ULG

Universal Looking Glass

Tomáš Hlaváček • tomas.hlavacek@nic.cz • 14. 05. 2013
What is Looking Glass?

Software (web app) for:

- Analysis of BGP announcement visibility from remote perspective
- Insight into BGP table in remote network
- Troubleshooting utilities (ping, traceroute)
Looking Glass concept

Known problems:

- Security threats. Suspicion towards clients
- Support for multiple vendors / BGP implementations
- Visual variability, templates
- Screen scraping reliability
- Configuration complexity
ULG approach

- Security: Parameter checking, verbose logging, rate-limiting
- Support for multiple vendors: BIRD, Cisco IOS, JunOS so far. (IOS XR WIP.)
- Templates: Python Genshi engine
- Screen scraping: Pexpect library + testing
- Configuration: Auto-sensing when possible
ULG features

- OSS (GNU GPLv3)
- Simple CGI, “low-profile”, few dependencies
- BGP table visualization (using Graphviz)
- Output decoration using HTML tables
- Whois client and bindings for RIPE DB
BGP table visualization

Select router to perform operation on, then select a command to perform and add (optional) argument if needed.

1. Router selection:  rs1 (91.210.16.1) - IPv4
2. Command selection:  Graph show route table <RT> for <IP subnet>
3. Routing Table:   T8928
4. IP subnet:   217.31.205.50

![BGP Table Visualization Diagram]
## Decorated BGP table

Select router to perform operation on, then select a command to perform and add (optional) argument if needed.

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Next-hop</th>
<th>Interface</th>
<th>Since</th>
<th>Status</th>
<th>Metric</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001::/32</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Dec19]</td>
<td>(100)</td>
<td></td>
<td>[AS25192]</td>
</tr>
<tr>
<td>2002::/16</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Dec19]</td>
<td>(100)</td>
<td></td>
<td>[AS25192]</td>
</tr>
<tr>
<td>2001:67B:1::/48</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Sep06]</td>
<td>*</td>
<td>(100)</td>
<td>[AS25192]</td>
</tr>
<tr>
<td>2001:678f::/48</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Sep06]</td>
<td>*</td>
<td>(100)</td>
<td>[AS25192]</td>
</tr>
<tr>
<td>2001:1488::/32</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Sep06]</td>
<td>*</td>
<td>(100)</td>
<td>[AS25192]</td>
</tr>
<tr>
<td>2001:1398:274::/48</td>
<td>2001:78:14::e:2</td>
<td>eth1</td>
<td>[R25192x1 Dec28]</td>
<td>*</td>
<td>(100)</td>
<td>[AS52234]</td>
</tr>
</tbody>
</table>
Whois client

Select router to perform operation on, then select a command to perform and add (optional) argument if needed.

Details of 2001:7f8:14::71:1

inet6num: 2001:7f8:14::/48
netname: NIX-CZ-NET-IPv6-20039203
descr: NIX.CZ z.s.p.o.
org: ORG-N22-RIPE
country: CZ
admin-c: JCH11-RIPE
admin-c: PJ2362-RIPE
techn-c: JCH11-RIPE
techn-c: PJ2362-RIPE
status: ASSIGNED
mnt-by: RIPE-NCC-END-MNT
mnt-by: RIPE-NCC-END-MNT
mnt-by: AS6881-MNT
source: RIPE & Filtered

organisation: ORG-N22-RIPE
org-name: NIX.CZ z.s.p.o.
org-type: LIR
address: NIX.CZ z.s.p.o.
address: Vinohradská 184
address: 130 52 Praha 3
address: CZECH REPUBLIC
phone: +420272650627
fax-no: +420272650629
abuse-mailbox: abuse@nix.cz
mnt-ref: RIPE-NCC-MAIL-MNT
mnt-ref: AS6881-MNT

Origin IGP, metric 0, localpref 100, valid, external, atomic-aggregate
2001:7f8:14::63 (FE80::21C:FF:FE5D:68C8) from 2001:7f8:14::61 (81.8.102.197)
Download and deployments

Deployments

- Github: https://github.com/tmshlvck/ulg

Downloads

- Github: https://github.com/tmshlvck/ulg
Thank You

Tomáš Hlaváček • tomas.hlavacek@nic.cz