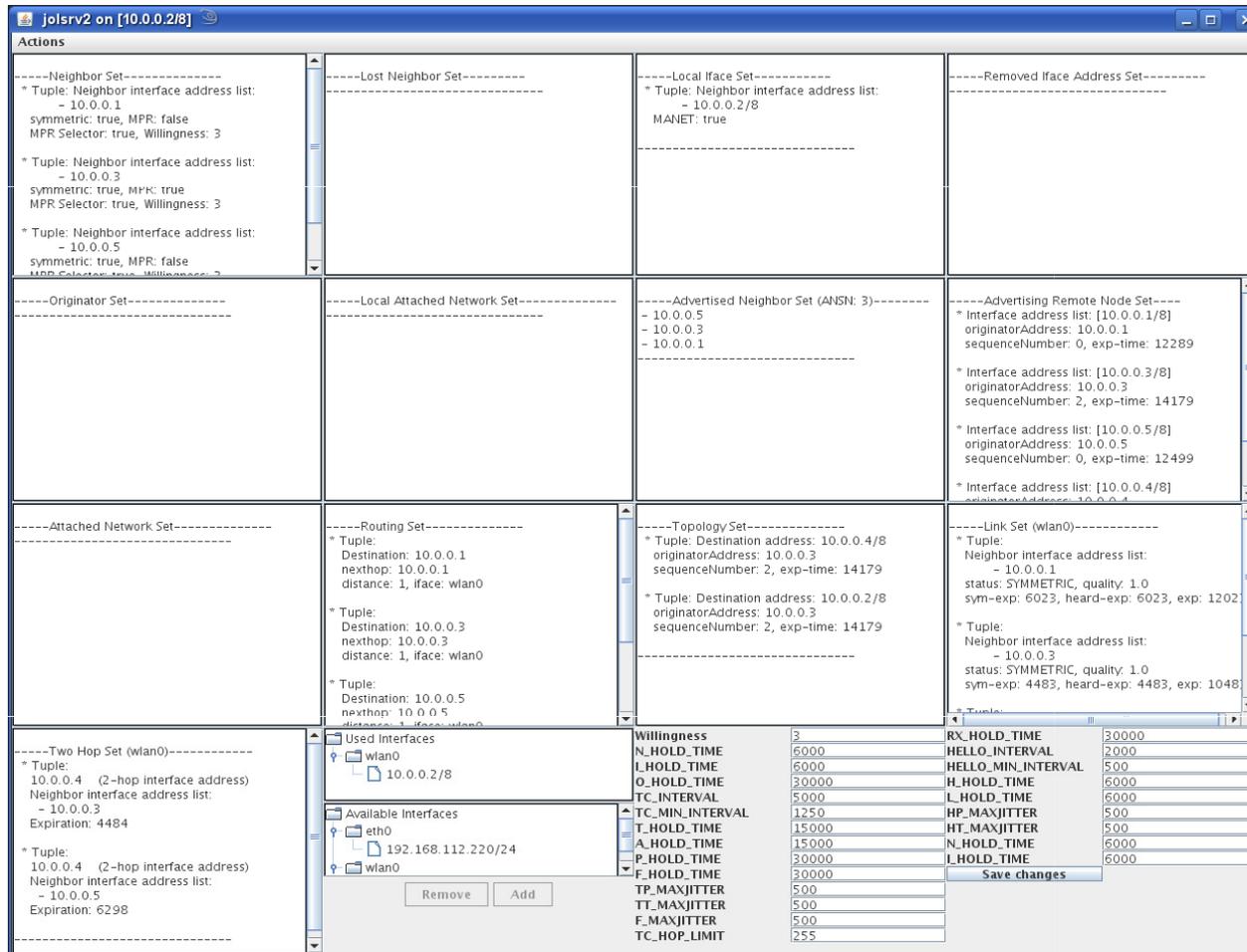




Overview

- **jOLSRv2** is a Java implementation of the MANET routing protocol OLSRv2 based on:
 - draft-ietf-manet-packetbb-13
 - draft-ietf-manet-nhdp-07
 - draft-ietf-manet-olsrv2-08alpha
- **Independent Java Projects:**
 - platform independent
 - libraries, easy API, extensible
 - complete JavaDoc documentation
- **RMIServer** and corresponding graphical client

Example of the graphical client

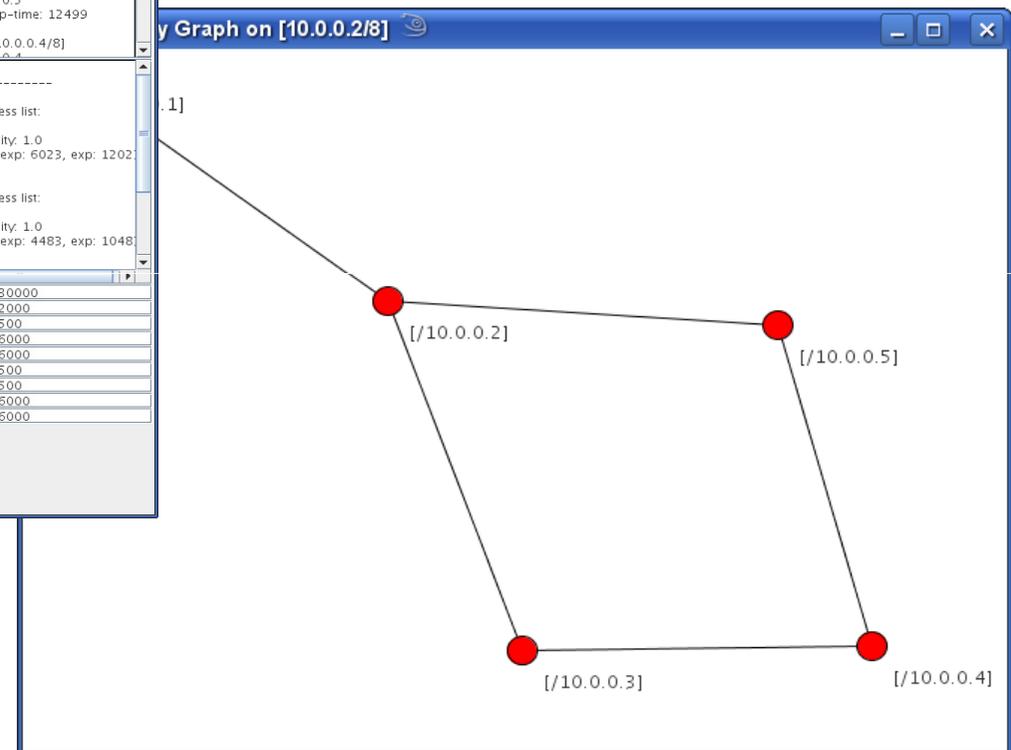


The screenshot shows the 'jolsrv2 on [10.0.0.2/8]' window with several configuration panels:

- Neighbor Set:** Lists tuples for neighbor interface address lists (10.0.0.1, 10.0.0.3, 10.0.0.5) with parameters like symmetric, MPR, and willingness.
- Local Iface Set:** Shows the local interface address list (10.0.0.2/8) and MANET status.
- Attached Network Set:** Lists tuples for destination, nexthop, and distance for interfaces like wlan0.
- Routing Set:** Lists tuples for destination, nexthop, and distance.
- Topology Set:** Lists tuples for destination address, originator address, and sequence number.
- Link Set (wlan0):** Shows tuple details for the wlan0 interface, including status, quality, and expiration.
- Used Interfaces:** A tree view showing wlan0 and its associated address (10.0.0.2/8).
- Available Interfaces:** Lists eth0 and wlan0 with their respective IP addresses (192.168.112.220/24 and 10.0.0.2/8).
- Parameters Table:**

Willingness	3
N_HOLD_TIME	6000
L_HOLD_TIME	6000
O_HOLD_TIME	30000
TC_INTERVAL	5000
TC_MIN_INTERVAL	1250
T_HOLD_TIME	15000
A_HOLD_TIME	15000
P_HOLD_TIME	30000
F_HOLD_TIME	30000
TP_MAXJITTER	500
TT_MAXJITTER	500
F_MAXJITTER	500
TC_HOP_LIMIT	255
RX_HOLD_TIME	30000
HELLO_INTERVAL	2000
HELLO_MIN_INTERVAL	500
H_HOLD_TIME	6000
L_HOLD_TIME	6000
HP_MAXJITTER	500
HT_MAXJITTER	500
N_HOLD_TIME	6000
L_HOLD_TIME	6000

- remote connection to OLSR server via RMI (over TCP)
- display of all sets
- add/remove interfaces and addresses, change parameters
- map of the topology from the point of view of the node connected to



TopologyApplet

Research - jolsrv2 - Mozilla Firefox

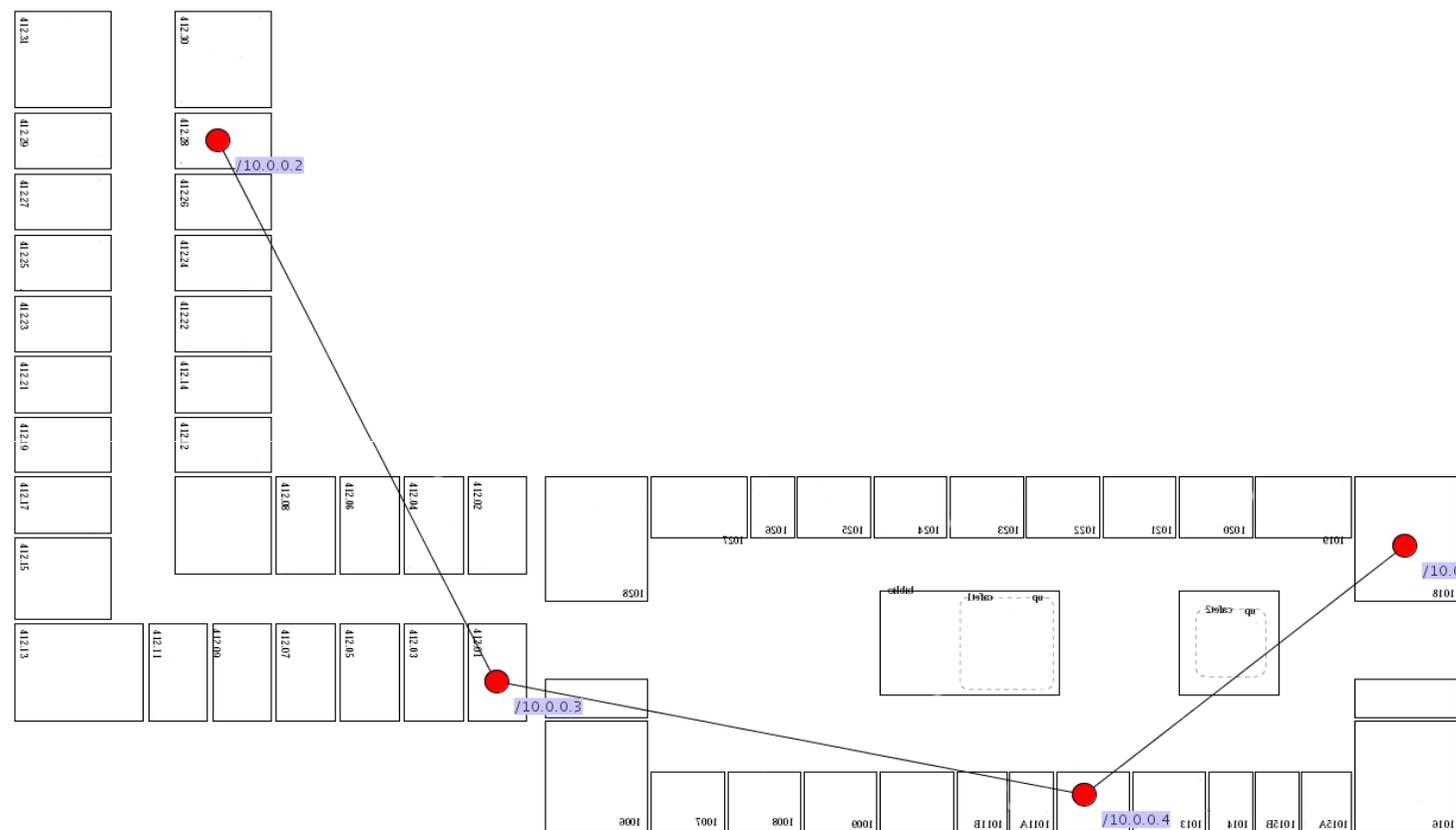
File Edit View History Bookmarks Tools Help

http://www.lix.polytechnique.fr/Labo/Ulrich.Herbera/research/jolsrv2/applet/

Research - jolsrv2 | - Inbox

MANET testbed at LIX

On this website you can see the current topology of our testbed, updated every second. You need Java 6 to display the applet.



Block

Applet LookupApplet started

Packetbb Applet



Packetbb-13alpha12 test dump

On this website you can parse hex dumps to packetbb packets. You can download an example file [here](#). You need Java 5 or 6 to display the applet and you have to trust the signed applet, otherwise you cannot load dump files from local files. You still can manually enter dumps in the left text area. The parser adheres to the [draft-ietf-manet-packetbb-13](#) version.

See [this page](#) if you want to create a packet via a GUI

Upload File
IPv4 ▾

```

08 00 12 05
f0 00 1e 0a
00 00 01 01
00 30 39 00
04 05 10 01
05 01 00 0a
00 00 02 00
04 06 10 01
0a
                
```

```

-----
| PACKET
|-----
| * Packet version: 0
| * Packet flags: 8
| * Packet seq number: 18
|-----
| MESSAGE
|-----
| * Message type: 5
| * Message flags: 240
| * Originator address: /10.0.0.1
| * Hop limit: 1
| * Hop count: 0
| * Message seq number: 12345
| * Message TLV Block
| - TLV
|   Flags = 16
|   Type = 5; Value = 05
| - Address block (1 addresses)
| - 10.0.0.2/32
| - Flags = 0
| - ADDRESS TLV block (1 TLVs)
| - TLV
|   Flags = 16
|   Type = 6; Value = 0a
|-----
                
```

Packetbb Applet

- It takes hex dumps of packetbb packets and displays a human-readable output
- Enables for easy interoperability and correctness tests of packetbb implementations
- Tested with Chris Dearlove's packetbb-11 implementation

Packetbb Creator Applet

Packetbb - Mozilla Firefox

http://www/~herberg/research/jolsrv2/packetbbapplet/rev static method uml

Packetbb test creation

Packet version:

Packet seq. num:

Packet TLVs

Tlv 1

Messages

Message 1

Current TLV

TLV type:

TLV type ext:

TLV start index:

TLV stop index:

TLV value (in Hex):

TLV multivalue

Message 1

Message header

Message type: Message TLV block

Message orig. address: Tlv 1

Message hop limit:

Message hop count:

Message seq. number:

Address blocks

Block 1

Address TLV blocks

Block 1

Selected address block

10.0.0.2/32

Selected TLV block

Tlv 1

IPv4

W3C HTML 4.01 W3C CSS

Appllet net/packetbb/appllet/PacketbbCreatorAppllet started

Adblock

Packetbb Creator Applet

- This applet allows for creating a packetbb packet including messages, TLVs, etc. by a simple GUI
- Outputs a hex dump of the packet

jOLSRv2-on-NS2

- NS2 is a discrete-event network simulator allowing for MANET simulations
- It is written in C++ and OTCL
- Problem: jOLSRv2 is written in JAVA
- Solution: Wrapper library called **AgentJ**
 - <http://cs.itd.nrl.navy.mil/work/agentj/index.php>