

LHCONE Looking Glass

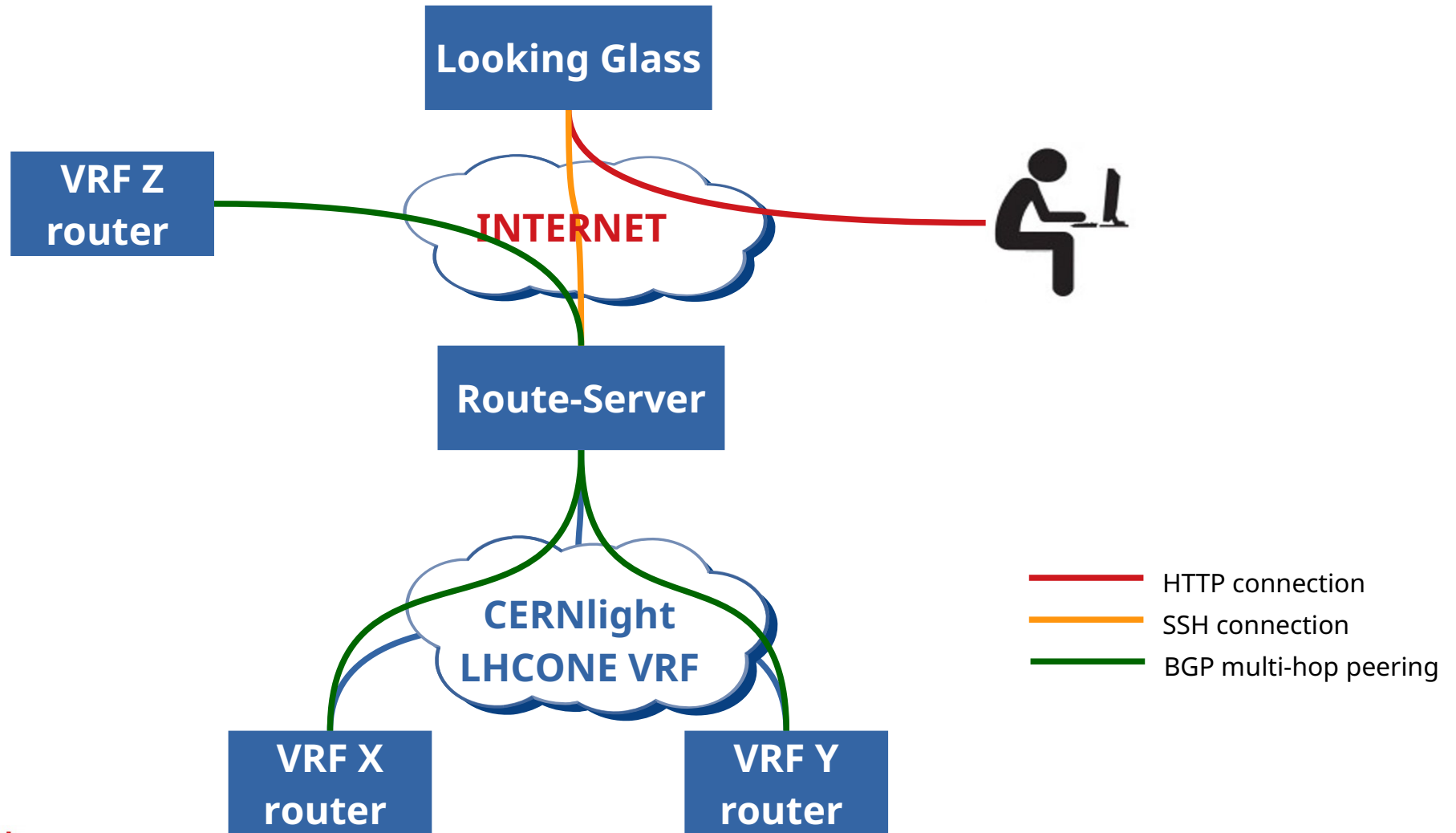
Fermilab - 30th October 2018
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Action from last LHCONE meeting

Evaluate use of a route-server or a looking glass to display available routes and tagged prefixes

Architecture



Route Server

- Deployed Juniper QFX5200-32C (32x 40/100G ports) at CERN
- It will replace the Brocade MLXE router used for CERNlight
- It runs a VRF for the route-server
 - peering with CERNlight and NORDUnet LHCONE routers
- It is connected to the CERNlight VRF and to the Internet



Looking glass server

- HTTP server running on a CERN Virtual Machine
- Reachable at <http://lhcone-lg.cern.ch/>

LHCONE Looking Glass

Query:	Router:
<input type="radio"/> show bgp neighbor <IP_addr> <input type="radio"/> show bgp summary	ex2j.cern.ch
<input type="radio"/> show all bgp route ipv6 <input type="radio"/> show all bgp route ipv4	
<input type="radio"/> show bgp route detail ipv6 <address> <input type="radio"/> show bgp route detail ipv4 <address>	
Argument(s): <input type="text"/>	

Submit

Reset

[Looking Glass notes](#)

For support, contact [extip](#)

Live demo

Examples

Show BGP neighbor X:

Shows all the routes announced by a peer (CERNlight in this example)

LHCONE Looking Glass Results - ex2j.cern.ch

Date: Fri Oct 12 08:18:09 2018 CEST

Query:
Argument(s): 192.65.183.46

inet.0: 3 destinations, 3 routes (3 active, 0 holddown, 0 hidden)

LG.inet.0: 202 destinations, 203 routes (202 active, 0 holddown, 0 hidden)

Prefix	Nexthop	MED	Lclpref	AS path
* 14.139.119.0/24	192.65.183.46			20641 17579 20965 2697 55824 ?
* 18.12.0.0/20	192.65.183.46			20641 293 3 I
* 62.40.103.0/24	192.65.183.46			20641 17579 20965 I
* 62.40.126.0/24	192.65.183.46			20641 17579 20965 I
* 62.40.126.214/31	192.65.183.46			20641 8501 I
* 62.40.126.246/31	192.65.183.46			20641 8501 I
* 67.58.50.0/28	192.65.183.46			20641 293 26397 I
* 72.36.81.64/26	192.65.183.46			20641 293 38 I
* 72.36.96.0/24	192.65.183.46			20641 293 38 38 I
* 81.180.86.0/24	192.65.183.46			20641 17579 20965 2614 I
* 90.147.16.0/23	192.65.183.46			20641 17579 20965 137 I
* 90.147.66.0/24	192.65.183.46			20641 17579 20965 137 I
* 90.147.67.0/24	192.65.183.46			20641 17579 20965 137 I
* 90.147.168.0/23	192.65.183.46			20641 17579 20965 137 I
* 109.105.124.0/22	192.65.183.46			20641 2603 39590 I
* 109.127.250.0/23	192.65.183.46			20641 17579 20965 2107 I
* 109.127.252.0/25	192.65.183.46			20641 17579 20965 2107 I
* 117.103.96.0/20	192.65.183.46			20641 24167 I
* 128.104.227.0/24	192.65.183.46			20641 293 59 ?

Examples

Show BGP route detail IPv4 <address>

Shows details of a route

LHCONE Looking Glass Results - ex2j.cern.ch

Date: Fri Oct 12 08:23:45 2018 CEST

Query:

Argument(s): 128.142.0.0

inet.0: 3 destinations, 3 routes (3 active, 0 holddown, 0 hidden)

LG.inet.0: 202 destinations, 203 routes (202 active, 0 holddown, 0 hidden)

128.142.0.0/16 (1 entry, 1 announced)

*BGP Preference: 170/-101
Next hop type: Router, Next hop index: 1828
Address: 0xb2d0bb0
Next-hop reference count: 395
Source: 192.65.183.46
Next hop: 192.65.183.46 via irb.503, selected
Session Id: 0x0
State:
Peer AS: 20641
Age: 3d 19:25:32
Validation State: unverified
Task: BGP_20641_61339.192.65.183.46
Announcement bits (1): 0-KRT
AS path: 20641 513 I

Communities: 513:65101 513:65151 20641:65160 65010:513

Accepted

Localpref: 100

Router ID: 192.65.183.1

{master:0}

Examples

Show BGP route detail IPv6 <address>
Shows also details of a route received
from multiple peers

LHCONE Looking Glass Results - ex2j.cern.ch

Date: Thu Oct 18 06:21:36 2018 CEST

Query:

Argument(s): 2001:6a0:fff:ff0a::/64

```
LG.inet6.0: 117 destinations, 181 routes (117 active, 0 holddown, 0 hidden)
2001:6a0:fff:ff0a::/64 (2 entries, 1 announced)
  *BGP
    Preference: 170/-101
    Next hop type: Indirect, Next hop index: 0
    Address: 0xb2d4f30
    Next-hop reference count: 211
    Source: 192.65.183.30
    Next hop type: Router, Next hop index: 1708
    Next hop: 2001:1458:0:1d::1 via irb.183, selected
    Session Id: 0x0
    Protocol next hop: ::ffff:192.65.183.30
    Indirect next hop: 0xd1cf980 131071 INH Session ID: 0x0
    State:
    Peer AS: 2603
    Age: 13:04:54 Metric2: 0
    Validation State: unverified
    Task: BGP_2603_61339.192.65.183.30
    Announcement bits (2): 0-KRT 3-Resolve tree 2
    AS path: 2603 20965 8501 I
    Communities: 2603:2112 20965:155 target:2603:434300001 target:20965:111
    Accepted
    Localpref: 100
    Router ID: 192.65.183.30
  BGP
    Preference: 170/-101
    Next hop type: Router, Next hop index: 1740
    Address: 0xb2cff50
    Next-hop reference count: 71
    Source: 2001:1458:a00:b::2
    Next hop: 2001:1458:a00:b::2 via irb.503, selected
    Session Id: 0x0
    State:
    Inactive reason: AS path
    Peer AS: 20641
    Age: 14:29:00
    Validation State: unverified
    Task: BGP_20641_61339.2001:1458:a00:b::2
    AS path: 20641 17579 20965 8501 I
    Communities: 20965:155
    Accepted
    Localpref: 100
    Router ID: 192.65.183.1
```

{master:0}

Next steps

- Endorse it or drop it
- If endorsed, peer with more VRFs

Questions?

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