



# LHCOPN Operations: Yearly review

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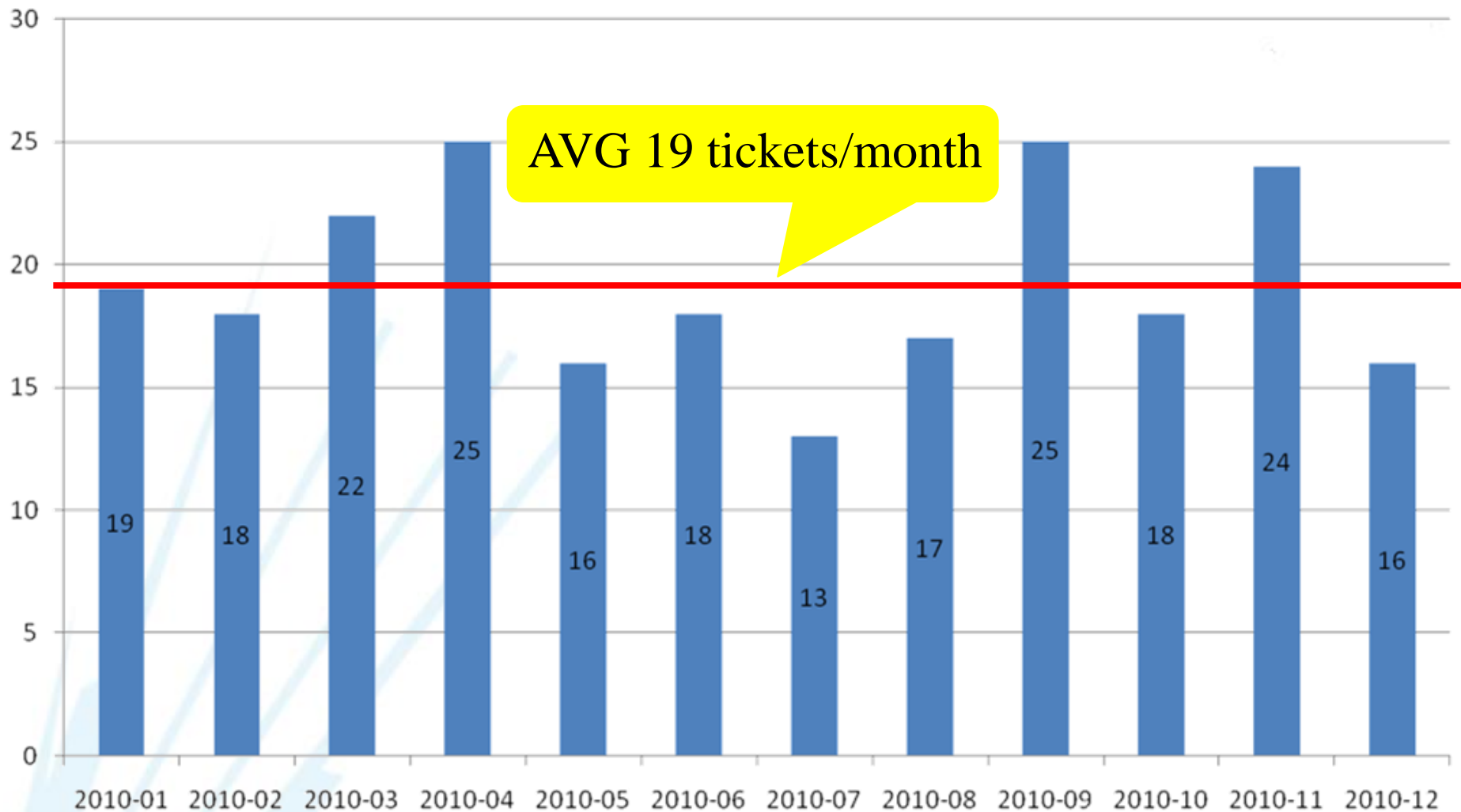
**WLCG**

Worldwide LHC Computing Grid



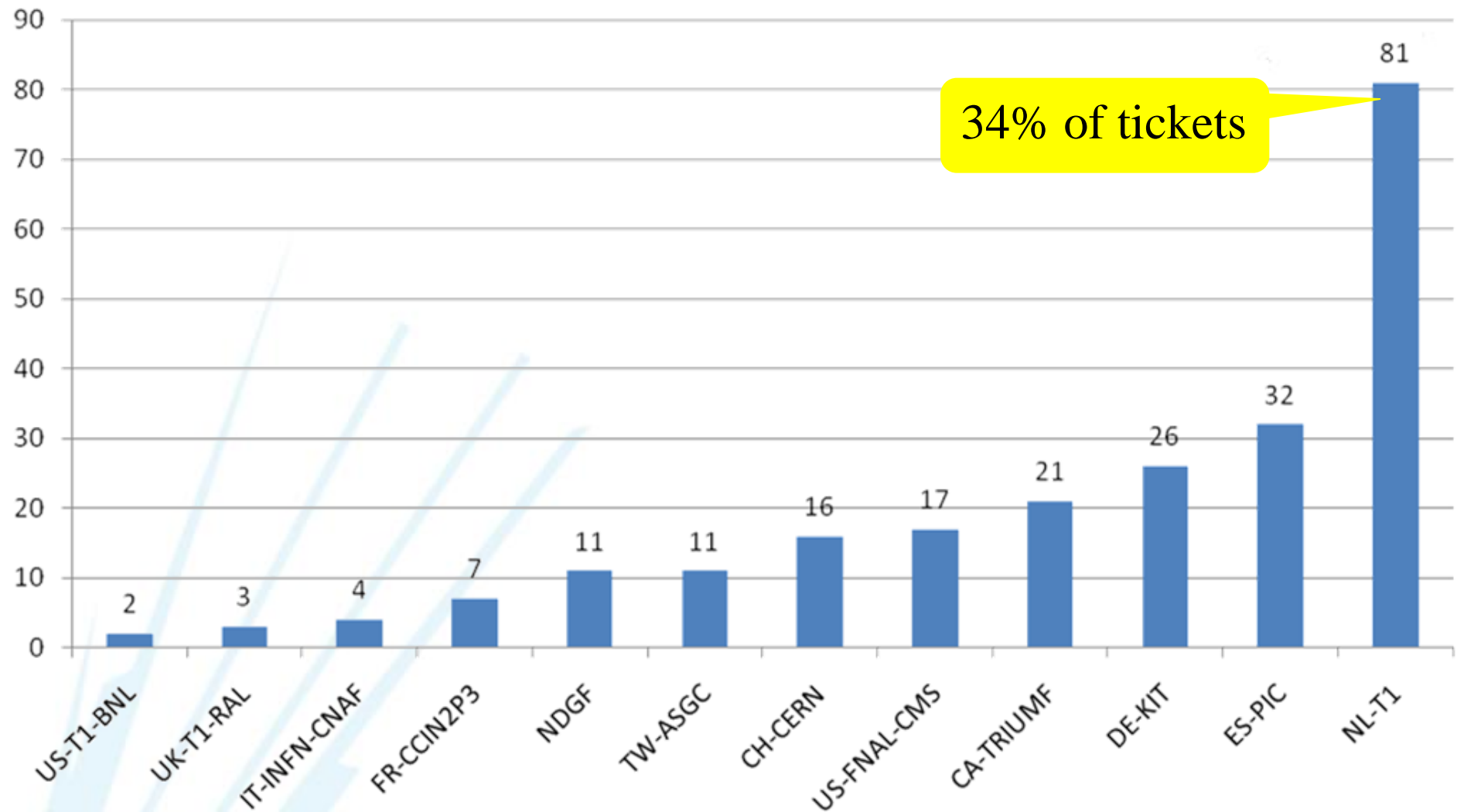
lrfu  
cea  
saclay

# Tickets per month

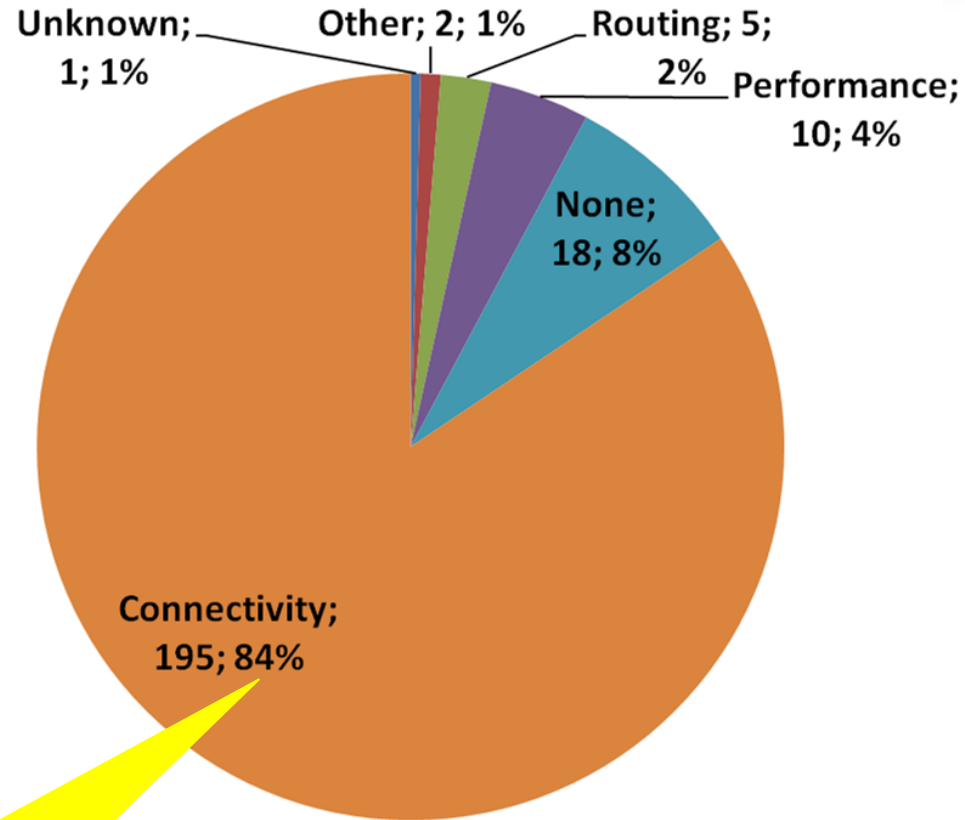
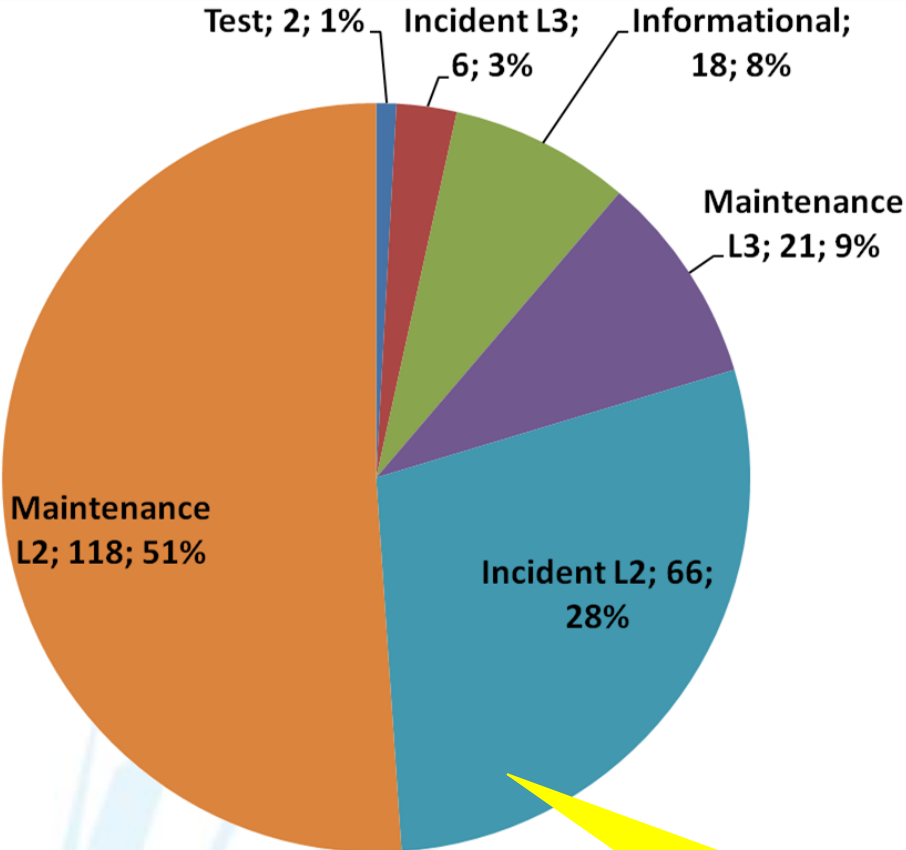


231 tickets in 2010  
280 tickets in 2009

# LHCOPN tickets' ownership

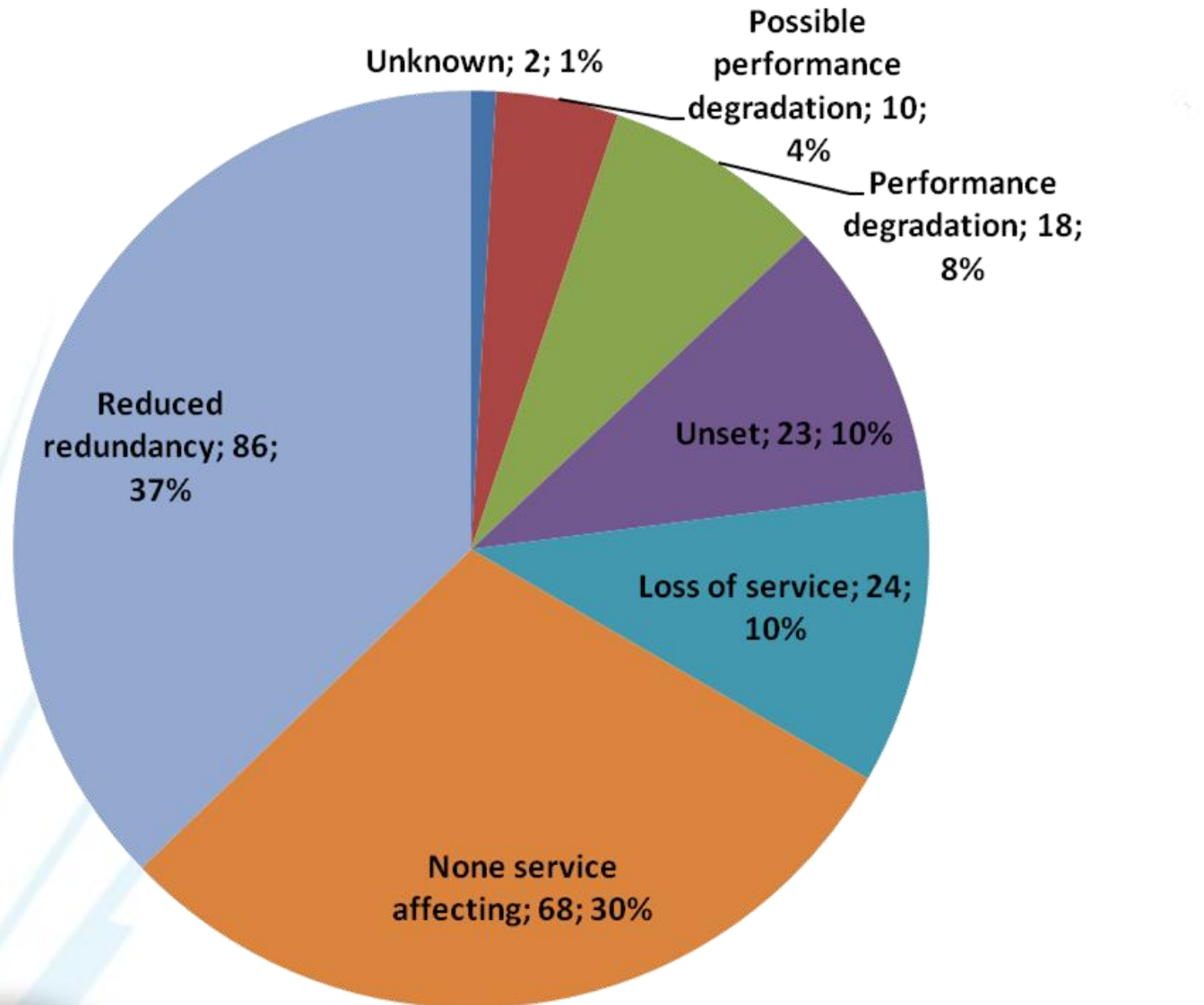


# Breakdown per category and kind of problem



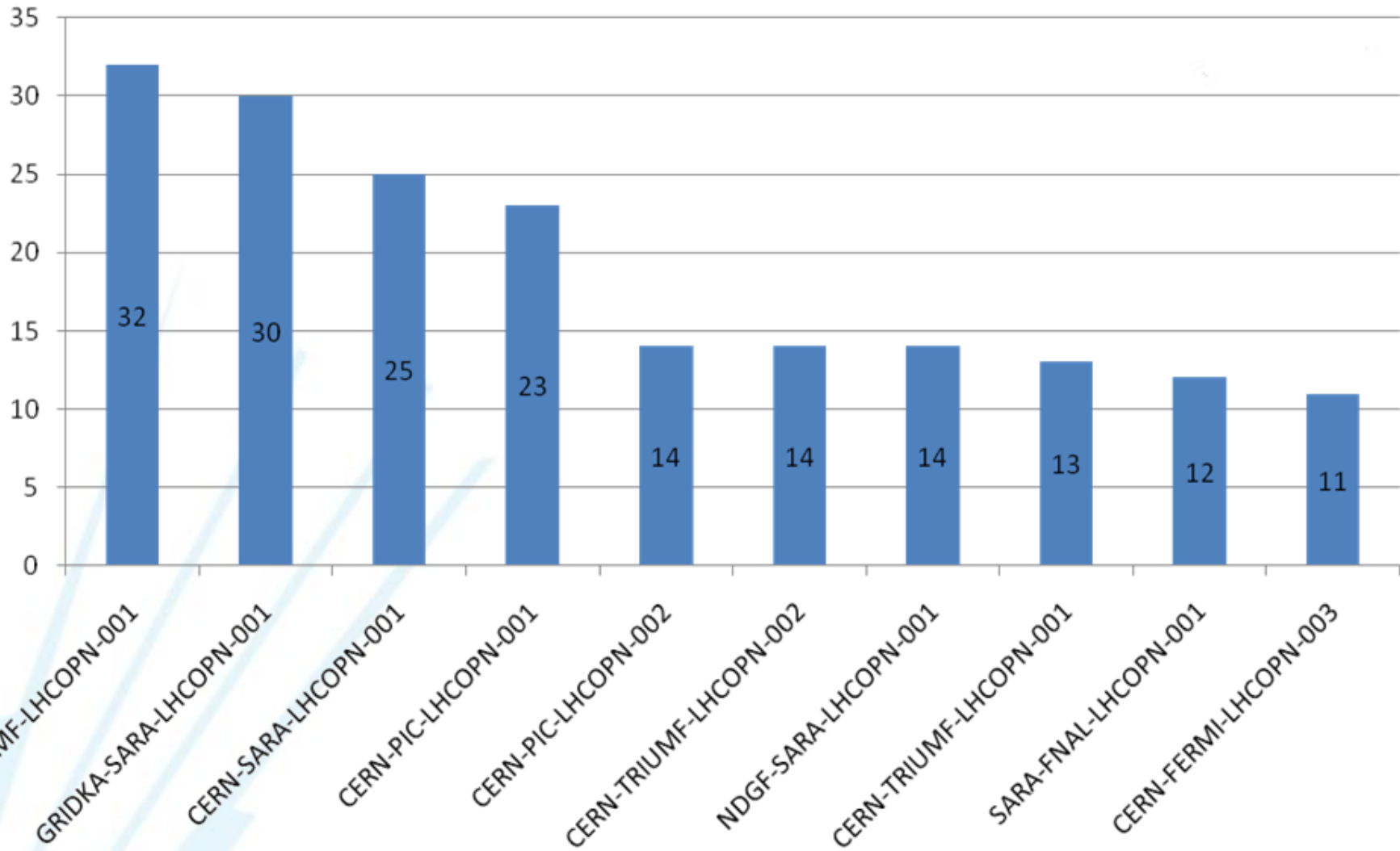
80% carrier issues

# Service impact reported



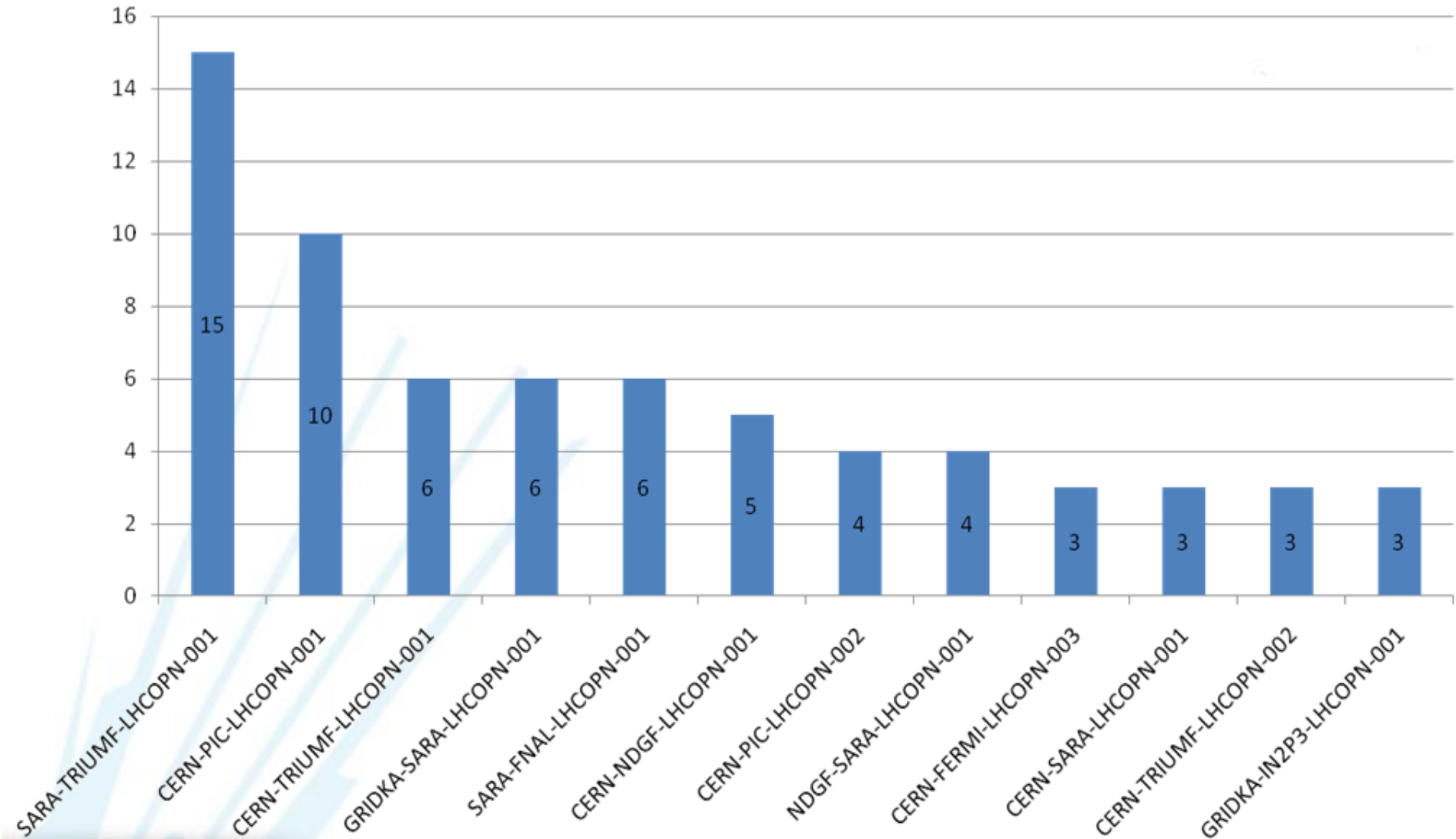
At least 67% of events have no service impact

# Top 10 links Ids involved in tickets

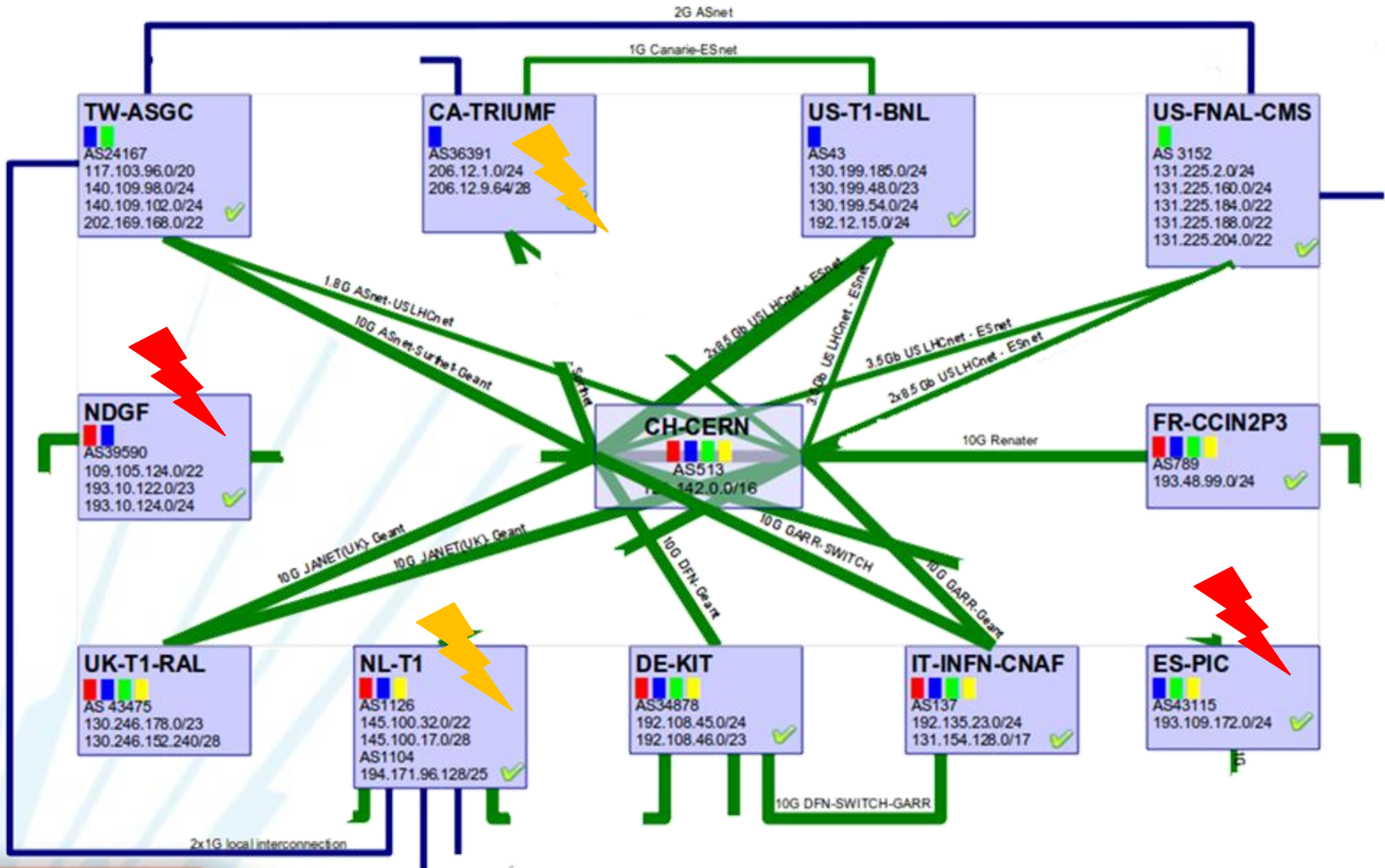




# Top 10 link Ids involved in L2 incident tickets



# Excellent redundancy and diversity

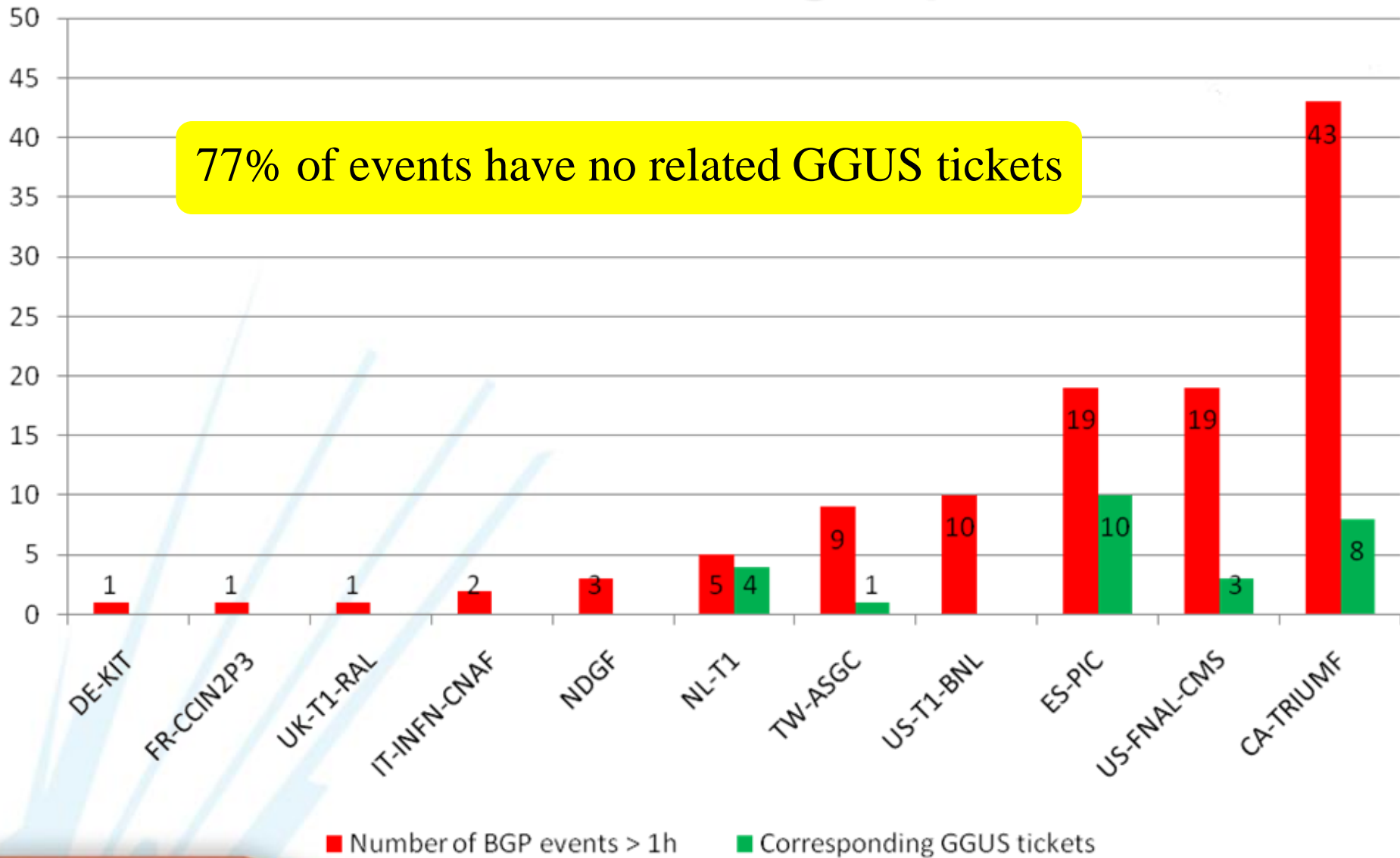


Situation in simultaneously losing 12 previous links

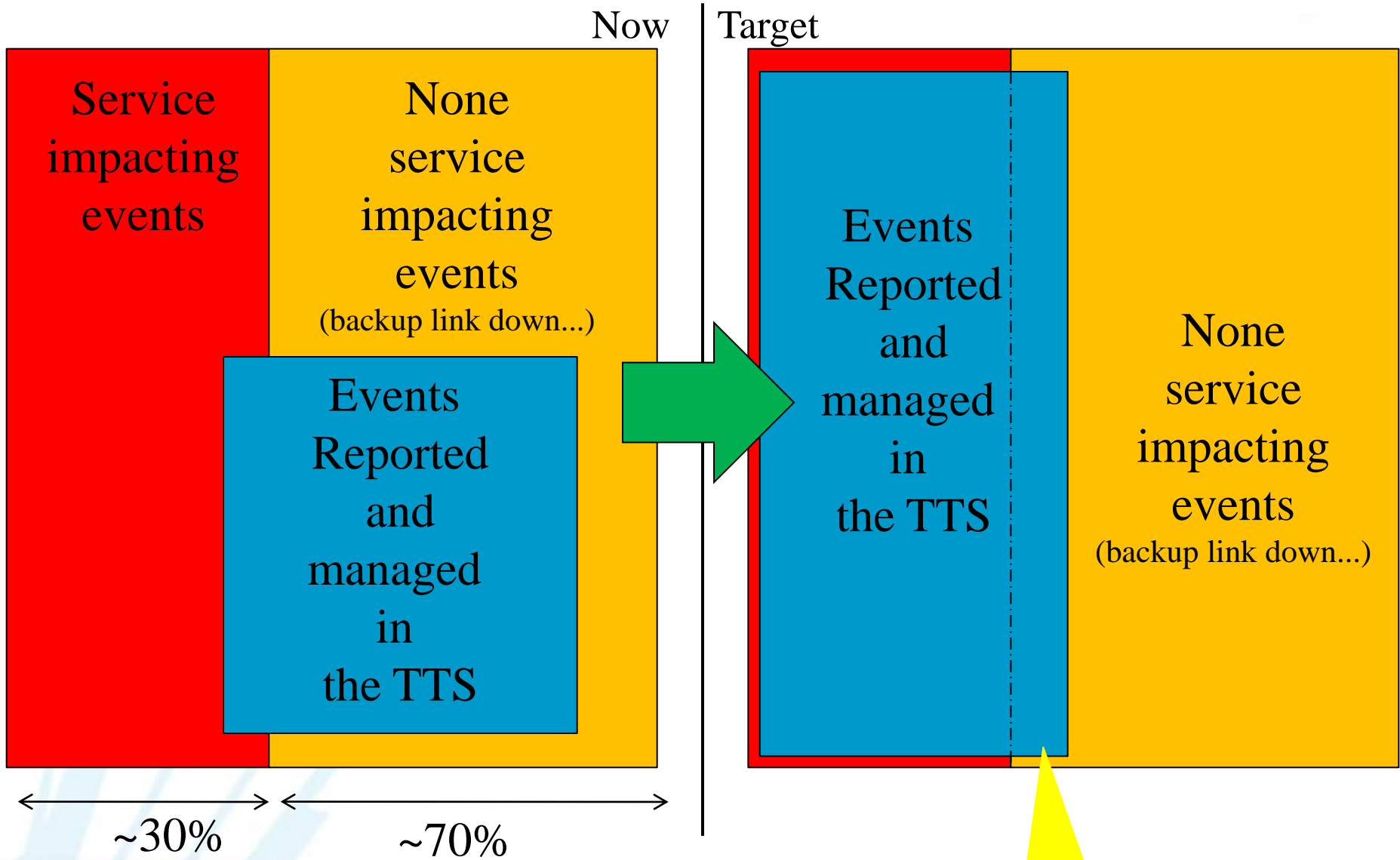


# Correlation Monitoring / Operations

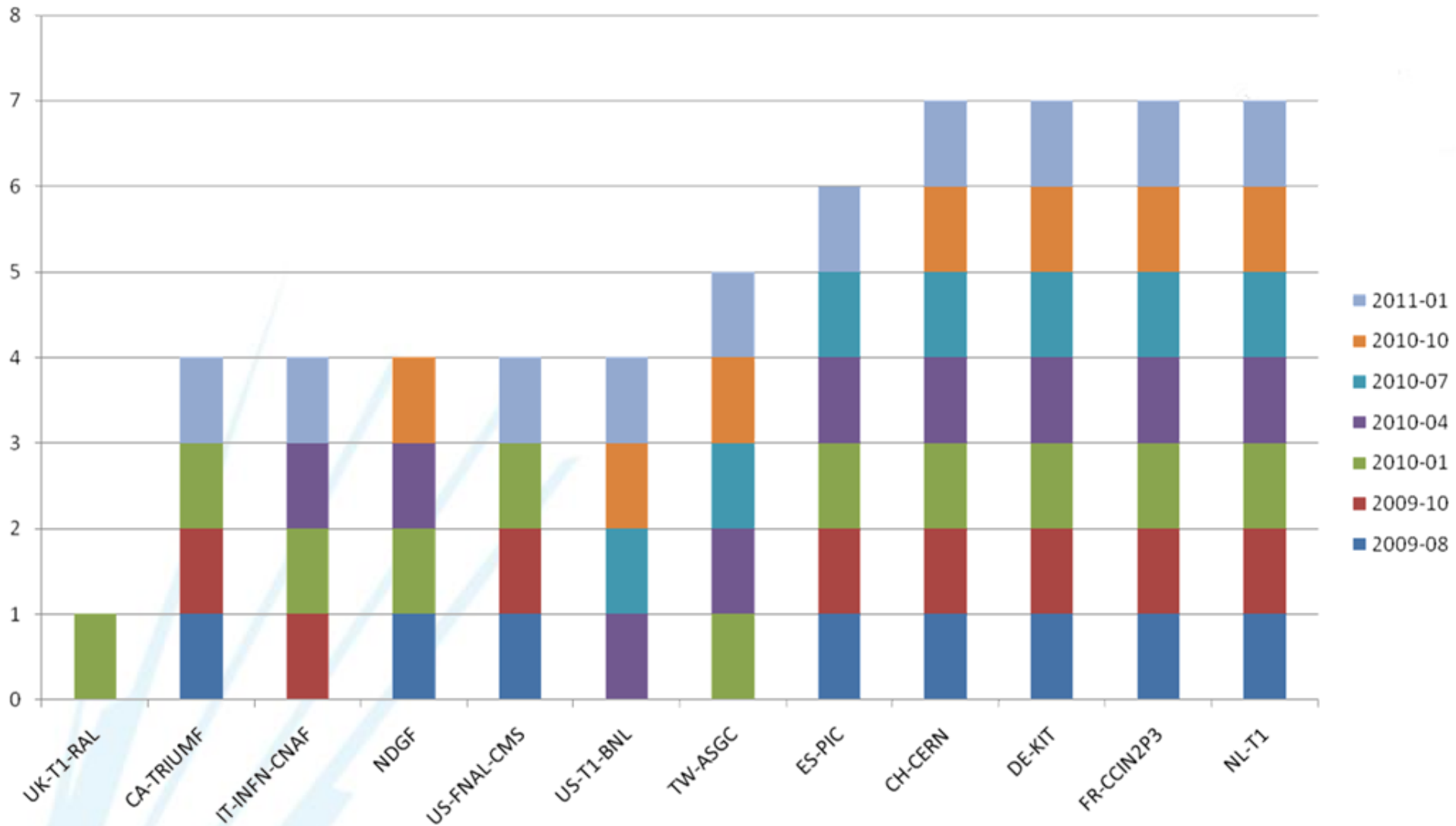
77% of events have no related GGUS tickets



# Focus on useful events



# Attendance to the quarterly LHCOPN Ops phoneconf



# LHCOPN operations: Status

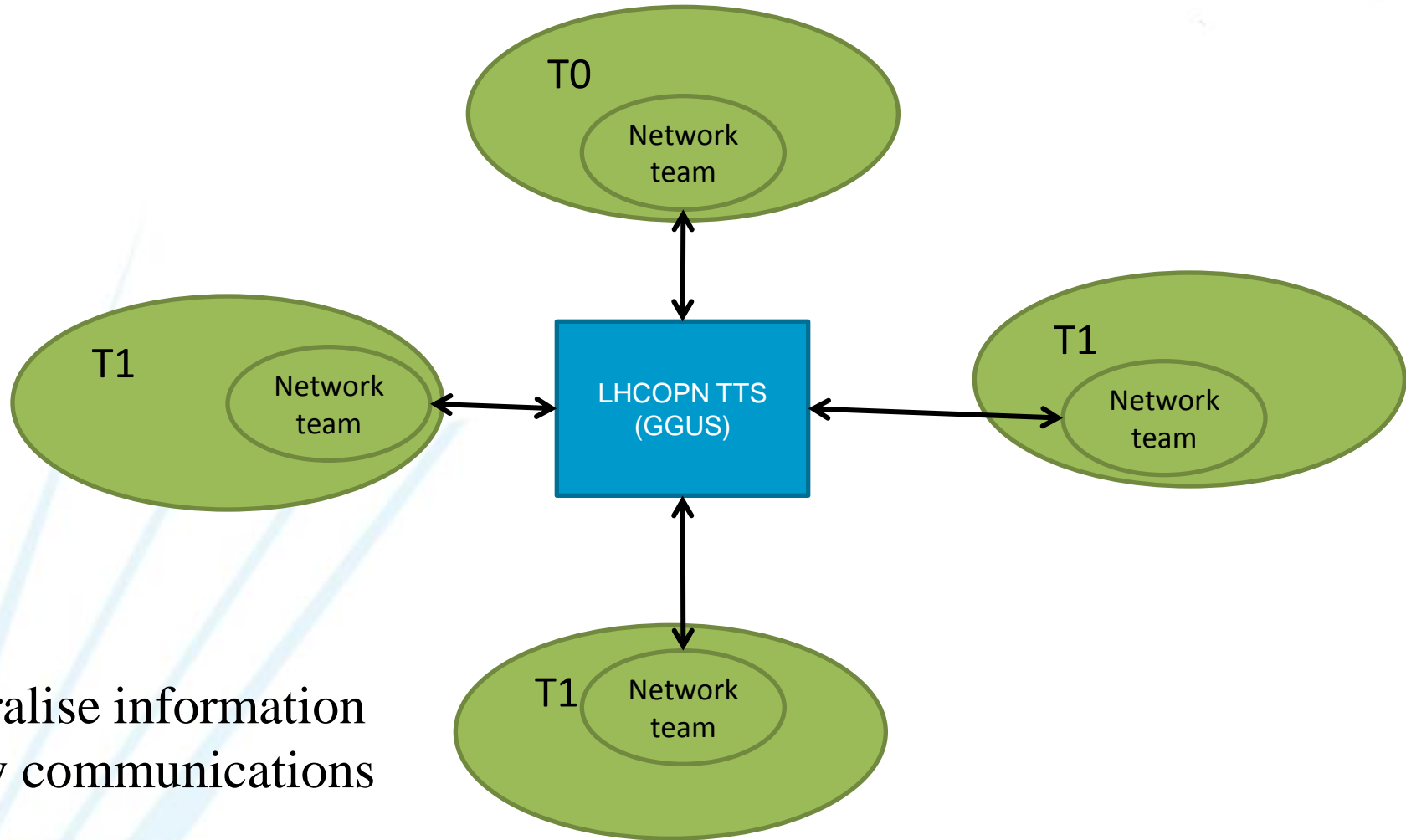
## ■ Good

- Process and tools implemented and agreed
- Clear improvement on documenting

## ■ Bad

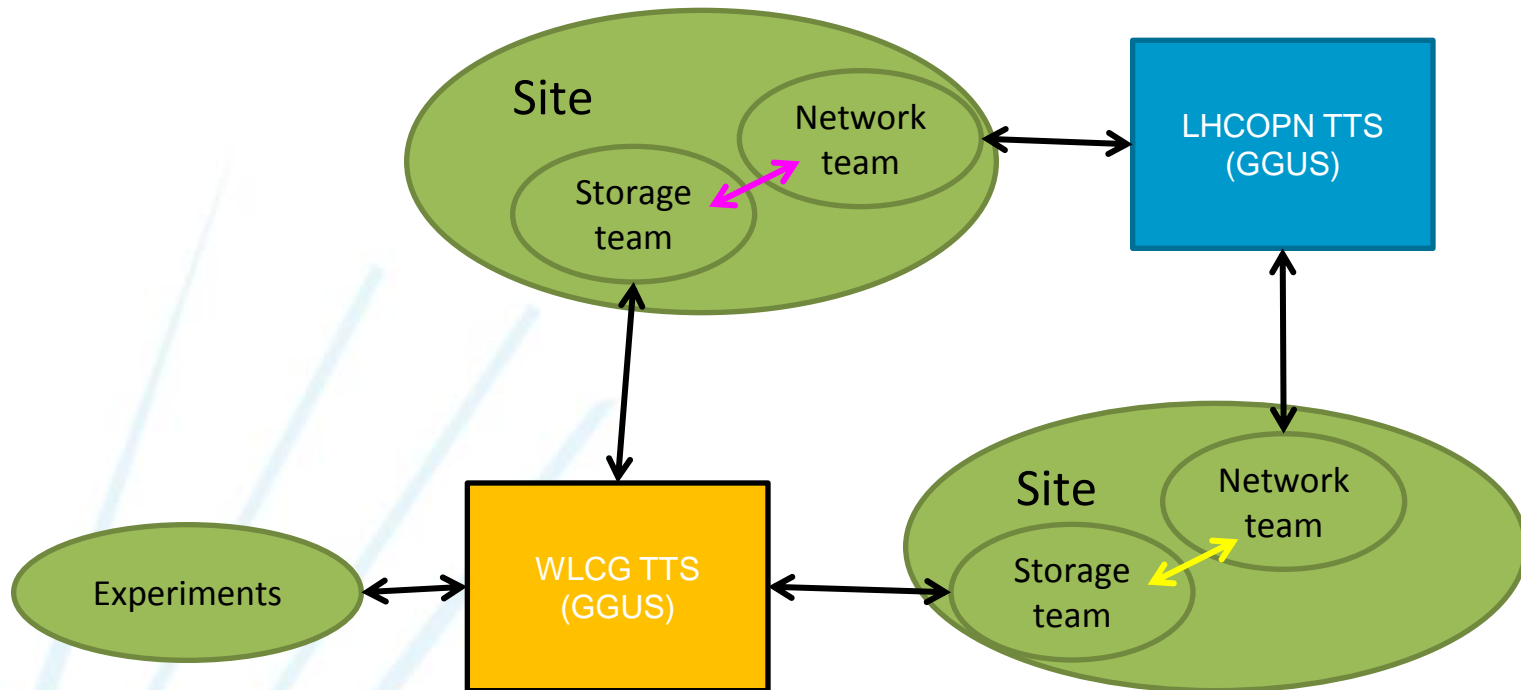
- Hard to push for administrative issues (update doc etc.)
- Redundancy prevents us from regularly practising
- No evidence of faults giving feeling of unnecessary actions
- Can't clearly assess work done by sites due to lack of monitoring
  - Can't correlate service impacting events vs managed events
  - Can't assess, can't improve
- Backup tests (4 sites reported something in 2010)
- Change management DB (9 entries related to 3 sites)
- Interactions with WLCG

# Role of LHCOPN helpdesk



- Centralise information
- Unify communications

# Problem for LHCOPN network support





# How/why we ended here?

- Two information repositories but two different goals
  - Problem solving vs coordinating network teams
    - Backup link down, informational/changes tickets, routing issue etc.
      - We ended with 230 tickets/year for this...
      - Scheduled events vs users' enquiries
  - Lot of LHCOPN tickets not of interest for WLCG
    - “No service impacting event, no Grid problem, no need for a WLCG tickets”
  - Standard GGUS not tailored for network support
    - Particularly multi-sites notification scheme?
  - Clear weaknesses for user support
    - But disturb everything for 4 enquiries/year?
  - Was assumed we can link LHCOPN TTS and WLCG TTS
- Who are users of the LHCOPN?
  - Was said only storage teams on sites
    - Network teams did not want direct exposure in WLCG TTS
      - Only accepting enquiries from local teams or remote **network** teams
    - Only local storage team can state if there is a network problem or not

# Why something specific for the LHCOPN? (1/2)

- Not so specific processes, just clear implementation of usual processes for a delimited and dedicated network
  
- Can't we handle generic IP issues in the same way?
  - Same concepts sound applicable
    - Project ↔ On site Grid related teams (storage...) ↔ local network team
  - Generic IP issues or ... LHCONE issues?
    - Careful scaling required: Point to point vs any to any; 12 sites vs 300

# Why something specific for the LHCOPN? (2/2)

## ■ Two important points

1. Should sites' network teams be directly acting in WLCG TTS for generic issues, or should information be relayed by some other teams (Storage, Grid, support, etc.) ?

- What kind of issue are we discussing? Expected link cut or complex performance issues?
  - Previously agreed: Clear demarcation point for network teams = iperf test working
  - We learnt that solving complex issue need concurrent involvement from a LOT of supporters
- As it is for scheduled network downtimes: Only resource managers talk to projects
- Network teams did not want to duplicate actions for several projects
  - Generic networks = generic processes not focused on WLCG
  - Handle non dedicated networks as a generic resource like electricity ?

2. Ownership of issues has to be very clear

- Who is in charge of a London – St Petersburg issue between two Tiers 2?
- Can this be really pre-determined? Maybe enable transfer of responsibility if default assignment is not good

# Summary on LHCOPN network support

## ■ Problems

- We are not doing network support
  - No clear ownership or process for network issues appearing in WLCG TTS
    - Generic IP vs LHCOPN
- Our helpdesk is particular, isolated and restricted

## ■ Possible solutions

1. Use only WLCG TTS
  - Could it make us fully happy? Which changes are really required?
2. Make a clear and strong bridge between the two helpdesks
  - Initially envisioned features like “Linking tickets” etc. not sufficient
  - Need real cross helpdesk interactions
3. Make transparent the two helpdesks keeping specificities
  - When something turns to be a LHCOPN issue transforms the ticket in a LHCOPN ticket and allow a wide range of supporter to act into
  - Otherwise keep things as they currently are

# Conclusion

- Infrastructure quality hides Ops weaknesses
- LHCOPN operations need improvements
- Two key issues
  - 1. Network monitoring**
    - Preventing improvement process
  - 2. User support**
    - Communication issues between two worlds