

ALPHA

Johannes Gilger, Florian Weingarten

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Adaptive and Lightweight Protocol
for Hop-By-Hop Authentication

What we did since last meeting

- Made Alpha run on the Nokia N810 with all the routing-stuff
- Finished implementing alphafilter

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- Could not have done it without the helpful description from PISA
- Compile vanilla kernel with extra-options we need
- Flash the kernel onto the nokia (thanks for the test-mode!)
- Compile a shared lib for iptables (`libipt_MARK.so`) and load it

Problems

- Remark: Don't put unnecessary stuff into your kernel, or Maemo will **hang**

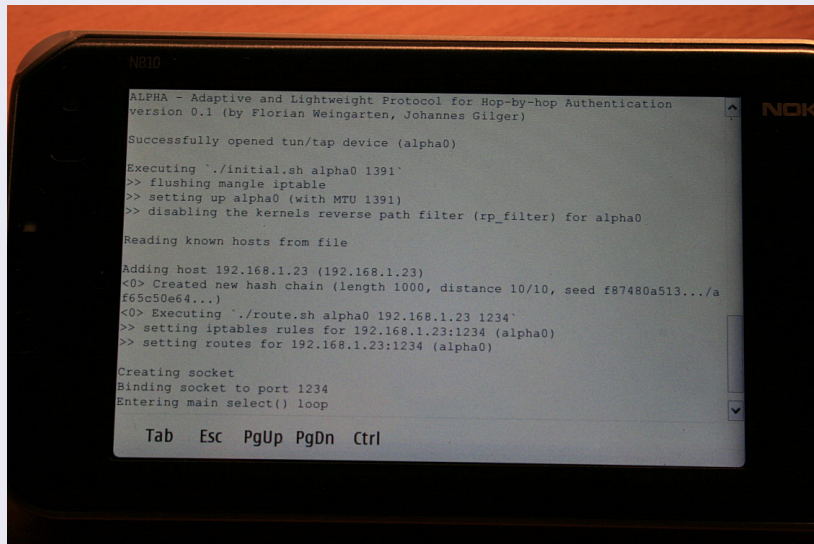
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"Screenshot"



The screenshot shows a terminal window on a Nokia N810 device. The terminal displays the output of the ALPHA program, which is an Adaptive and Lightweight Protocol for Hop-by-hop Authentication. The program version is 0.1, developed by Florian Weingarten and Johannes Gilger. The terminal output shows the successful opening of a tun/tap device (alpha0), the execution of an initial script, the flushing of the mangle iptable, the setting up of alpha0 with MTU 1391, and the disabling of the kernel's reverse path filter (rp_filter) for alpha0. The program then reads known hosts from a file, adds a new host (192.168.1.23), creates a new hash chain, and executes a route script. Finally, it sets up iptables rules and routes for 192.168.1.23:1234 (alpha0), creates a socket, binds it to port 1234, and enters the main select() loop. The terminal window has a scroll bar on the right and a status bar at the bottom showing keyboard shortcuts: Tab, Esc, PgUp, PgDn, and Ctrl.

```
N810

ALPHA - Adaptive and Lightweight Protocol for Hop-by-hop Authentication
version 0.1 (by Florian Weingarten, Johannes Gilger)

Successfully opened tun/tap device (alpha0)

Executing `./initial.sh alpha0 1391`
>> flushing mangle iptable
>> setting up alpha0 (with MTU 1391)
>> disabling the kernels reverse path filter (rp_filter) for alpha0

Reading known hosts from file

Adding host 192.168.1.23 (192.168.1.23)
<0> Created new hash chain (length 1000, distance 10/10, seed f87480a513.../a
f65c50e64...)
<0> Executing `./route.sh alpha0 192.168.1.23 1234`
>> setting iptables rules for 192.168.1.23:1234 (alpha0)
>> setting routes for 192.168.1.23:1234 (alpha0)

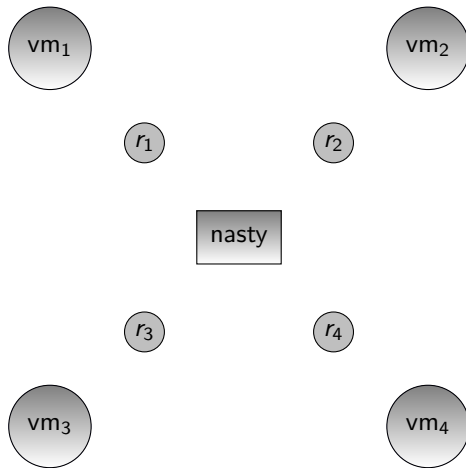
Creating socket
Binding socket to port 1234
Entering main select() loop

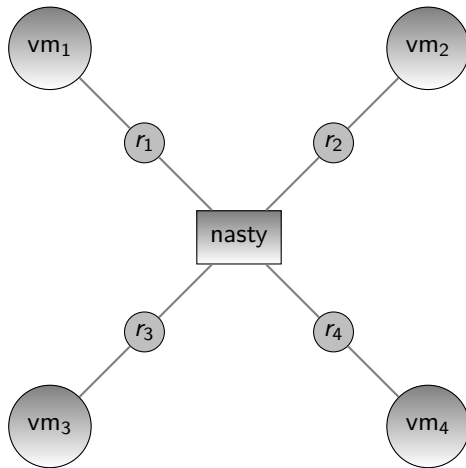
Tab  Esc  PgUp PgDn  Ctrl
```

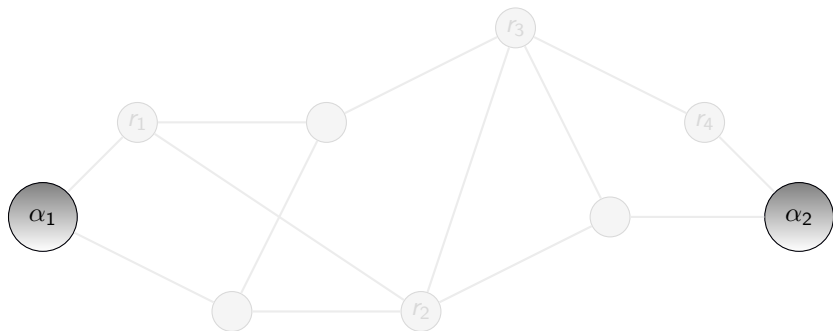
Prepare for the *ultimate alpha-experience!*

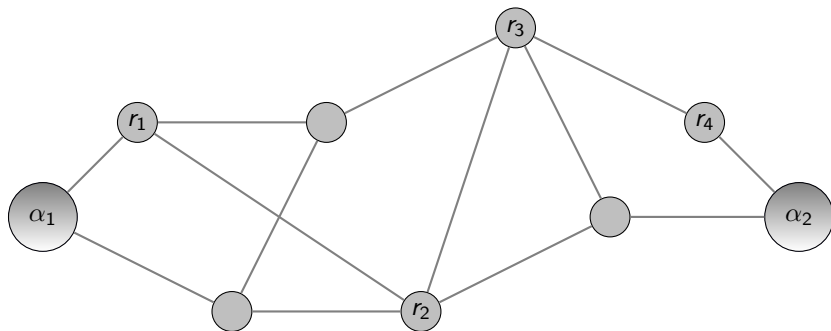
nasty

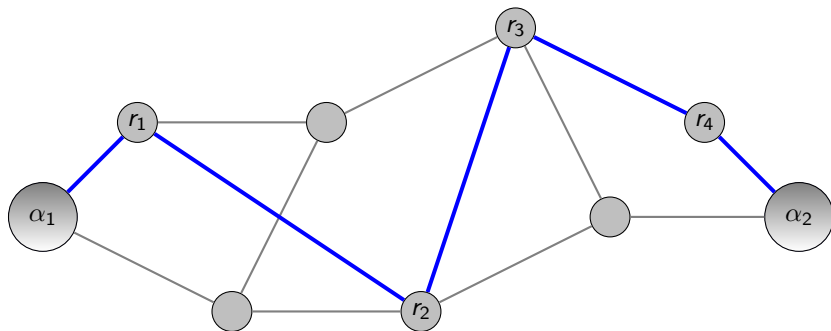


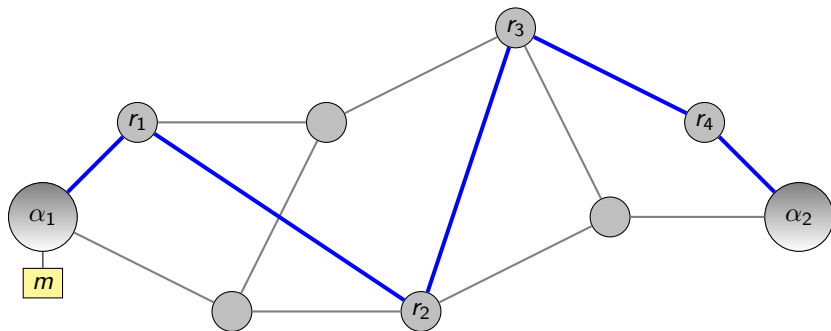


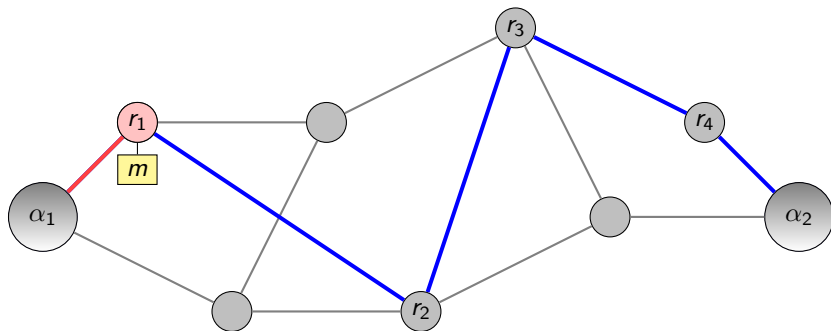


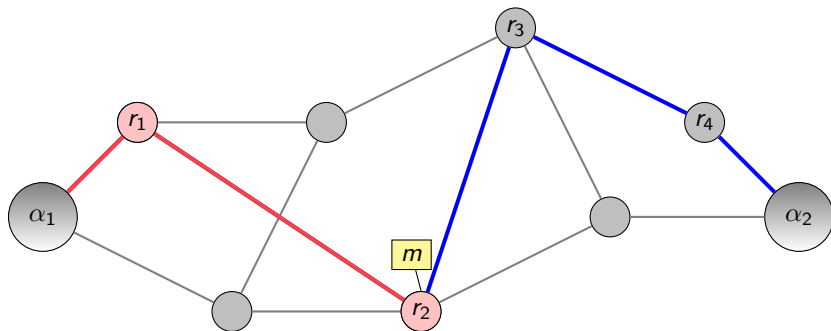


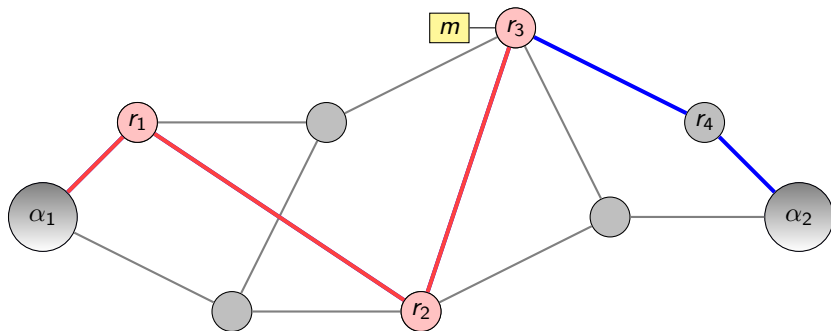


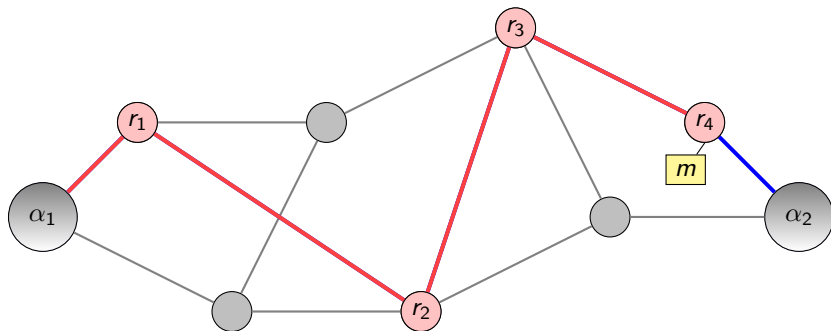


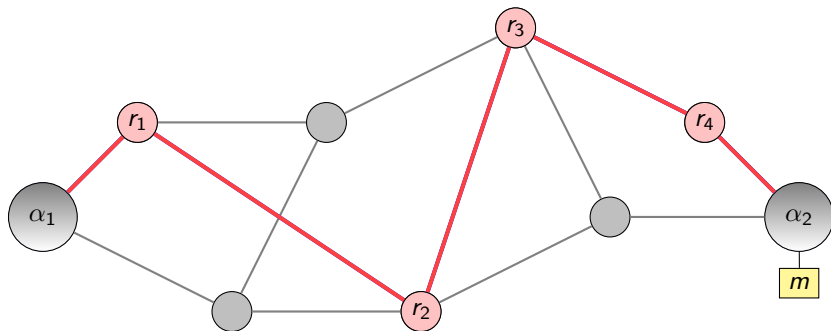


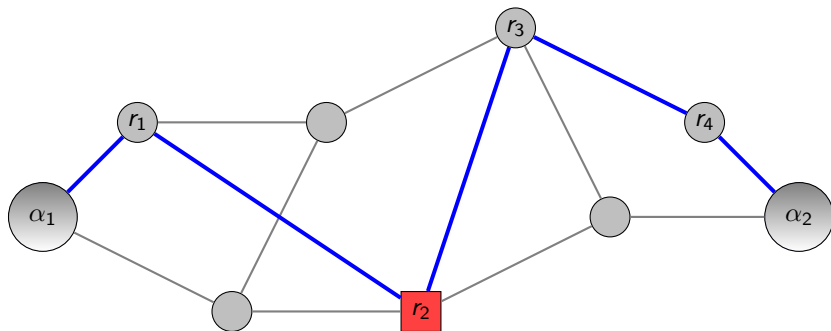


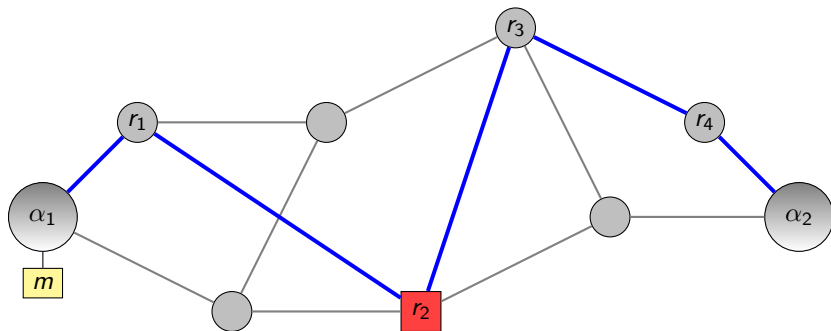


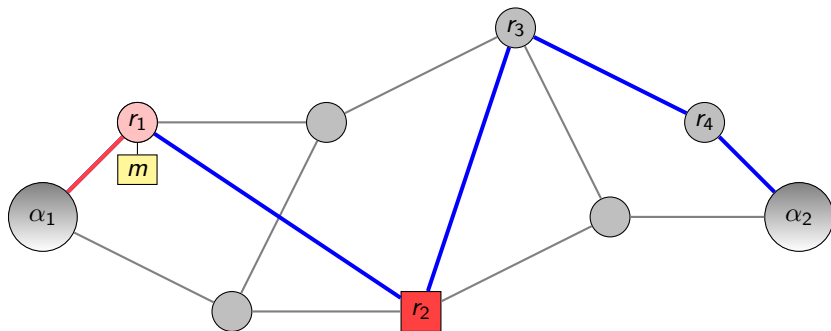


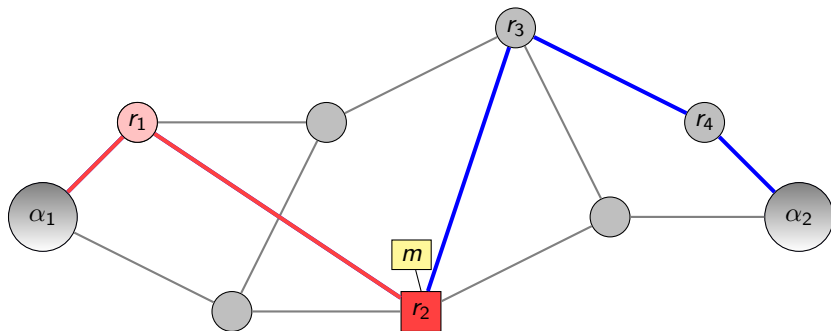


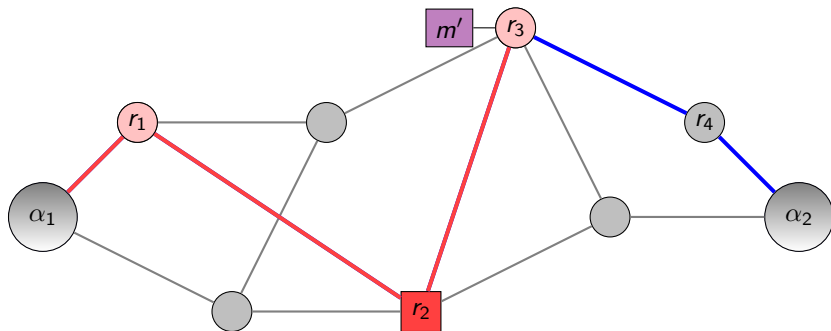


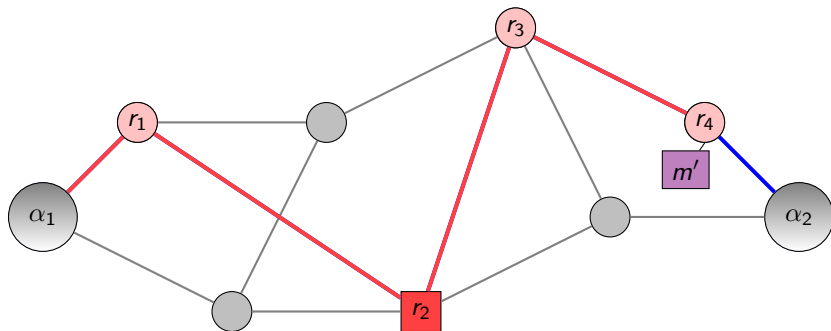


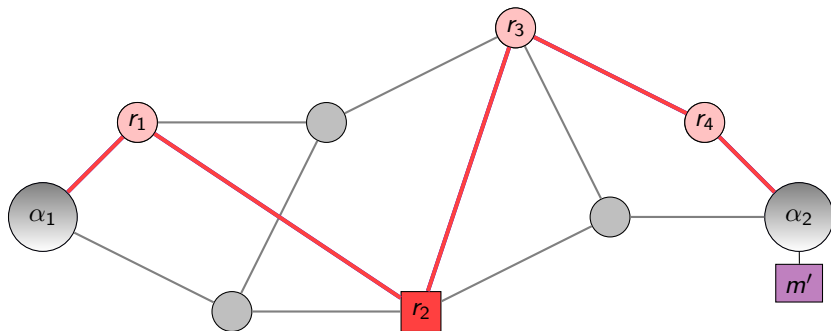


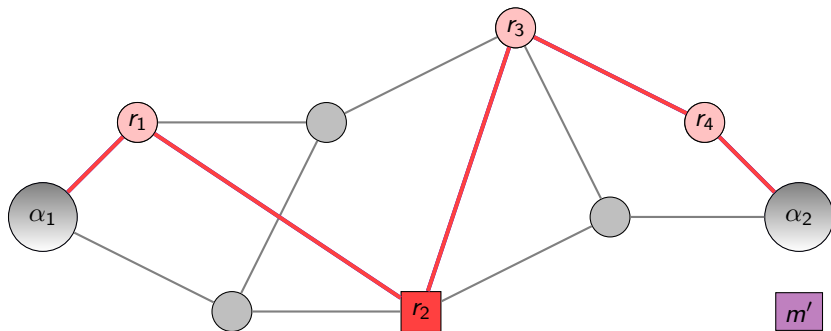


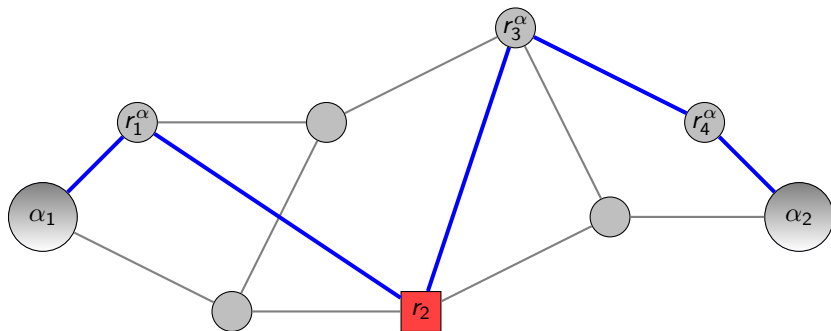


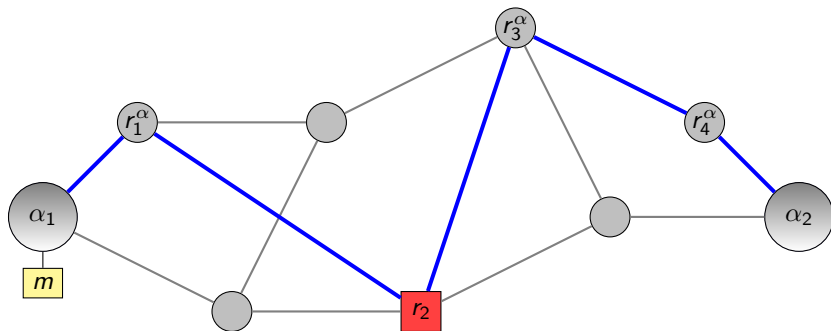


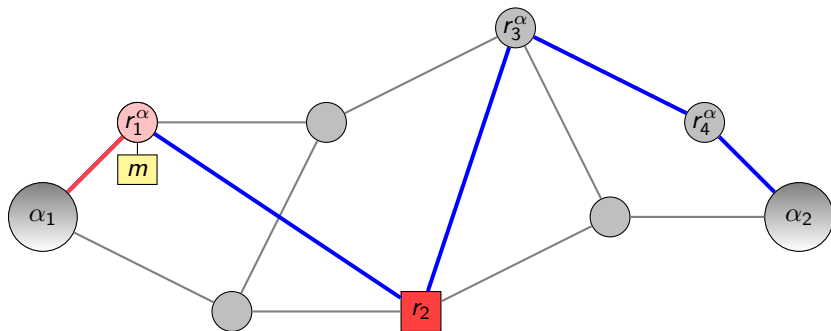


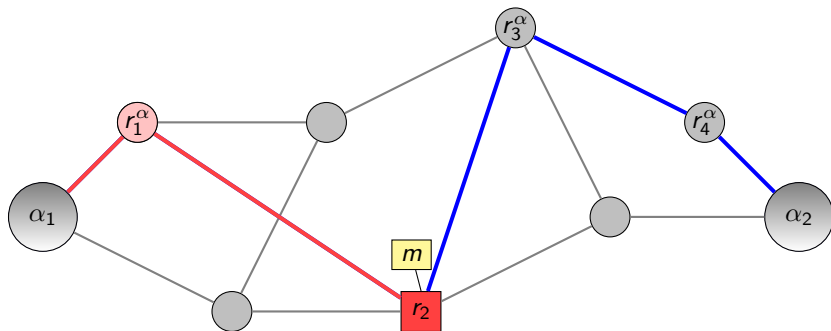


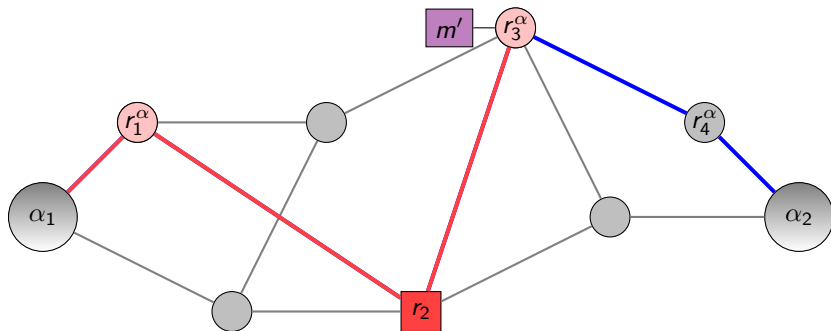


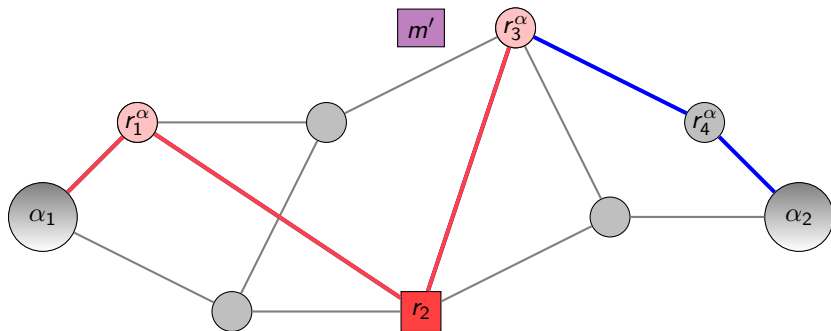












Let's get started