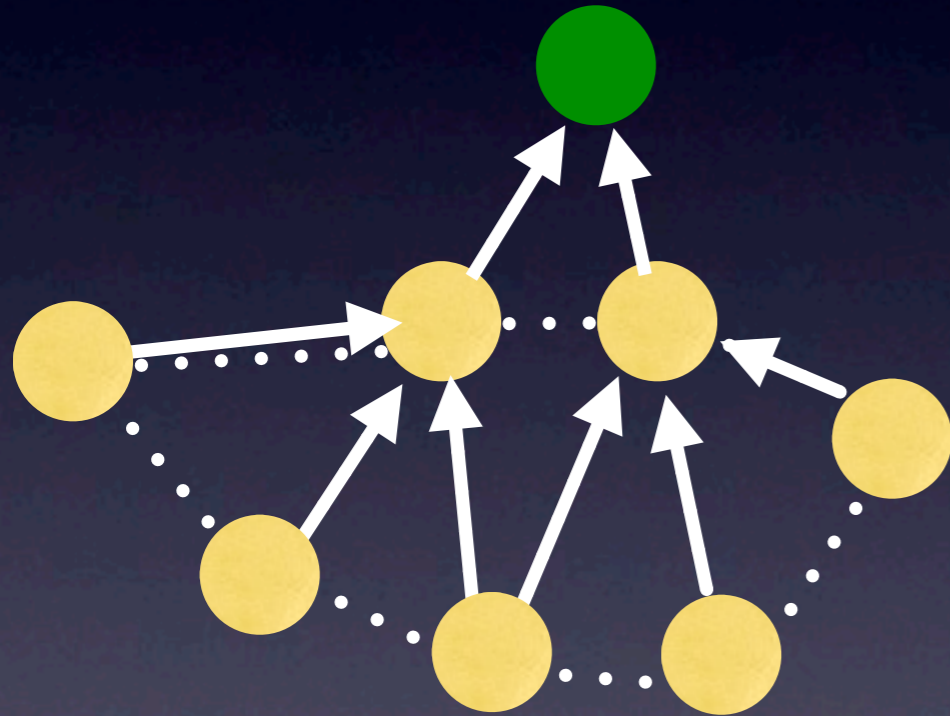
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“The OF can guide candidate neighbor set and parent set selection, as discussed in [I-D.ietf-roll-of0].”



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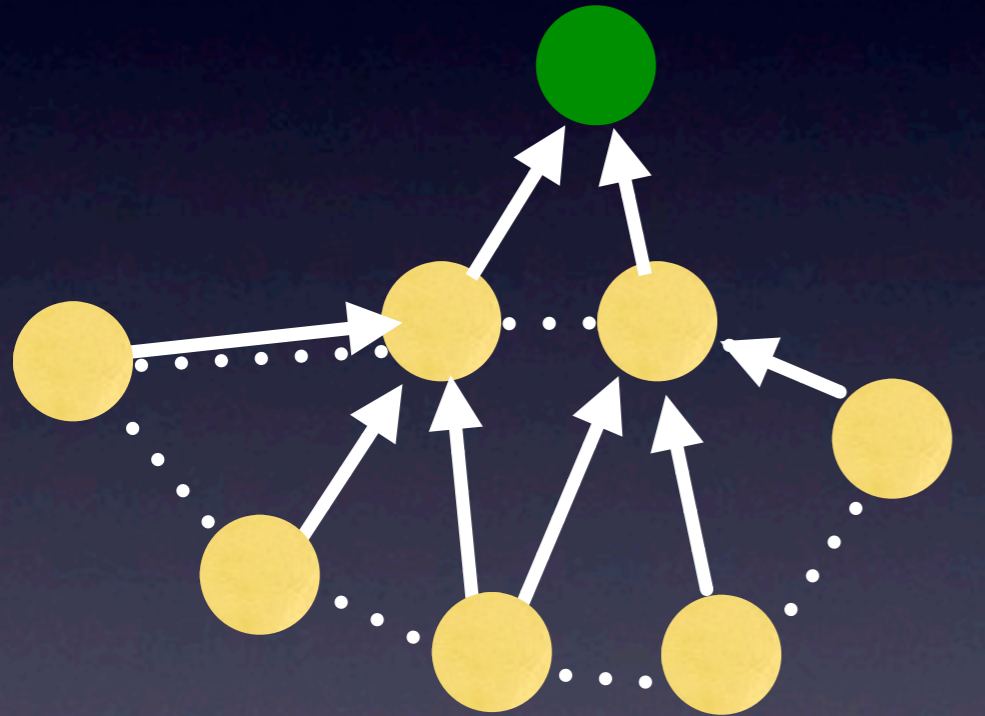
“...determines that a neighbor is no longer reachable .. MUST be removed from the routing table”

*Reacting, rather than preventing, disaster*

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# DODAG Construction



Uni-directional  
links common?

Oh yes...

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# Traffic Flow Support

Traffic:



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# Traffic Flow Support



Traffic:

Upward: **common**

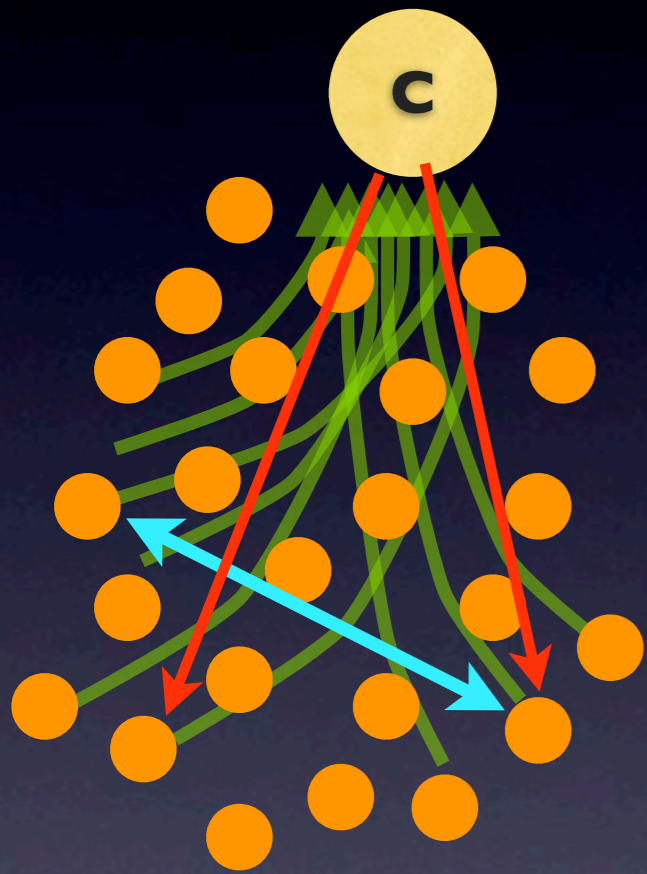
DODAG, Parents

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# Traffic Flow Support



Traffic:

Upward: **common**

Downward: **rare**

P2P: **esoteric**

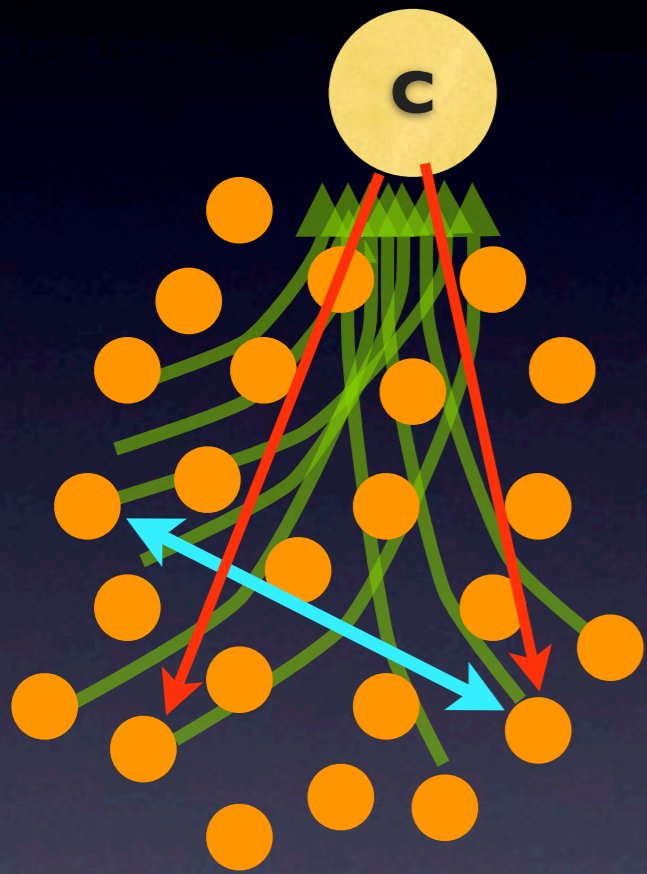
DODAG, Parents

DAO, Source Routing,  
Infinite Memory ...?

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# Traffic Flow Support



## Traffic:

Upward: **common**

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P2P: **esoteric**

Broadcast: **non-existent**

DODAG, Parents

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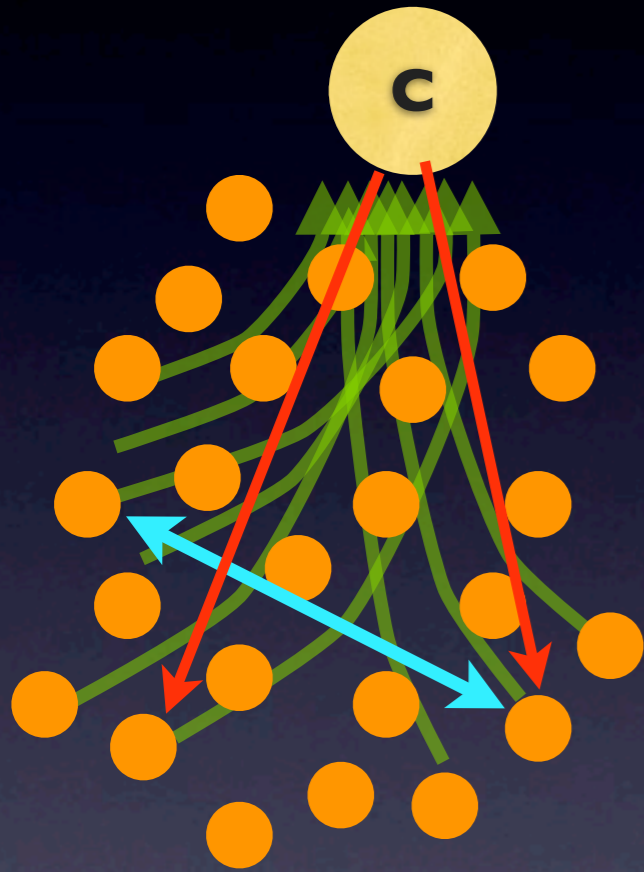
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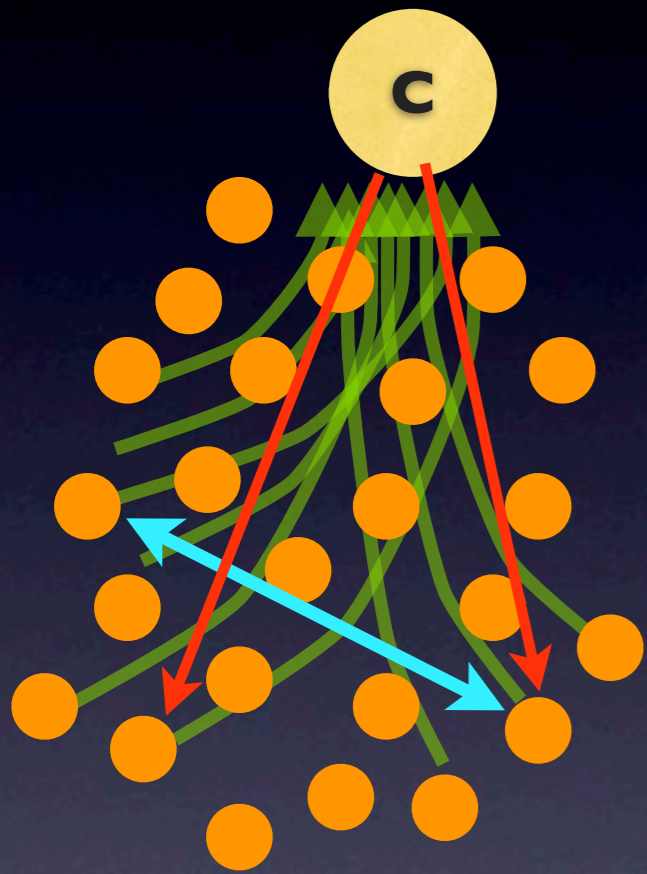
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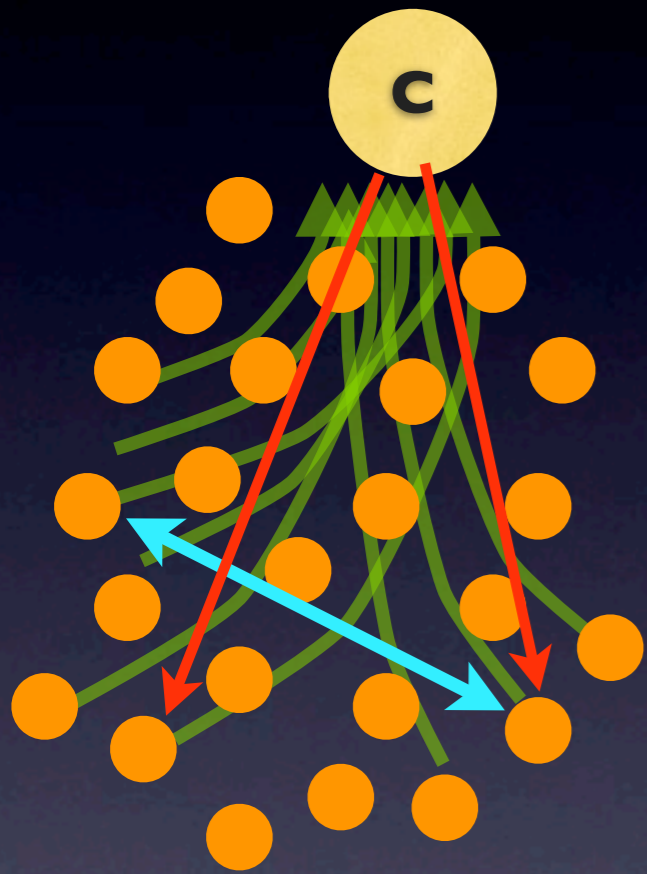
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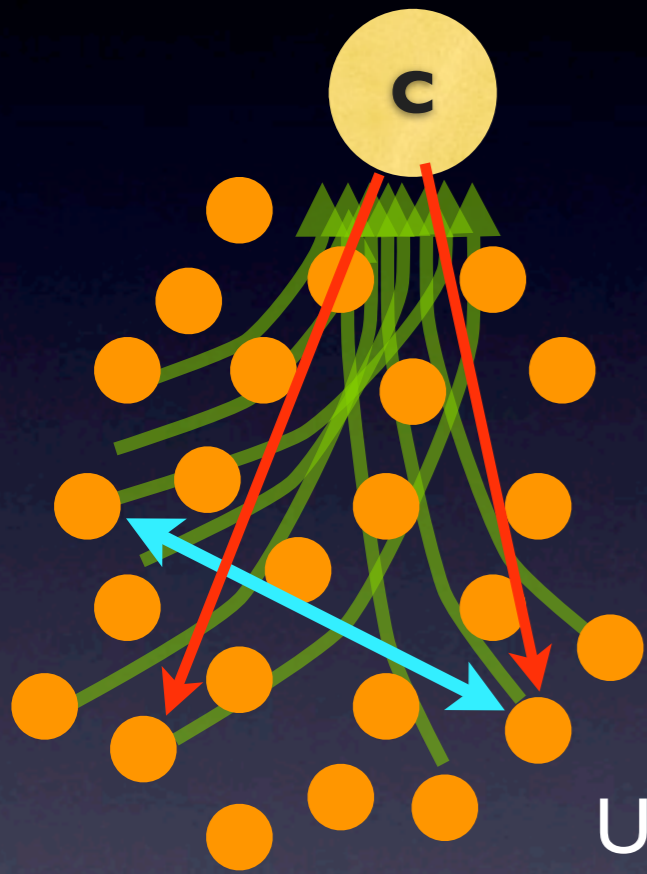
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Parameter setting?  
Firmware updates?

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Traffic:

Downward: **rare**

P2P: **esoteric**

DAO, Source Routing,  
Infinite Memory ...?

Utility meter reading?  
Parameter setting?  
Firmware updates?

**All traffic  
bi-directional**

Unfortunate Trade-off: infinite-state vs. source-routes

All sensors as destinations - topology update when errors?

# Utility Metering

## Devil's Advocate: "Why Not...?"

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- *AODV-like RREQ/RREP?*
  - Manage state - appropriately spaced readings
  - Mass-reading - (optimized) flood + jittered replies
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**What answer to such "Why Not?"**

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