

kathara lab

bgp: multi-homed-stub-large with frr

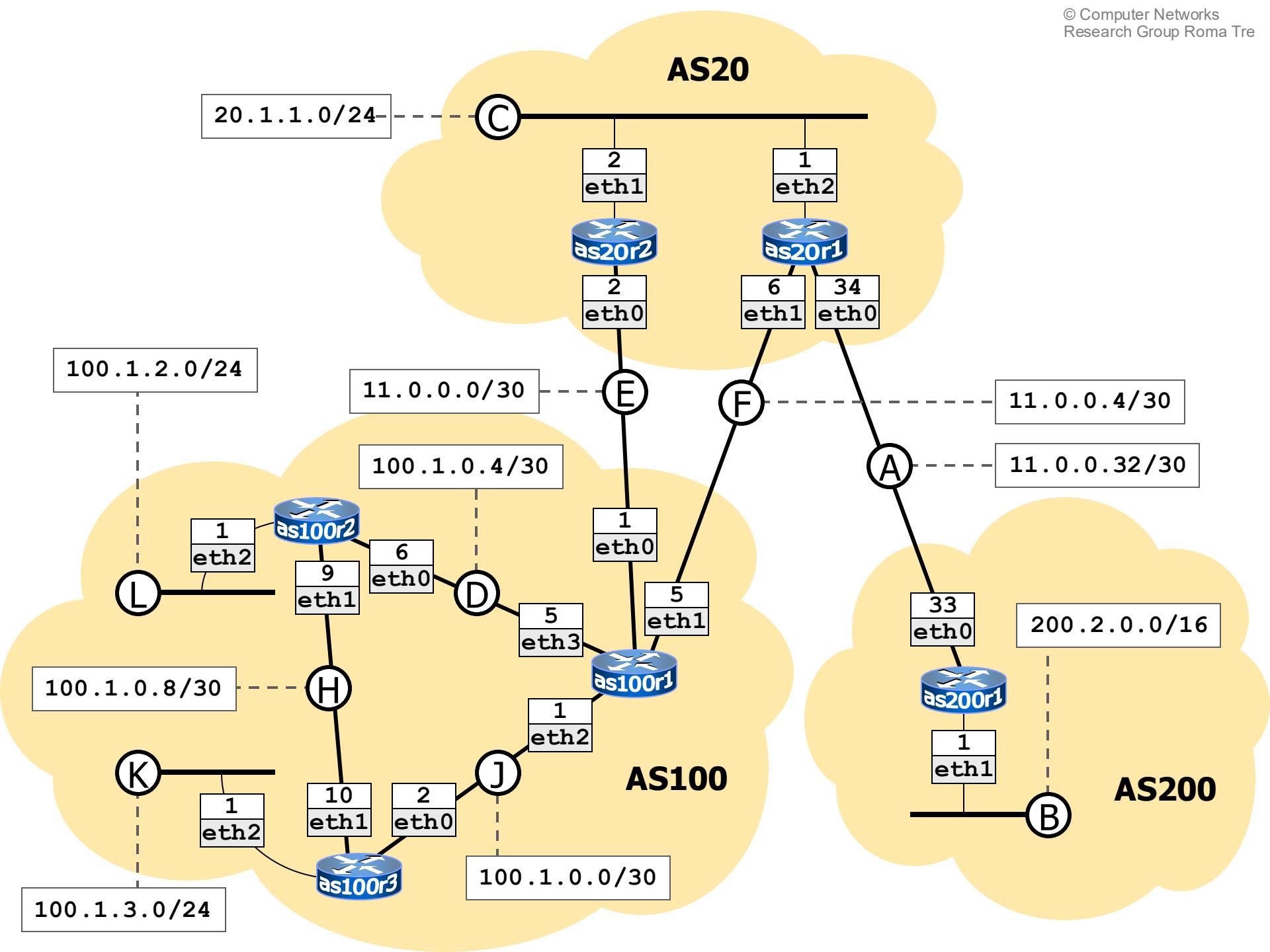
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Web	http://www.kathara.org/
Description	a multi-homed stub network running rip; kathara version of a netkit lab

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preconditions

- for this lab we assume you have chosen “kathara/frr” as the default image of your Kathar 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 100.1.0.0/24
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 100.1.0.0/24
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)
(i) - interface

route distributed
from bgp into rip

redistribute,

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> ■
```

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