

LHCOPN status

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Recent achievement

PIC: link tested and ready for production.

NDGF: link now in use although not in the final configuration.

On-hold

SARA: still not using the LHCOPN link.

RAL: still using static routing.

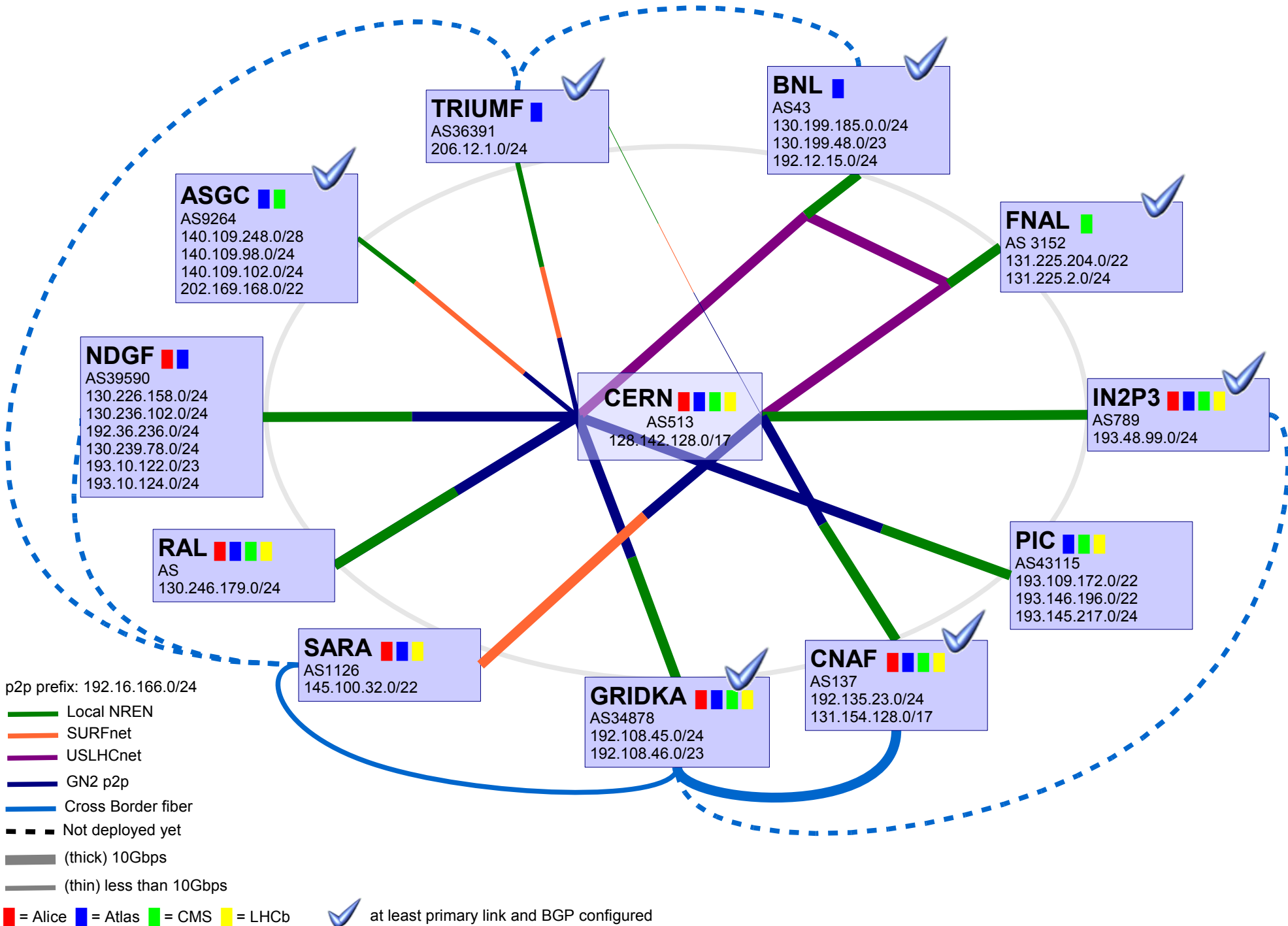
GRIDKA-SARA: direct link provisioned but not used yet.

Upcoming



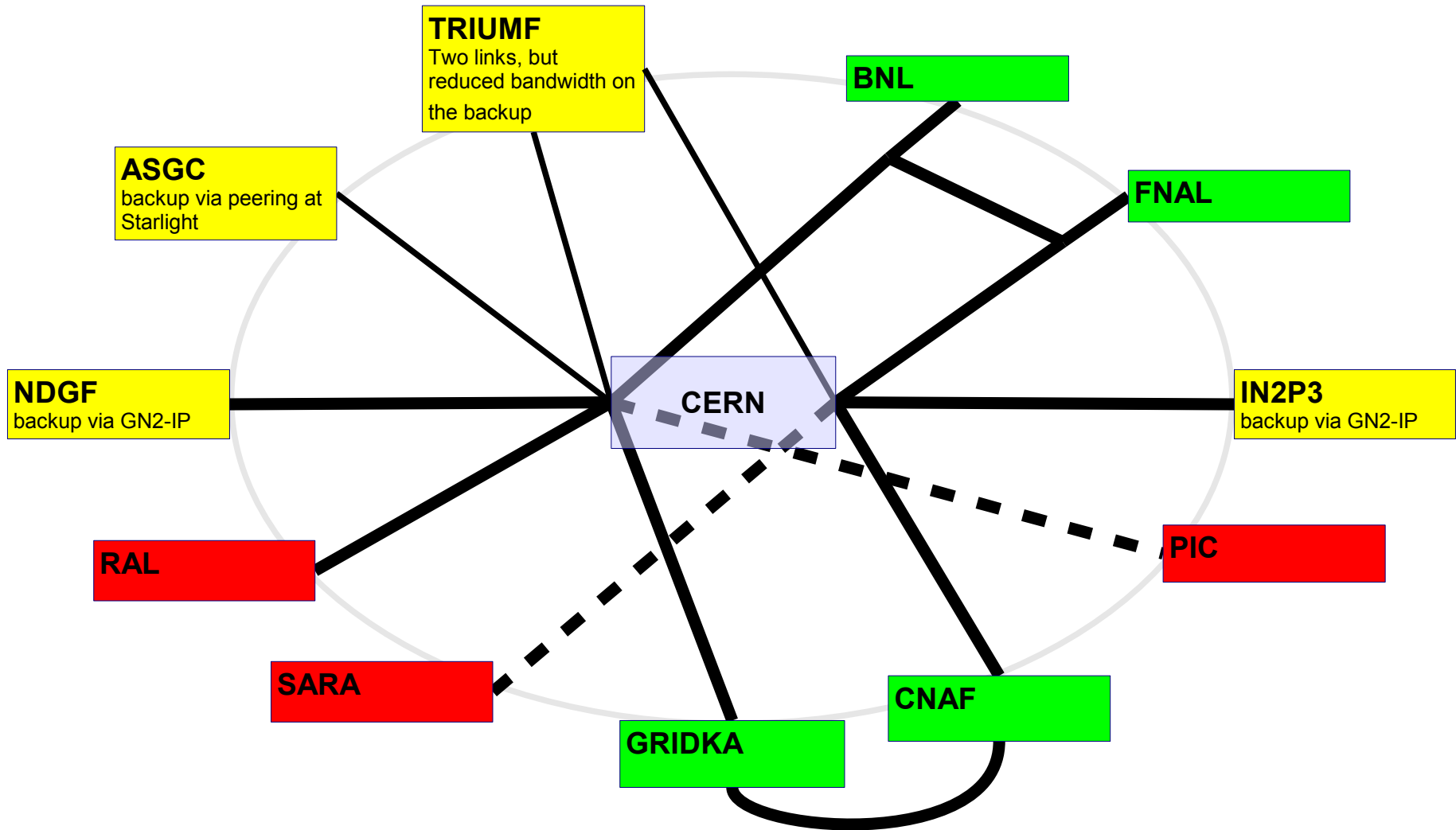
ASGC: upgrade of the main link to 10Gbps

Current Status



LHCOPN: backup connectivity

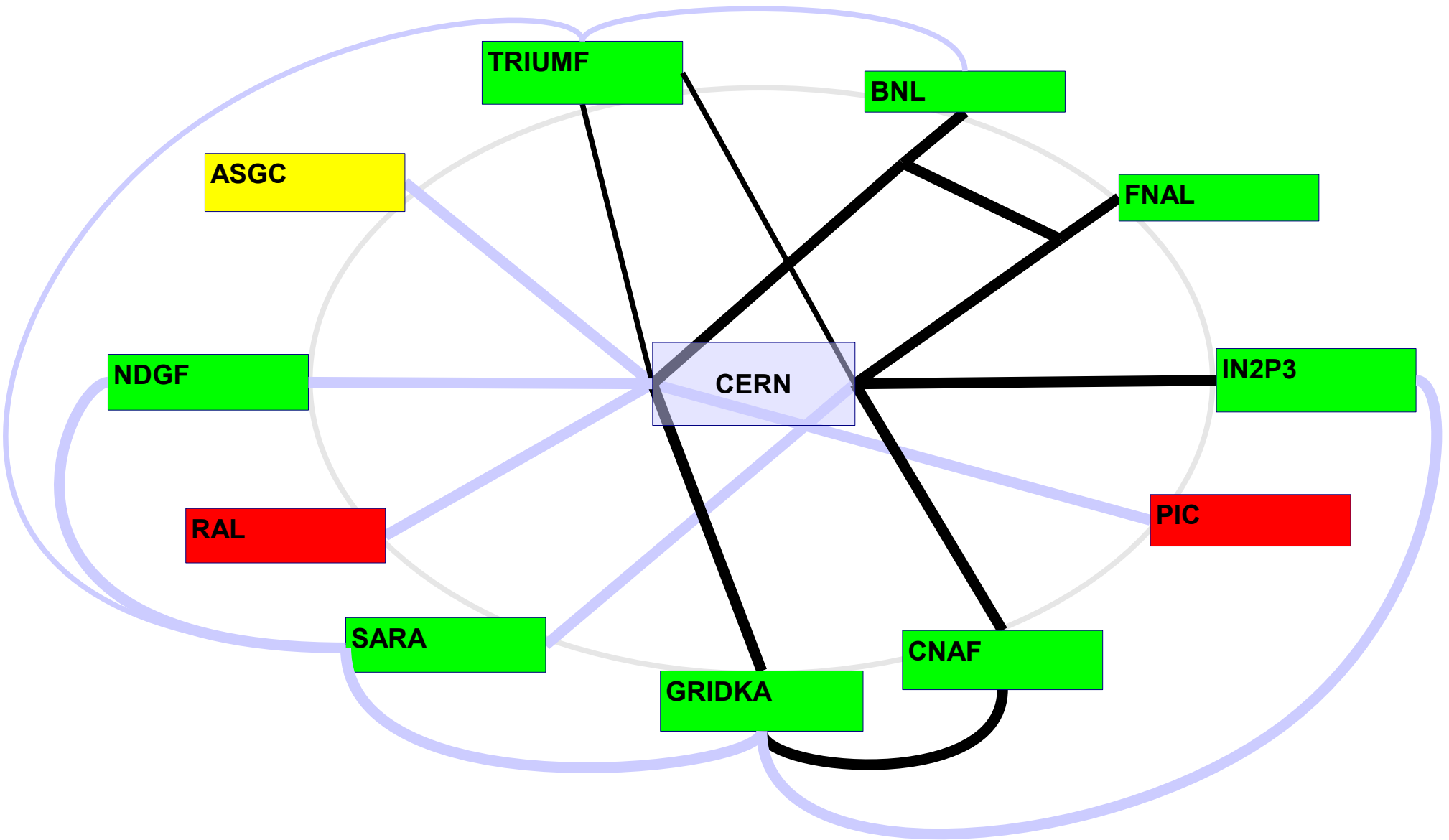
Backup: current status



--- not in use yet

■ = No backup ■ = Good backup ■ = Weak backup

Upcoming



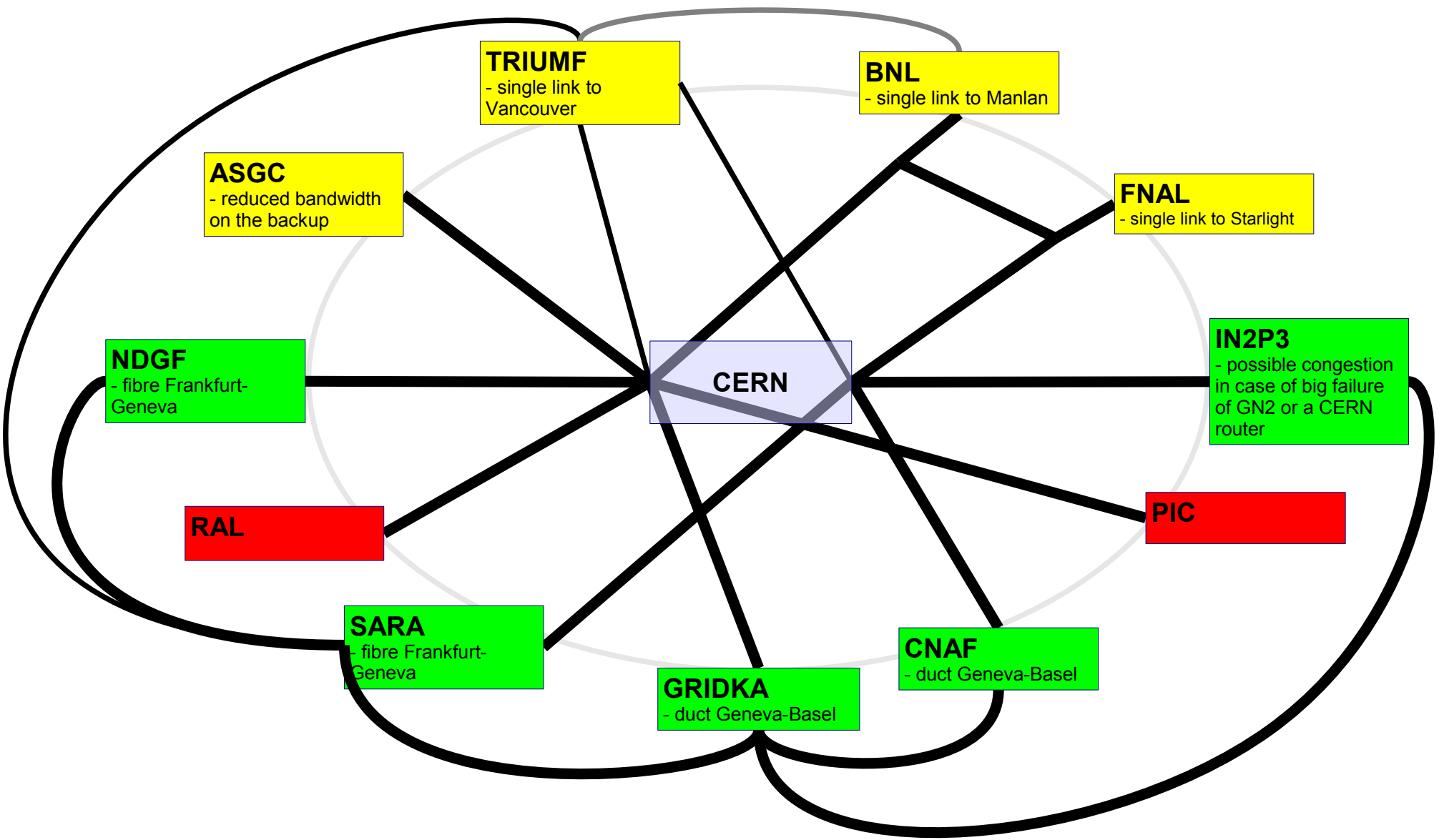
— upcoming links

■ = No backup ■ = Good backup ■ = Weak backup

Weaknesses

- Most of the sites have a single router that connect to the LHCOPN
- Few primary-backup link pairs share the same fibre/duct

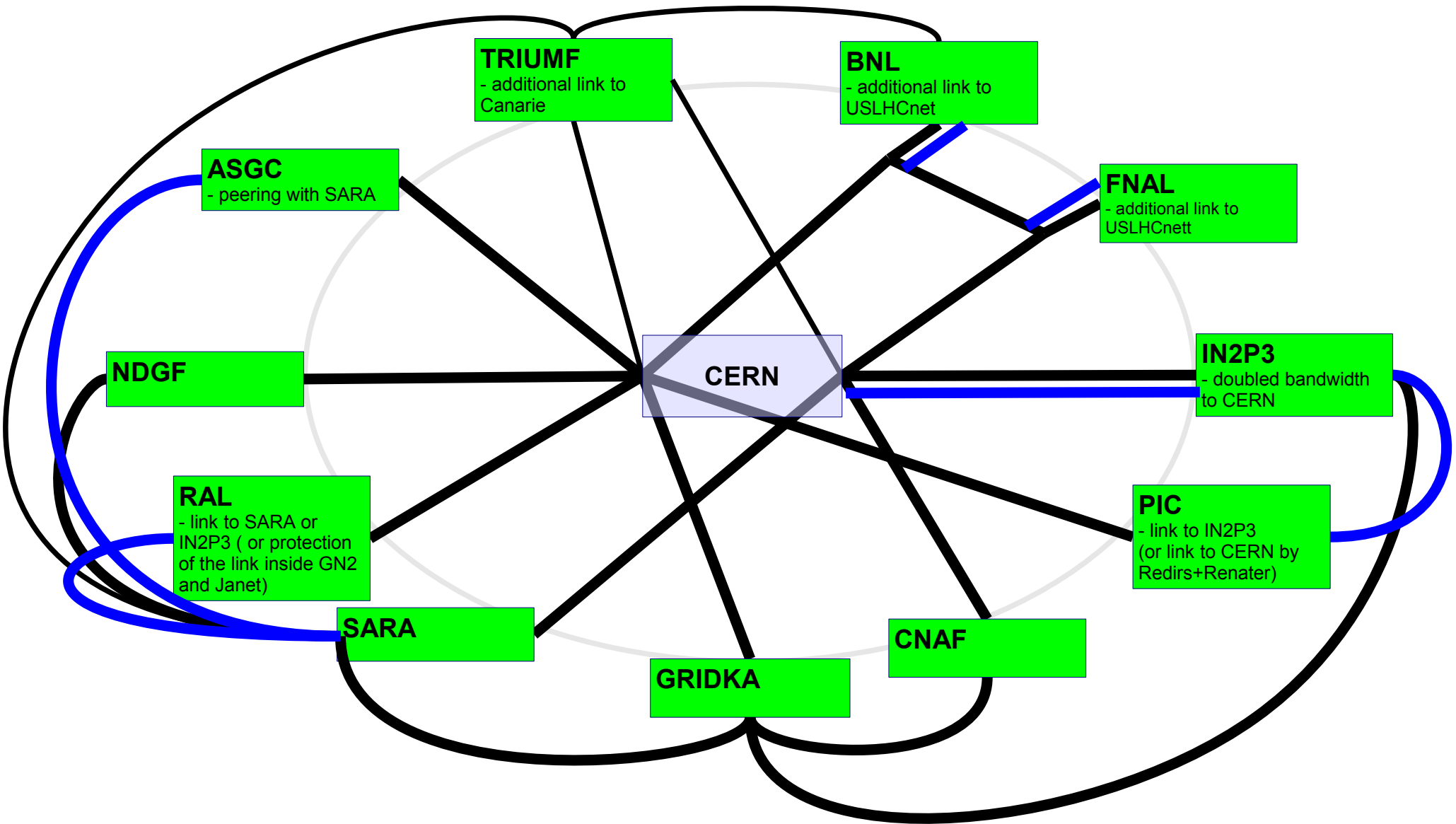
Weaknesses



Improvements

- Fibres path diversity
- L1 protection of the links inside the carrier networks
- Thicken the mesh [next slide]

Thickened mesh



— desirable links

■ = No backup ■ = Good backup ■ = Weak backup

Thickened mesh

This thickened mesh is effective only if:

- all the Tier1s use BGP for the routing in the LHCOPN (*old pre-requisite*)
- all the Tier1s grant transit to any other Tier1 (*already agreed at the last LHCOPN meeting*)

Backup checkup

When?

- Every X months during a maintenance window?
- Whenever a site change something in their connection to the LHCOPN?

How?

- Little impact: disconnect every link, one at a time.
- Major impact: reboot/disconnect one CERN LHCOPN router at a time

Who?

- Each Tier1 verifies its own backup at its best convenience (in agreement with the involved T1s)?
- CERN?
- E2ECU?
- ENOC?