



Open Source Routing

# Improving Quagga

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# Quagga Overview

- Quality issues
- Performance Issues
  - No Multithreading
- Features Missing
  - No MPLS, No <insert\_your\_needed\_feature\_here>
- Multiple branches
  - quagga.net
  - code.google.com/p/google\_quagga
  - Vyatta
  - ... <insert your code branch here?>
  - Private branches
- **BUT...** it's the most widely utilized non-vendor L3 source code



# OSR Overview

Project @ ISC

## Goals

- Improve Quagga's Quality and Feature set
  - Test and baseline quality of Quagga code base, identify and repair Major/Minor bugs
  - Potentially develop and release new features
  - Help community re-integrate "orphaned" code
- Provide 24x7 customer support for Quagga users
- Help initiate reference architectures (systems and networks) using Quagga



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## We are NOT quagga.net



# Testing Efforts – Current Status

<http://opensourcerouting.org/wiki/Testing+Efforts>

| Routing Protocol | Compliance             | Performance/Scale/additional Feature tests | Resilience |
|------------------|------------------------|--|------------|
| BGPv4            | <a href="#">tested</a> | test plans written (comments welcome)      | tested     |
| BGPv6            | <a href="#">tested</a> | test plans written (comments welcome)      | tested     |
| ISIS             | tested                 | test plans written (comments welcome)      | tested     |
| OSPFv2           | tested                 | test plans in progress                     | tested     |
| OSPFv3           | tested                 | test plans in progress                     | tested     |
| RIP              | tested                 | test plan                                  |            |
| RIPnG            | tested                 | test plan                                  |            |

Compliance

Resilience

|                  | 99.18     | 99.20                     |         | 99.18 | 99.20                    | g-isis patch |
|------------------|-----------|---------------------------|---------|-------|--------------------------|--------------|
| <b>BGPv4</b>     | <b>58</b> | <b><a href="#">49</a></b> | BGPv4   | 367   | 355 3                    | NA           |
| BGPv6            |           | 54                        | BGPv6   |       | 355                      | NA           |
| <b>ISIS IPv4</b> |           | <b><a href="#">73</a></b> | ISIS L1 |       | 93                       | 94           |
| OSPFv2           | 17        | 16                        | ISIS L2 |       | 81                       |              |
| OSPFv3           | 9         | 9                         | OSPFv2  |       | <b><a href="#">3</a></b> | NA           |
| RIP              |           | 22                        | OSPFv3  |       | 9                        | NA           |
| RIPng            | 6         | 6                         | RIPv1   |       | 0                        | NA           |
| BGP Ext          |           |                           | RIPng   |       | 0                        | NA           |
| ISIS IPv6        |           |                           | RIPv2   |       | 0                        | NA           |



# Testing Challenges

- No “Open Source” Test suites
- Commercial tools
  - how to reproduce failed tests without the commercial tool?
- Replay Routes
  - most of them recorded with Quagga
- Limited resources
  - Need to automate



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Want to geek talk about testing?  
→ Find me in the hallway!



# Development Efforts

<http://opensourcerouting.org/wiki/Development+Efforts>

- Initiated bug scrub (OSR and Quagga.net bugs)
  - Volunteers welcome
- Initiation of “Orphan Branch” testing and integration
- Reviewing patches and analyzing what features to initiate
  - Suggestions welcome



# Call for Action

- Running into major bugs and think someone should have tested this?
  - Let us know
- Do you have your own private version of Quagga?
  - Would love to hear on any changes
  - Interested in merging back to “fewer” branches?

[opensourcerouting.org/wiki](https://opensourcerouting.org/wiki)  
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