

# **NORDUnet Transit Policy & Link AUPs**

NSI-WG Meeting @ NDN2014 Conference Uppsala, September 2014 Henrik Thostrup Jensen <a href="mailto:https://www.nets.com/html/mailto:https://www.nets.com/html/mailto:html/mail





#### **Transit**

- Five owners / main customers
  - We connect them to the world
- Cannot carry traffic between commercial networks
  - (breaks some EU laws, / subsidiaries)
- Selected transit services to other NRENs
  - Transit to US for certain NRENs (some just R&E, other include commercial networks)
  - Some NRENs can only connect to other NRENS (political reasons)
    (we cannot connect RUNNET to GEANT
- This means that we can connect some networks to other networks downstream, but not always





#### **AUPs**

- Private / Separately payed links/equipment
- LHCOPN / NDGF Router can only carry LHC traffic
  - No separate infrastructure for LHCONE
  - Protocol doesn't matter, project does
- GEANT link is non-commercial (AFAIK)
- Shared infrastructure
  - Usage can be project/organization specific, or depend on other conditions
  - Link that is generally only used for some traffic when other links are working
  - Can function as generic transit of other cable breaks





## **Open Exchanges**

- Open Exchanges are cost effective, seem to be increasing in popularity
- Exchanges are often policy-free
  - That doesn't mean we can connect all our customers to anyone at the exchange
  - Some interesting complications on how we model exchanges





### **Summary**

- Policies are very real
  - Will not go away due us doing something else than IP
  - Describing it is not trivial
    - Some would prefer not to
- Transit is something you pay for
  - Who can connect to what is complicated
- Sometimes it depends on the hat you are wearing if you are allowed

