kathara lab

bgp: multi-homed-stub-large with frr

Version	1.0
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Description	a multi-homed stub network running rip; kathara version of a netkit lab

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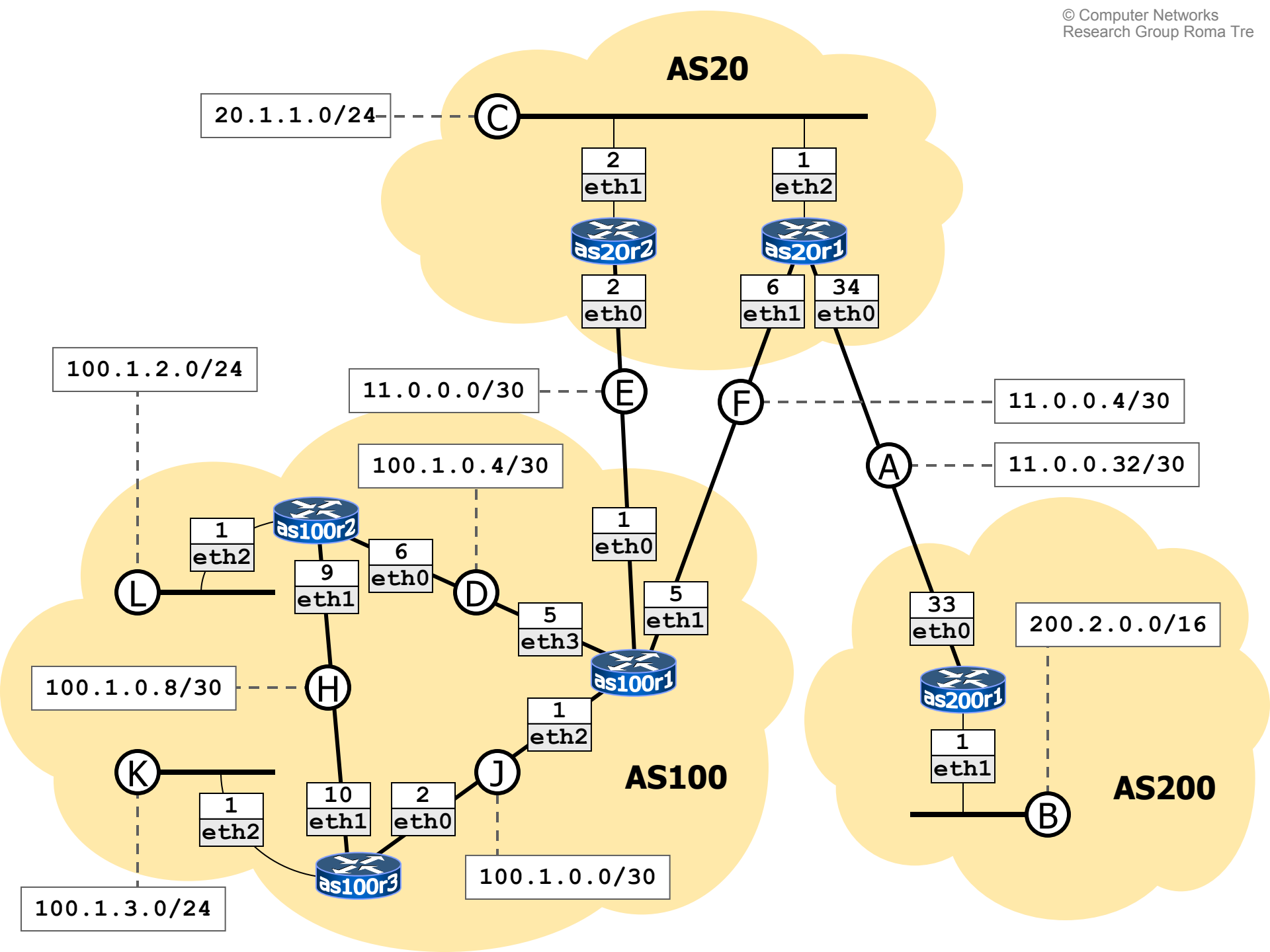
preconditions

- for this lab we assume you have chosen “kathara/frr” as the default image of your Kathará installation
  - execute “kathara settings”
    - select “choose default image”
    - select “kathara/frr”
    - exit from the settings procedure



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

frr rip configuration file

```
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

frr 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

```
as100r1:~# telnet localhost ripd
.....
User Access Verification

Password:
ripd> show ip rip
Codes: R - RIP, C - connected, O - OSPF, B - BGP
       (n) - normal, (s) - static, (d) - default, (r) - redistribute,
       (i) - interface

     Network         Next Hop         Metric From            Time
B(r) 0.0.0.0/0       11.0.0.2              1 self
C(i) 100.1.0.0/30    0.0.0.0               1 self
C(i) 100.1.0.4/30    0.0.0.0               1 self
R(n) 100.1.0.8/30    100.1.0.6             2 100.1.0.6      02:24
R(n) 100.1.2.0/24    100.1.0.6             2 100.1.0.6      02:24
R(n) 100.1.3.0/24    100.1.0.2             2 100.1.0.2      02:41
ripd>
```

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