Karlsruher Institut für Technologie

Upgrade GridKa DFN-Uplink

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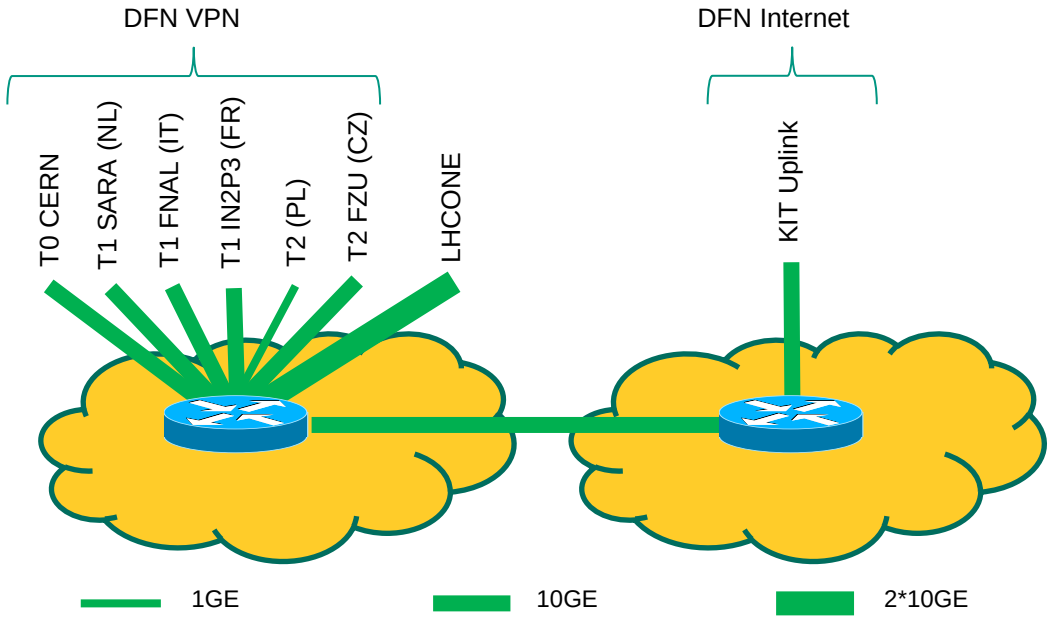
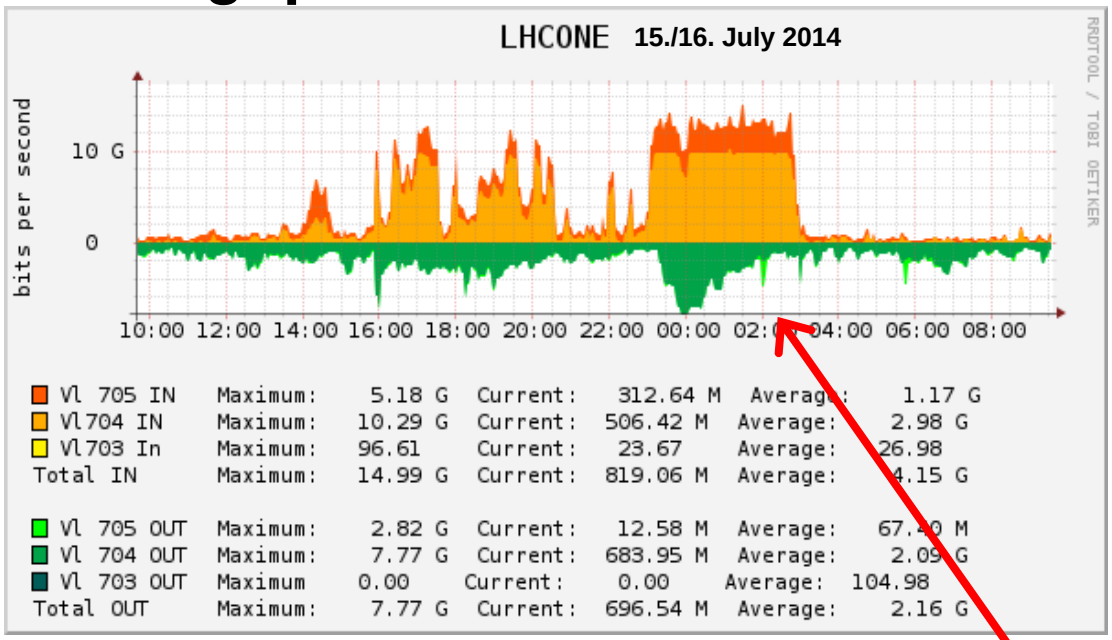
STEINBUCH CENTRE FOR COMPUTING - SCC

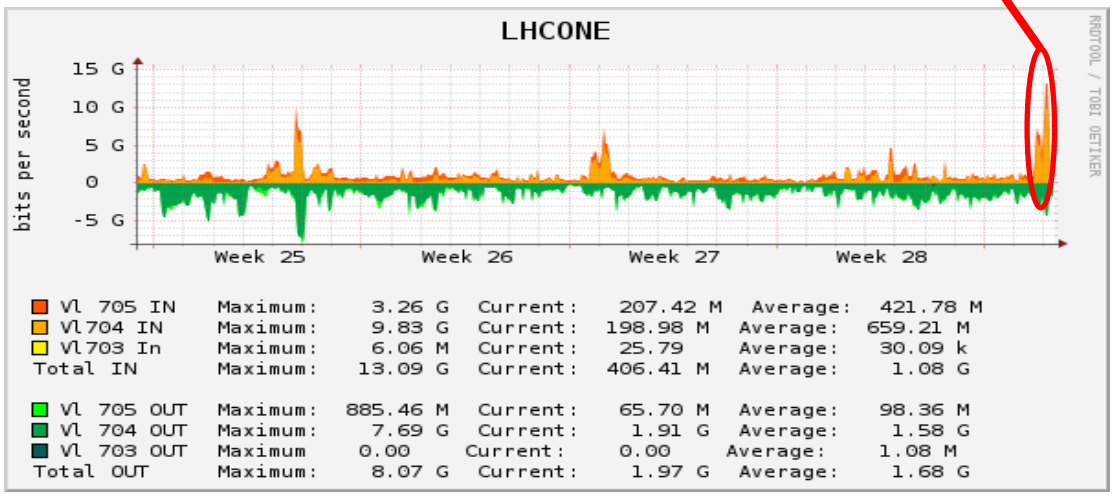
Status Quo GridKa connections

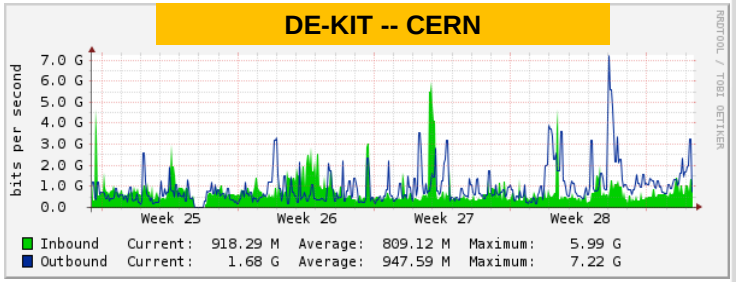


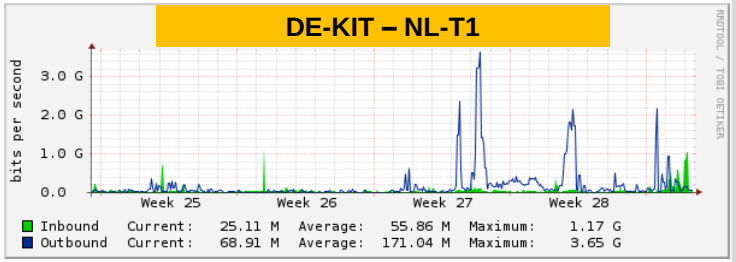
- Contra:
  - Dedicated links to Tier-x
    - Clippings
    - no synergy effect between dedicated segregated point-to-point links

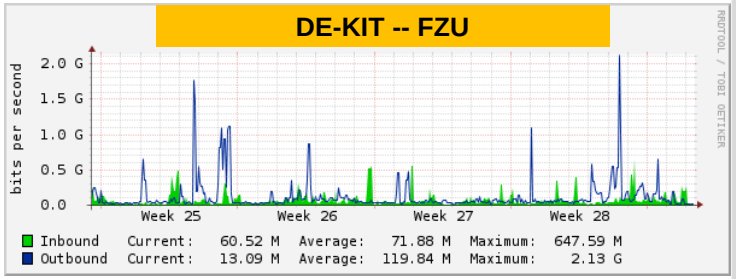
throughput statistics

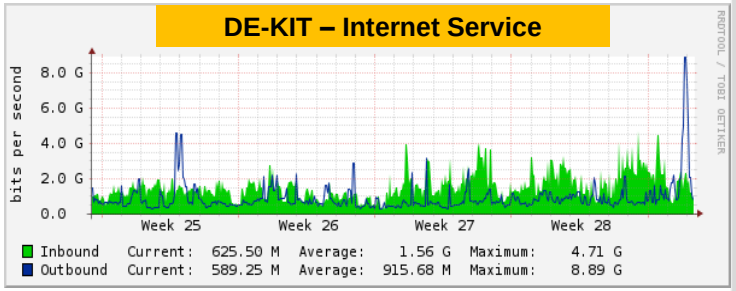




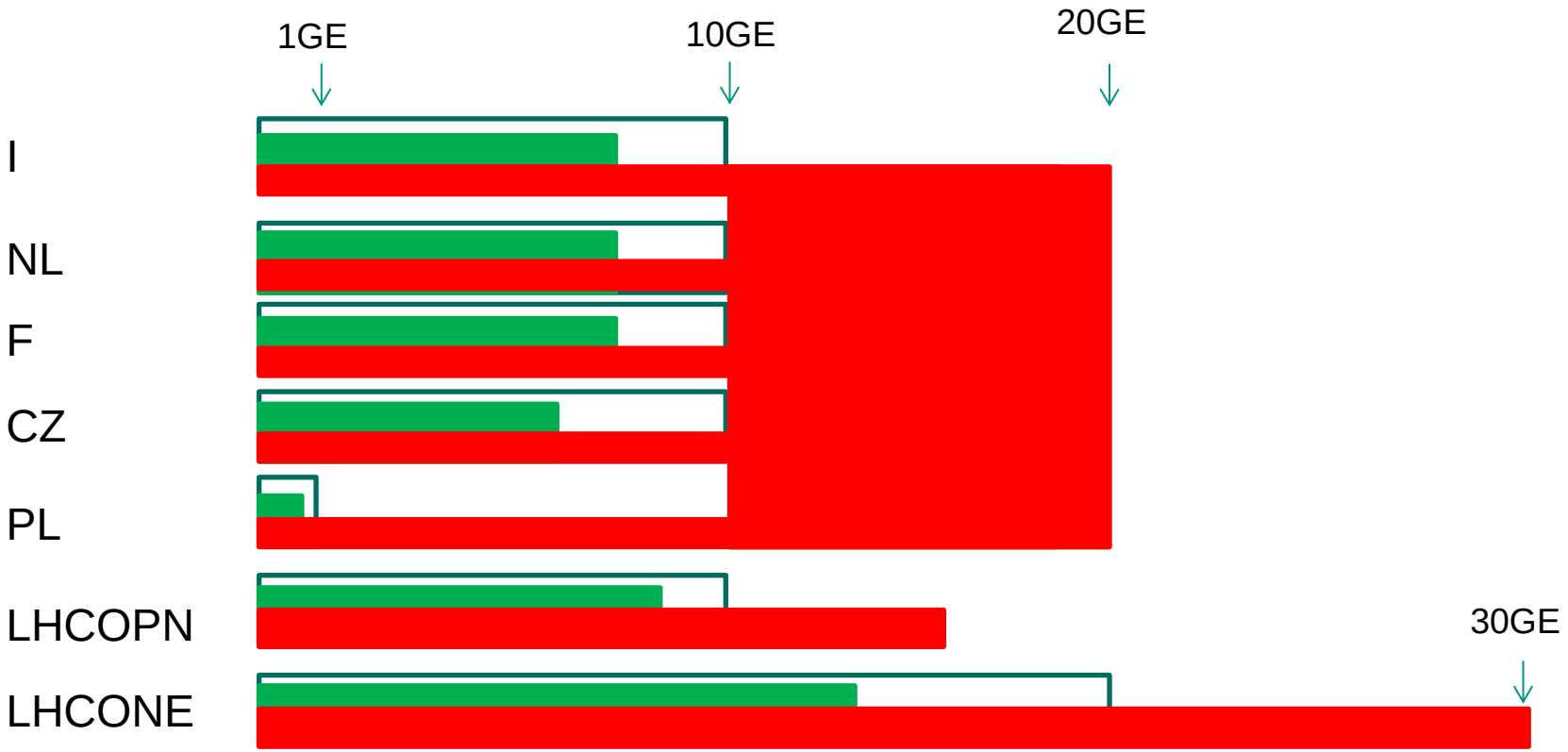








Usage and future projection



current usage (2014)

estimated usage projection (2015 and bejond)

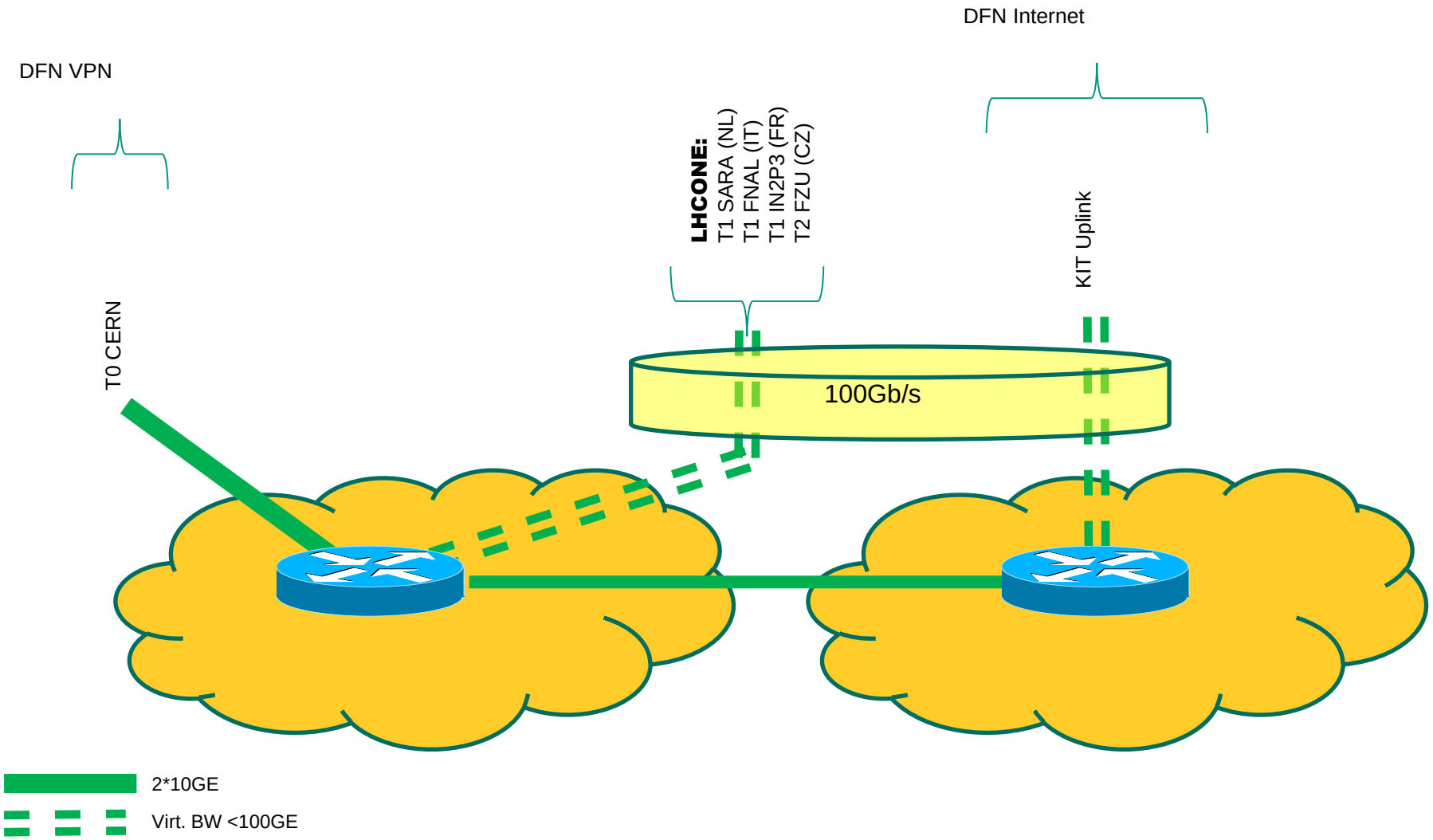
Upgrade scheme

- Migration of dedicated connections to tier-1 and tier-2 sites to LHCONE
  - Tier-1: IT-INFN-CNAF(I), NL-T1 (NL), FR-CCIN2P3 (FR),
  - Tier-2: FZU (CZ), Polisch tier-2 centers (PL)

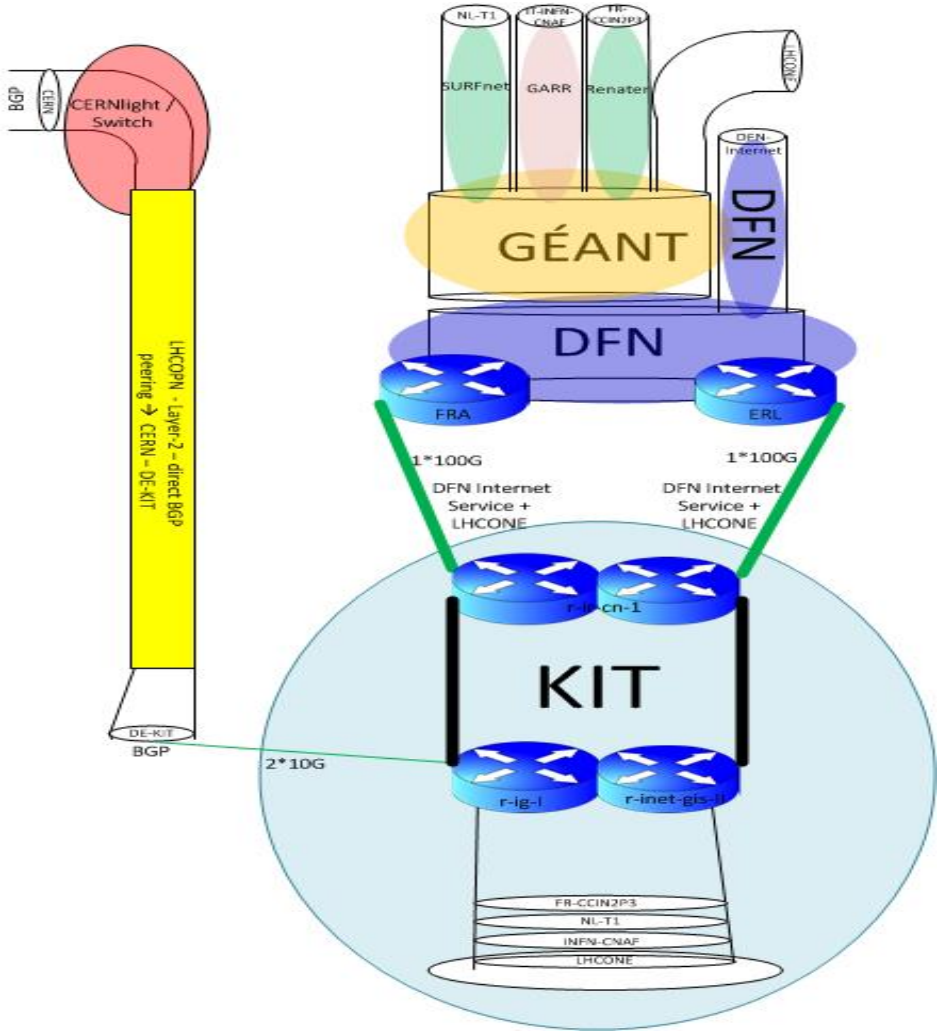
- Merge all dedicated links into the 100G link(s), except the LHCOPN link to CERN
  - LHCONE + KIT-Uplink
  - Total capacity of 100Gb/s

- synergy effect of utilizable bandwidth
- Cushioning of peak utilization

Upgrade GridKa + KIT

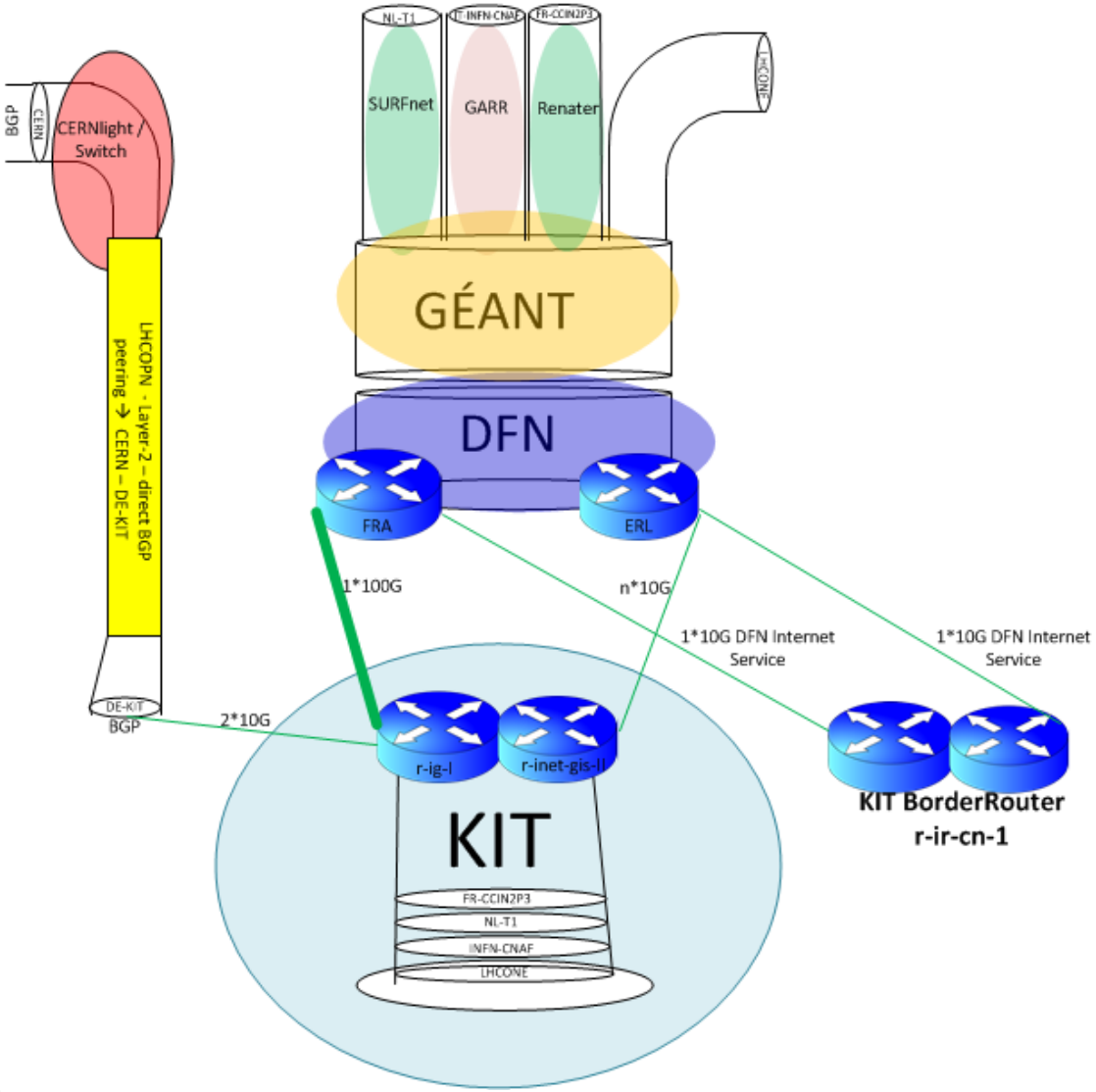


Planning of Upgrade



- Merging of all links (except 2*10G to CERN) in two 100G links
  - Redundant
  - Traffic shaping to total capacity of 100Gb/s
- Migration of dedicated T1 and T2 connection to LHCONE
  - T1 to T1 traffic and
  - T0 backup link via neighboring T1 center

First 100G step towards production deployment



- (GridKa) DE-KIT:
  - 2 * 10G to CERN (LHCOPN)
  - 1 * 100G to DFN-FRA (LHCONE) traffic shaping symmetric to 10G links to DFN-ERL
  - n * 10G to DFN-ERL
  - The cbf connections
    - DE-KIT – FR-CCIN2P3
    - DE-KIT – IT-INFN-CNAF
    - DE-KIT – NL-T1 (?)

  are migrating to LHCONE

- KIT:
  - 2 * 10G Internet Service

Merging of links @ DE-KIT to LHCONE

- T1-T1 CBF: DE-KIT – FR-CCIN2P3 to LHCONE ✓
- T1-T1 CBF: DE-KIT – IT-INFN-CNAF to LHCONE ✓
- T1-T1 CBF: DE-KIT – NL-T1 to LHCONE ?
- T0-T1 backup link via LHCONE ?

- T2-T1 CBF: DE-KIT – Poznan → dismantled end of 2014 ?
- T2-T1: DE-KIT – FZU (Prag) → dismantled end of 2014 ?

thanks for your attention

Questions