

Path Vector Topology Proposal

NSI-WG Meeting at NDN2014 Conference Uppsala, September 2014 Henrik Thostrup Jensen <a href="mailto:https://www.nets.com/html/mailto:https://www.nets.com/html/mailto:https://www.nets.com/html/mailto:https://www.nets.com/html/mailto:https://www.nets.com/html/mailto:html/





Overview

- Path vector protocol, Bellman-ford algorithm
 - Similar to RIP
- Assumptions
 - Port / Topology names have a certain structure
 - Correlates with older pre-NML decision
 - Does not need NML
 - Congruent control and data-plane





How It Works

- NSA pull topology information from its peers
- Updates its own reachability vectors
- Possible to manipulate paths to influence preferences





Problems

- Presents same vectors to all peers
- Should be changed to per-link or per-NSA
- Doesn't do well with exchange points
 - Can be fixed

 Removes the need for complex topology distribution and routing algorithms





The Good Parts

- Encapsulate policies by announcing reachability
 - Don't describe the network describe what is possible
 - This is the lesson we should learn from BGP
- Simple to implement
- Lets the networks be in control of path finding

