netkit lab

bgp: multi-homed-stub-large

<table>
<thead>
<tr>
<th>Version</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
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<td><a href="http://www.netkit.org/">http://www.netkit.org/</a></td>
</tr>
<tr>
<td>Description</td>
<td>a multi-homed stub network running rip</td>
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</table>
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interior gateway protocols

- rip is used:
  - within as20 to propagate reachability information about the next-hops
  - within as100 as an internal routing protocol
router as100r1 configuration

zebra rip configuration file

```bash
router rip
network 100.1.0.0/16
redistribute bgp
```

- talk rip on some interface
- send distance vector packets through interfaces falling into the specified prefix
- redistribute bgp-learned routes to rip neighbors
router as100r2 configuration

zebra rip configuration file

```
router rip
network 100.1.0.0/16
redistribute connected
```

- talk rip on some interface
- send distance vector packets through interfaces falling into the specified prefix
- redistribute connected networks to rip neighbors
  - the network that is directly connected to a rip enabled interface is automatically inserted in the local rip routing table
routing table

- rip routing table on as100r1

```
as100r1:~# telnet localhost ripd
.....
User Access Verification
Password:
ridp> show ip rip
Codes: R - RIP, C - connected, O - OSPF, B - BGP
   (n) - normal, (s) - static, (d) - default, (r) - redistribute, (i) - interface

<table>
<thead>
<tr>
<th>Network</th>
<th>Next Hop</th>
<th>Metric</th>
<th>From</th>
<th>Time</th>
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<tbody>
<tr>
<td>B(r) 0.0.0.0/0</td>
<td>11.0.0.2</td>
<td>1</td>
<td>self</td>
<td></td>
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<tr>
<td>C(i) 100.1.0.0/30</td>
<td>0.0.0.0</td>
<td>1</td>
<td>self</td>
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<tr>
<td>C(i) 100.1.0.4/30</td>
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<td>1</td>
<td>self</td>
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<td>R(n) 100.1.0.8/30</td>
<td>100.1.0.6</td>
<td>2</td>
<td>100.1.0.6</td>
<td>02:24</td>
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<td>2</td>
<td>100.1.0.6</td>
<td>02:24</td>
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<tr>
<td>R(n) 100.1.3.0/24</td>
<td>100.1.0.2</td>
<td>2</td>
<td>100.1.0.2</td>
<td>02:41</td>
</tr>
</tbody>
</table>

route distributed from bgp into rip
```
play with the network

- have a look at the routing tables of routers inside as100
  - does the 0/0 arrive on as100r2 and as100r3? why?
- try to ping/traceroute all the pairs of routers
- look for bgp updates in bgpd logs
- capture (bgp) packets on the routers
- create faults on collision domain E