



nrlnhdp Introduction

Justin Dean / Brian Adamson

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Implementation

- Built using NRL “Protolib” cross-platform C++ toolkit (Linux, BSD, MacOS, Win32, WinCE, etc support)
<<http://cs.itd.nrl.navy.mil/work/protolib>>
- Uses graph-based structure for neighborhood information base
 - Different model than “set-based” semantics used in NHDP specification.
 - Different traversals will be implemented to realize different algorithms using NHDP information
 - Graph can be shared/linked to routing state beyond 2-hop neighborhood domain

What does it do?

- Nothing, but ...
 - Multiple interface support
 - Distinct NHDP parameters including asynchronous timers per interface
 - RFC 5222 “packetbb” message formats (using previously-presented NRL “ManetMsg” implementation)
 - “Embeddable” into other Protolib code bases (e.g. *nrlsmf*, *nrlolsr*, etc)
- Known limitations:
 - May not be fully robust to NHDP messages generated by other NHDP implementations

What will it do?

- Graph traversals to support relay-set selection algorithms (S-MPR, E-CDS, etc)
- “Settings” file for more complex configuration support
- Integration with *nrlsmf* daemon
- Basis for *nrlolsr-v2* implementation
- Interfaces to/from *nrlnhdp*
 - Run-time control
 - Access to neighborhood information base
- More robust NHDP message handling

Future Plans

- As specifications evolve:
 - MIB support
 - PacketBB Security support
- Neighbor metric measurement and sharing
- Neighborhood state “import” from other mechanisms:
 - Lower-layer interfaces (e.g. radio/MAC-layer)
 - Administrative

Release Information

- Public release*
 - <http://cs.itd.nrl.navy.mil/products/>
 - <http://cs.itd.nrl.navy.mil/work/nhdp/index.php>
- User Guide available at
 - <http://pf.itd.nrl.navy.mil/nhdp/nrlnhdp.pdf>
- Nightly snapshots and official releases (source)
 - <http://downloads.pf.itd.nrl.navy.mil/nhdp/>
 - Version alpha-0.47 available

** Web site publication pending*