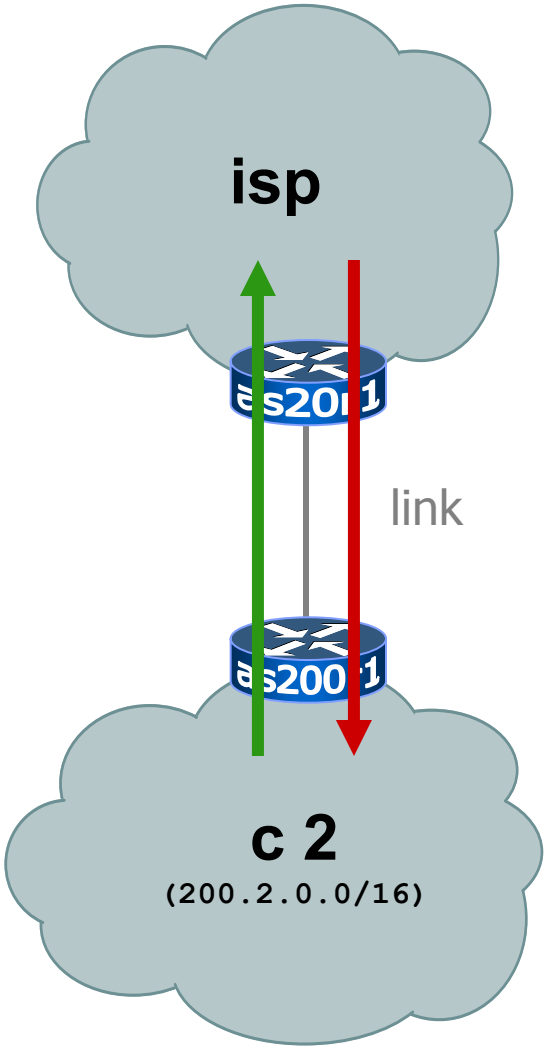
kathara lab

bgp: stub-as-static

Version	1.0
Author(s)	G. Di Battista, M. Patrignani, M. Pizzonia, F. Ricci, M. Rimondini
E-mail	contact@kathara.org
Web	http://www.kathara.org/
Description	configuration of a stub as with static routes – kathara version of a netkit lab

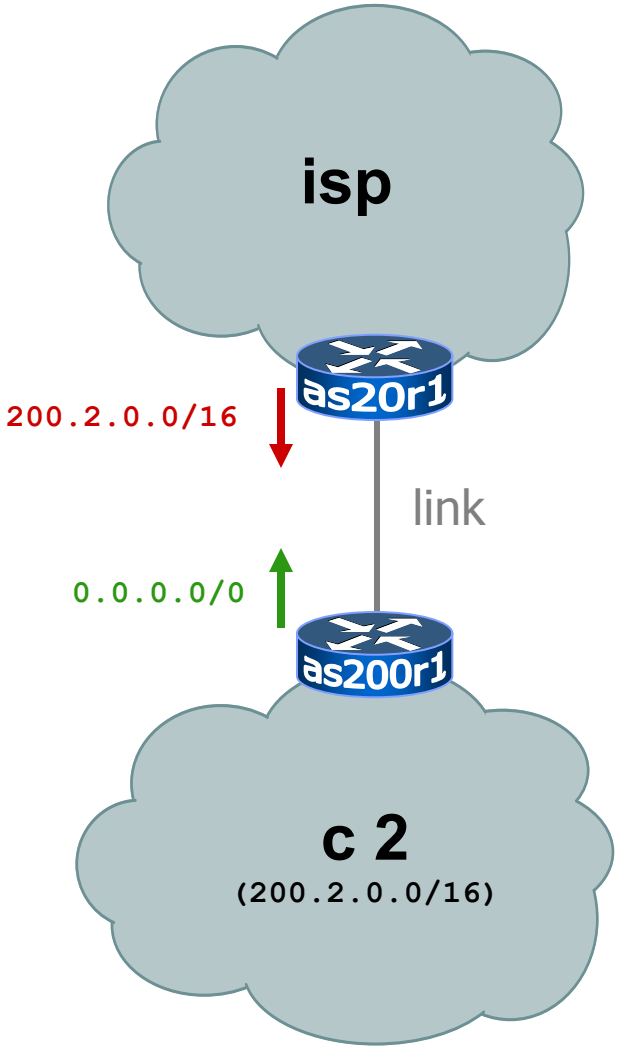
copyright notice

stub network: are there options?



- outbound packets have to be sent through the link in order to reach the internet
- inboud packets have to be sent through the link in order to reach the new network

stub network with static routes



- a default static route is sufficient for the outbound packets to be sent to the internet through the link
- a static route is sufficient for inbound packets to be sent to the new network through the link
- no choices ⇒ no need for bgp

router as200r1 w/ static route

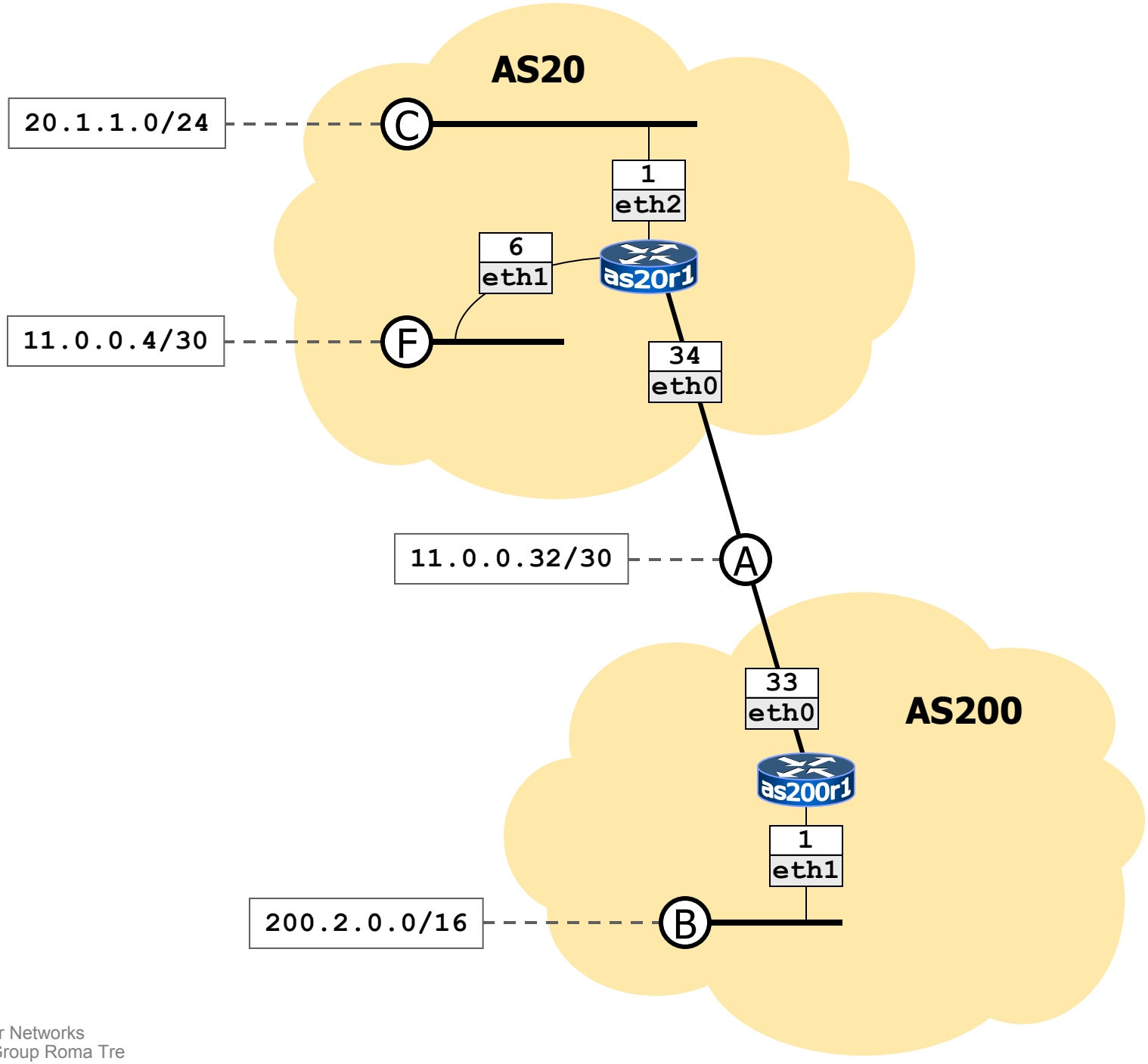
as200r1

```
as200r1:~# /sbin/ifconfig eth0 11.0.0.33 netmask 255.255.255.252 broadcast 11.0.0.35 up
as200r1:~# /sbin/ifconfig eth1 200.2.0.1 netmask 255.255.0.0 broadcast 200.2.255.255 up
as200r1:~# /sbin/route add default gw 11.0.0.34
as200r1:~#
```

router as20r1 w/ static route

as20r1

```
as20r1:~# /sbin/ifconfig eth0 11.0.0.34 netmask 255.255.255.252 broadcast 11.0.0.35 up
as20r1:~# /sbin/ifconfig eth1 11.0.0.6 netmask 255.255.255.252 broadcast 11.0.0.7 up
as20r1:~# /sbin/ifconfig eth2 20.1.1.1 netmask 255.255.255.0 broadcast 20.1.1.255 up
as20r1:~# /sbin/route add -net 200.2.0.0 netmask 255.255.0.0 gw 11.0.0.33
as20r1:~#
```



stub with static routes

- launch the script

host machine

```
user@localhost:~$ cd kathara-lab_bgp-stub-as-static_frr
user@localhost:~/kathara-lab_bgp-stub-as-static_frr$ kathara lstart
```

- check the routing table of as20r1

as20r1

```
as20r1:~# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
11.0.0.32       0.0.0.0         255.255.255.252 U     0      0        0 eth0
11.0.0.4        0.0.0.0         255.255.255.252 U     0      0        0 eth1
20.1.1.0        0.0.0.0         255.255.255.0   U     0      0        0 eth2
200.2.0.0       11.0.0.33       255.255.0.0     UG    0      0        0 eth0
as20r1:~#
```

stub with static routes

- check the routing table of as200r1

as200r1

```
as200r1:~# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
11.0.0.32       0.0.0.0         255.255.255.252 U     0      0        0 eth0
200.2.0.0       0.0.0.0         255.255.0.0     U     0      0        0 eth1
0.0.0.0         11.0.0.34       0.0.0.0         UG    0      0        0 eth0
as200r1:~#
```

- try pinging `20.1.1.1`
- terminate the lab

host machine

```
user@localhost:~/kathara-lab_bgp-stub-as-static_frr$ kathara lclean
```