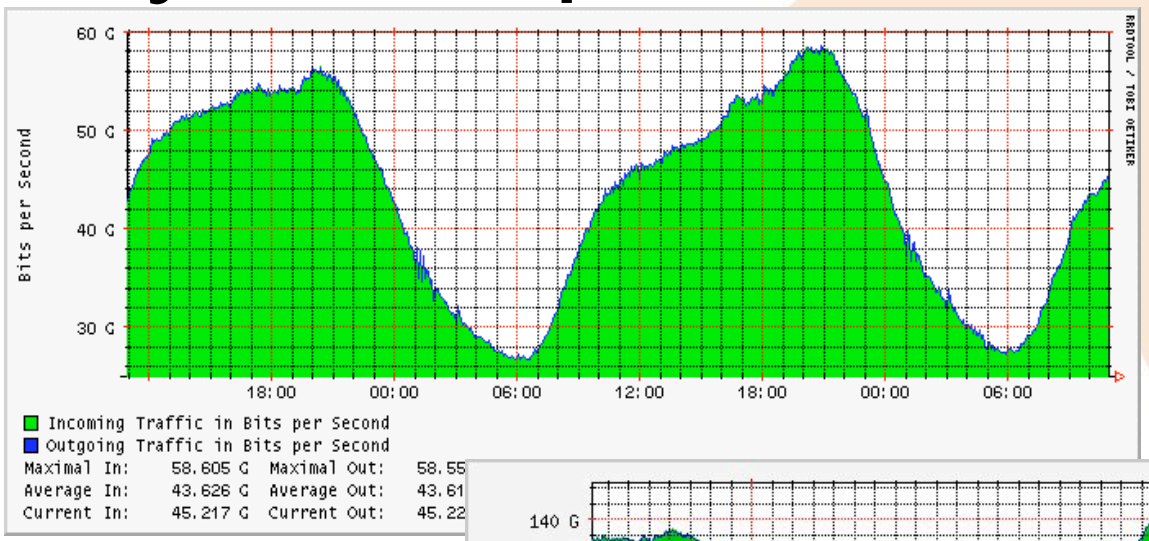
Traffic growth and scaling the switch platform

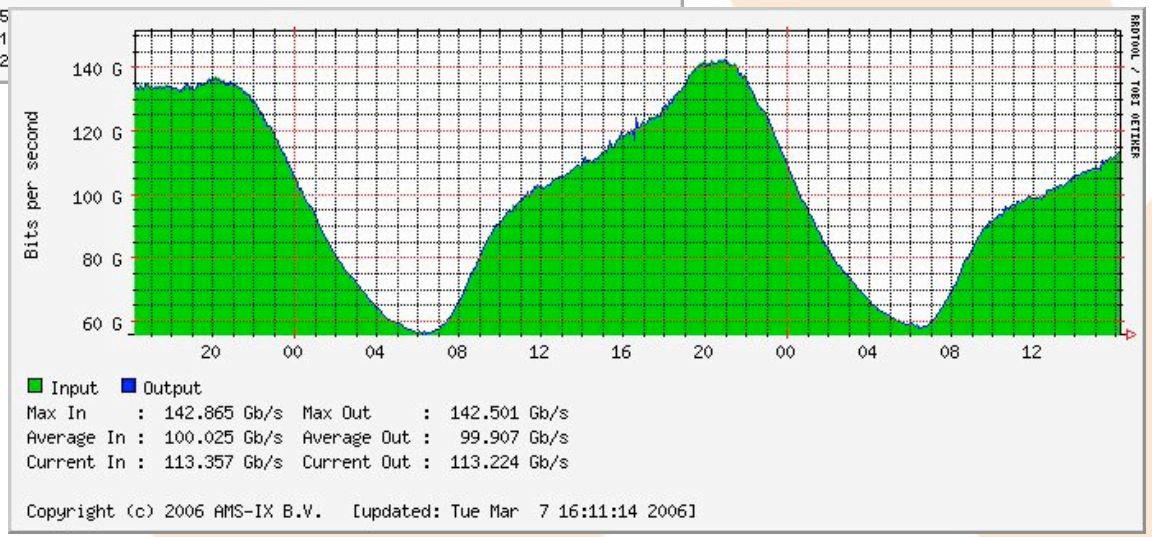
Henk Steenman

Daily traffic pattern

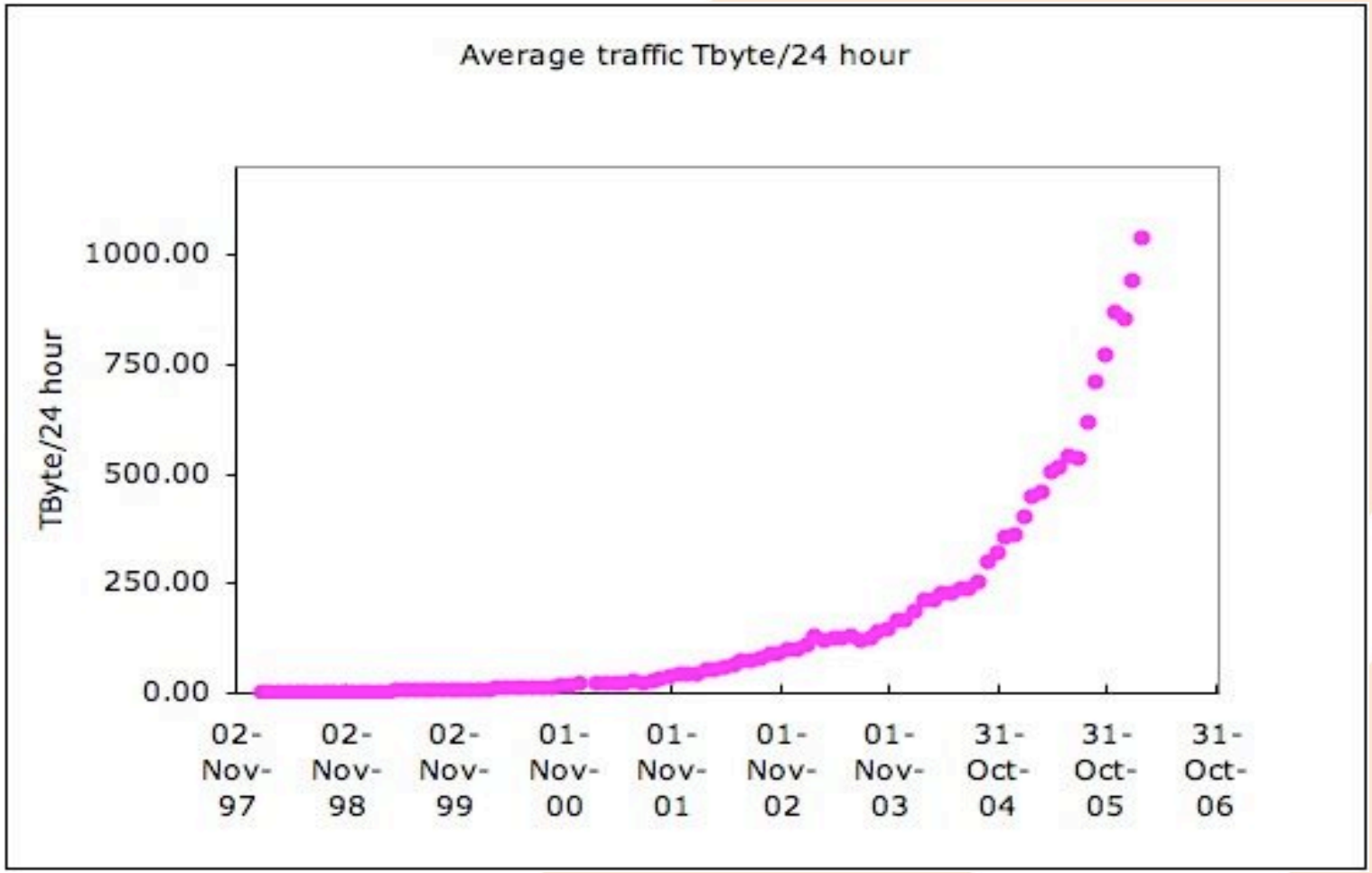


March 2005

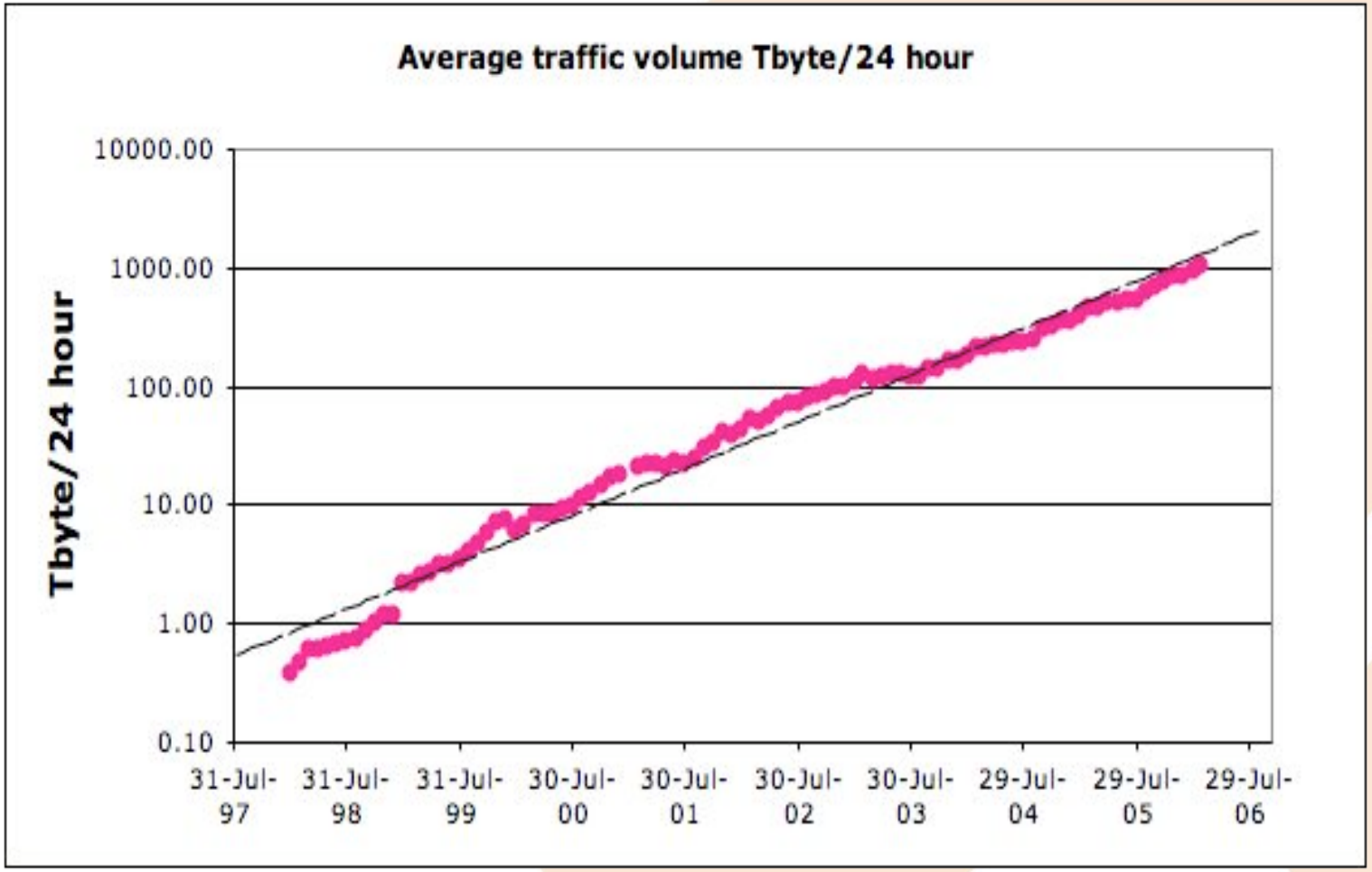
March 2006



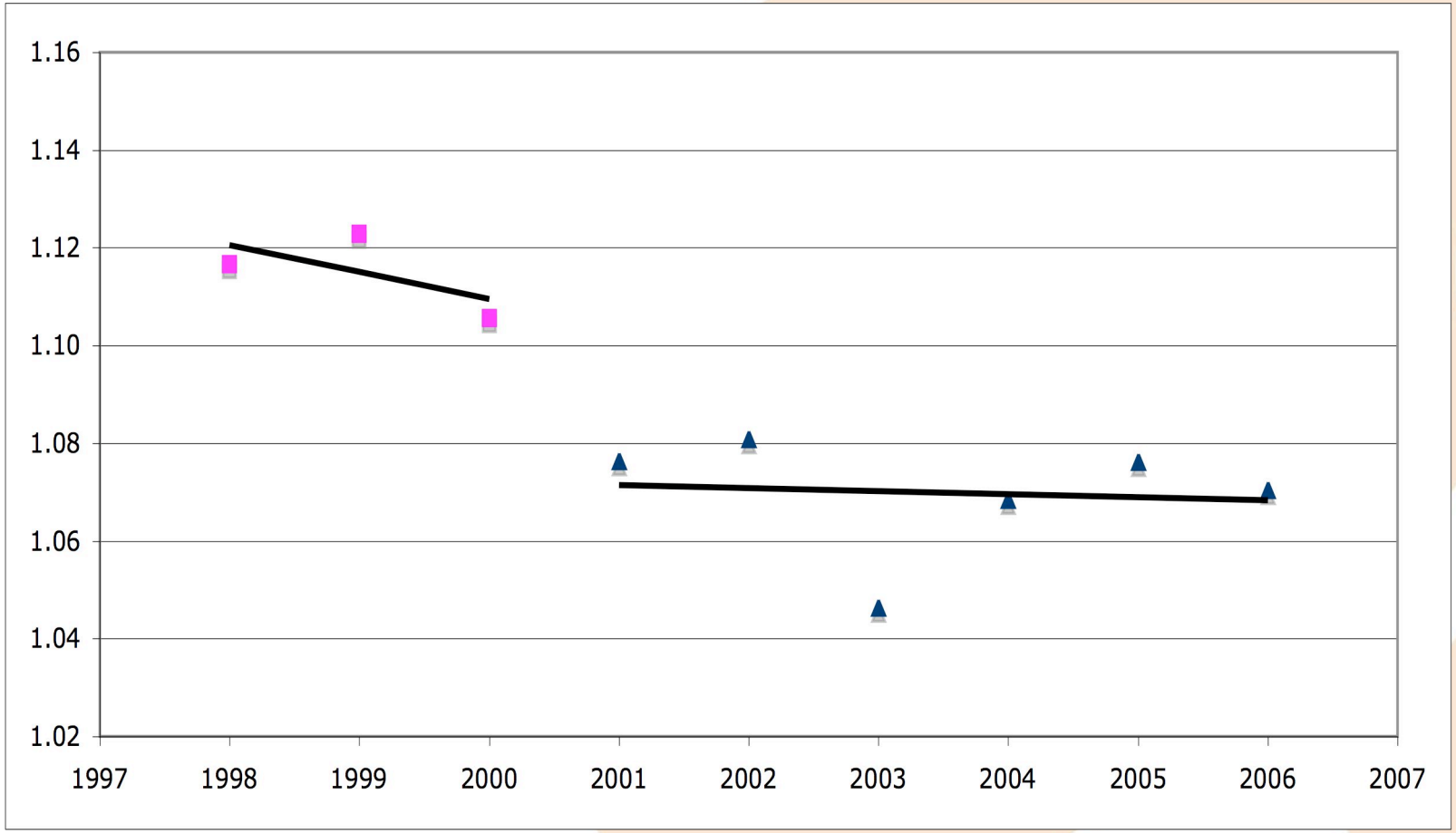
Average Daily Traffic volume



Average Daily Traffic volume



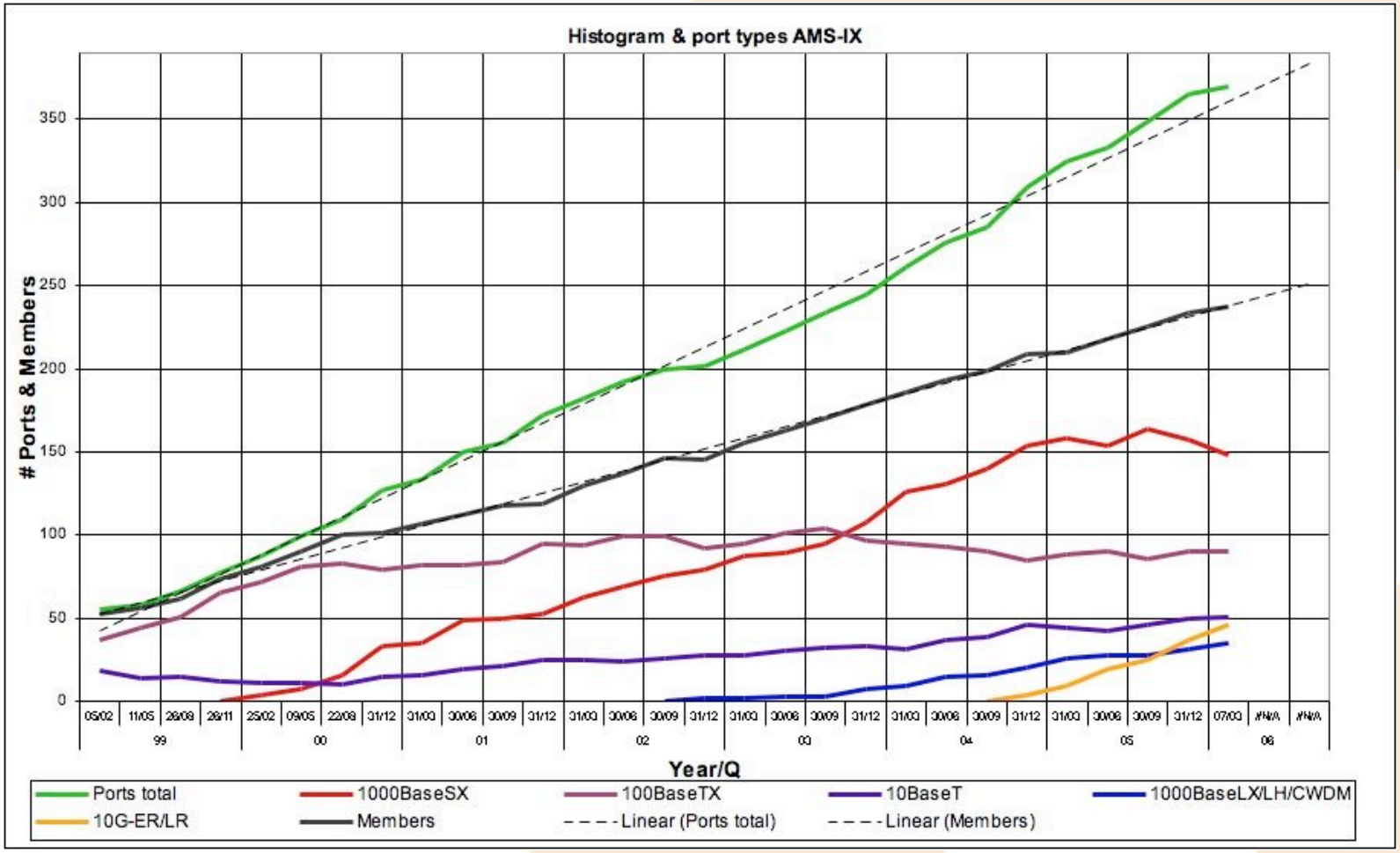
Average Traffic volume growth



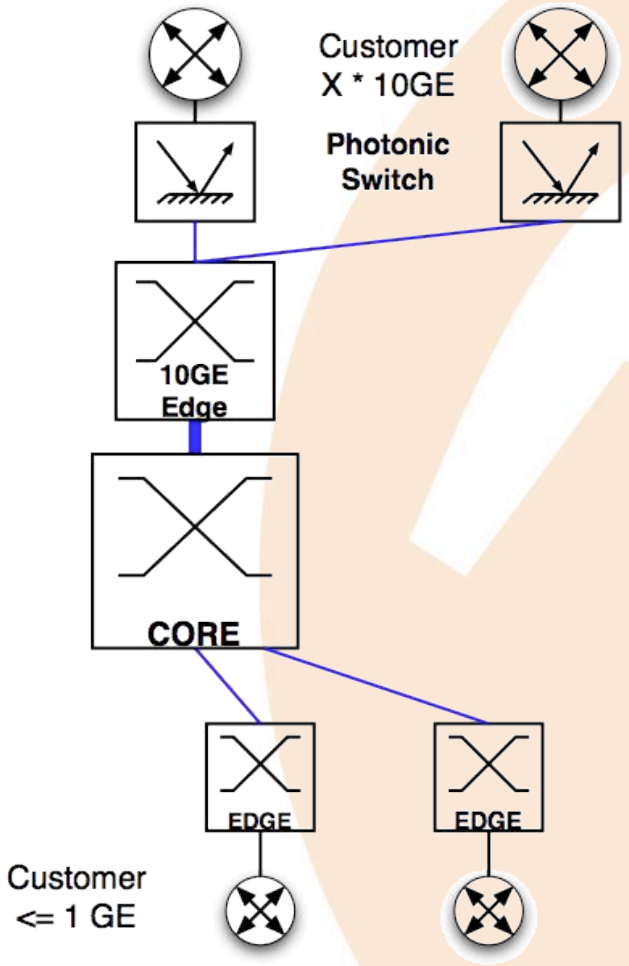
amsix
amsterdam internet exchange

- Average traffic growth 7% per month since 2001
- Sustaining this growth by large scale upgrade of access ports to 10GE
- First aggregated 10GE (2 * 10GE) members ports

Ports and Members



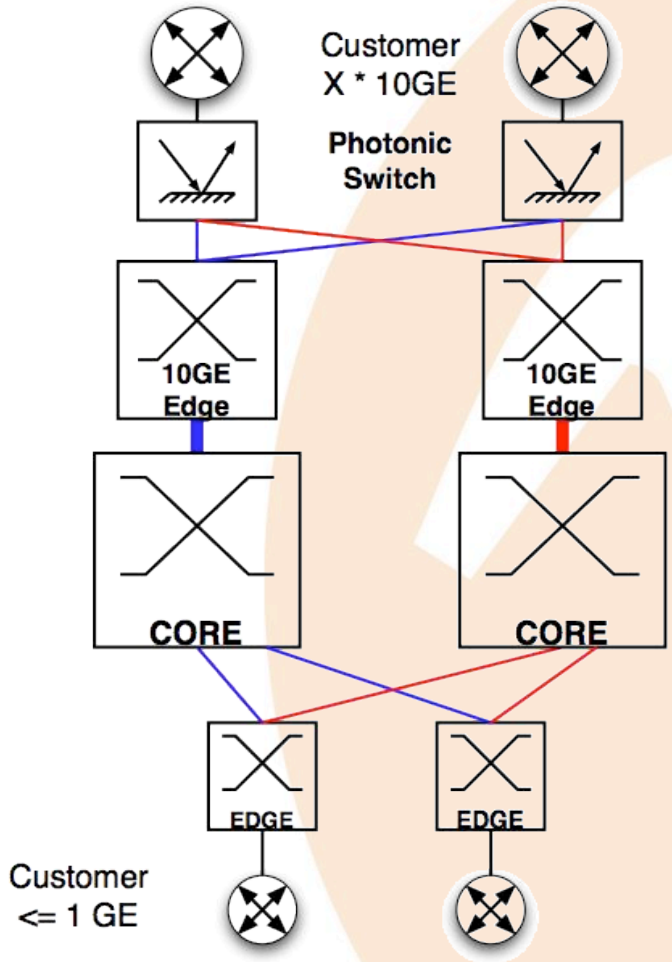
Network Architecture



10GE connections on Photonic switchers

Up to GE connections on ether net edge switches

Network Architecture



TL1 to photonic switches

VSRP between core switches

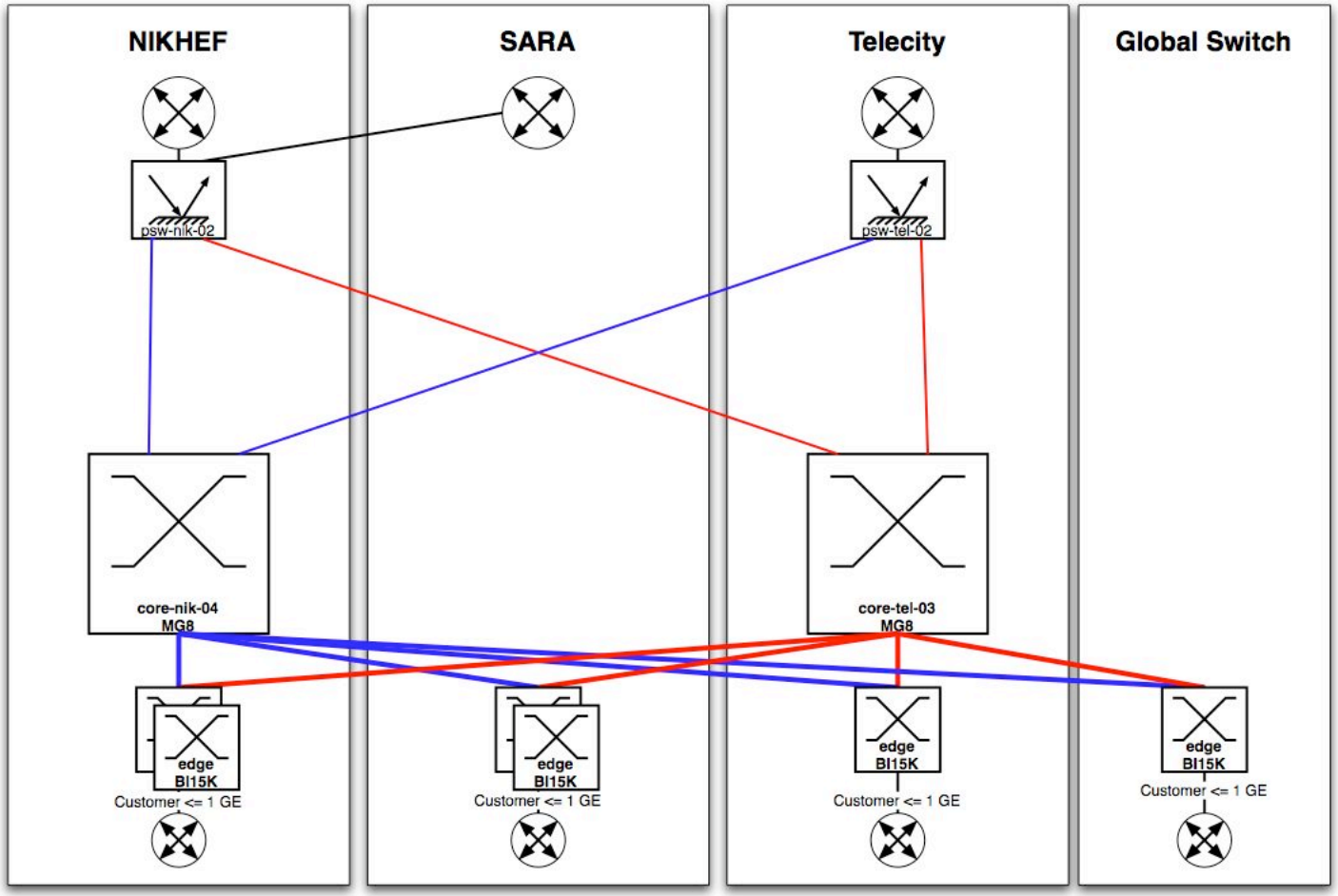
10GE member ports

- Started offering 10GE access ports Q4 2004
- During 2004 and early 2005 limited interest
  - Expensive hardware
  - Forecast 15 to 20 ports end of 2005
- Now: 49 10GE ports operational
  - >10 requests queued
  - 5 connections 2 * 10GE aggregated connection !

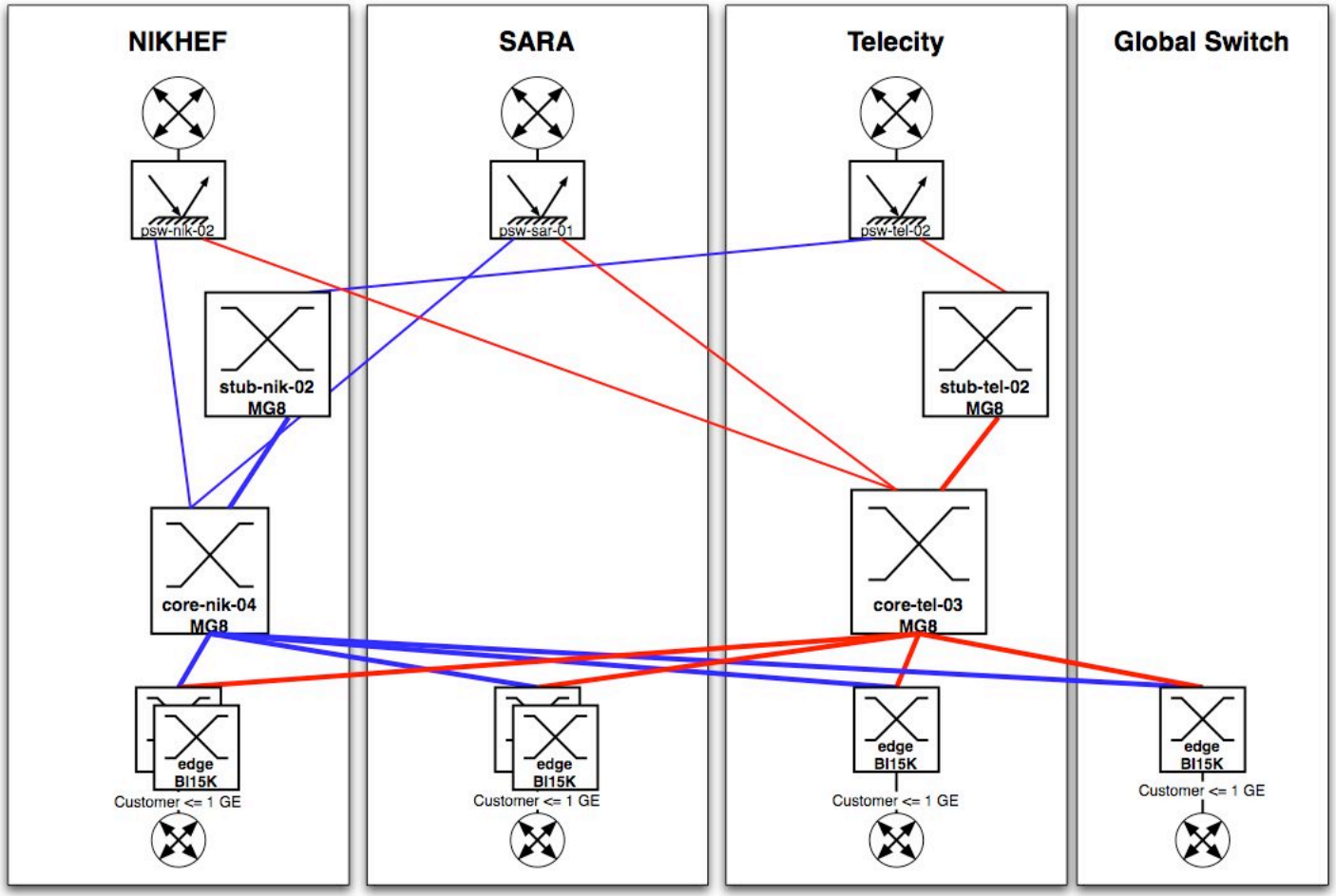
Challenge

- Being able to build out the infrastructure to support the demand for 10GE ports fast enough

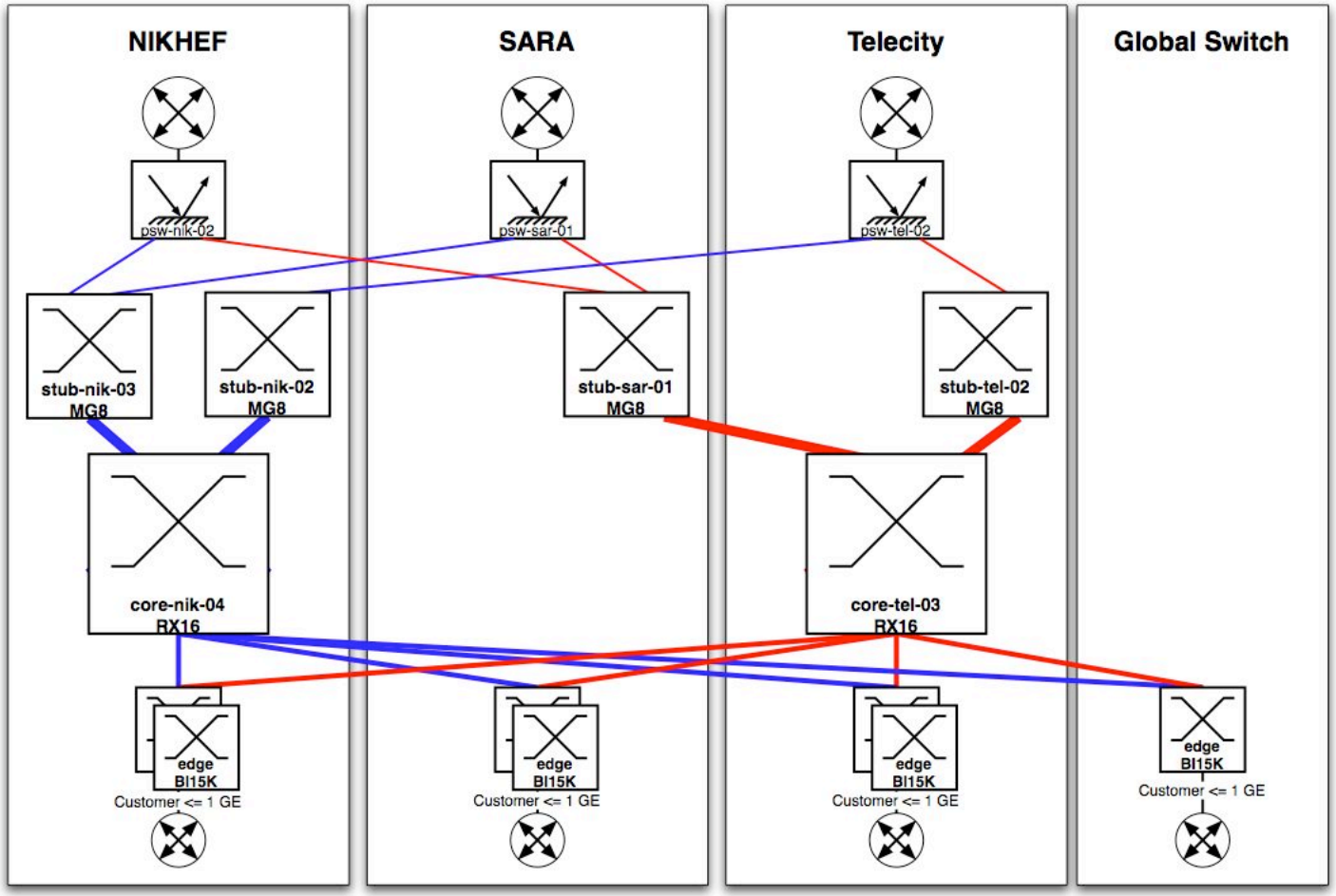
topology phase 1 (21 * 10GE)



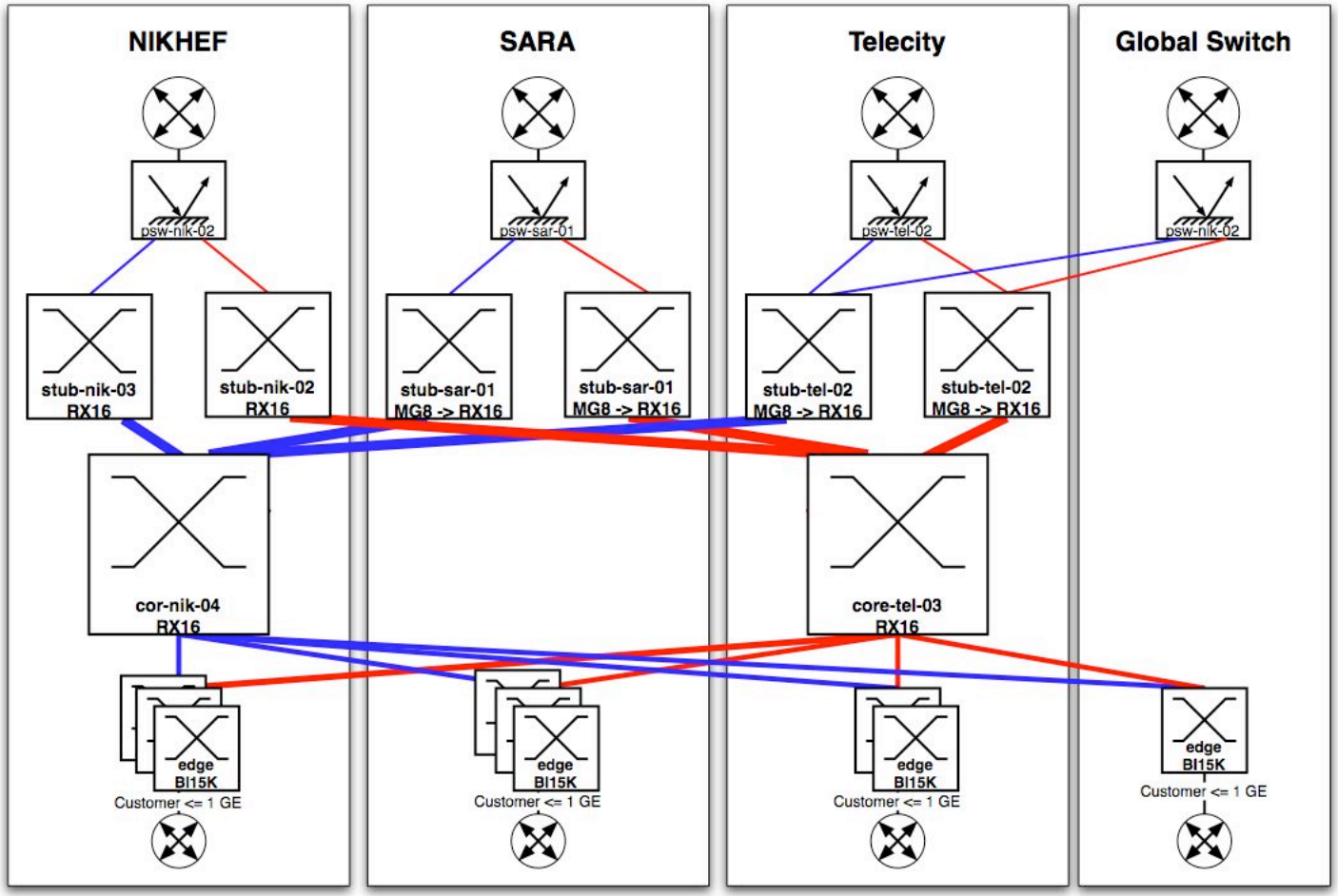
Topology phase 2 (37*10 GE)



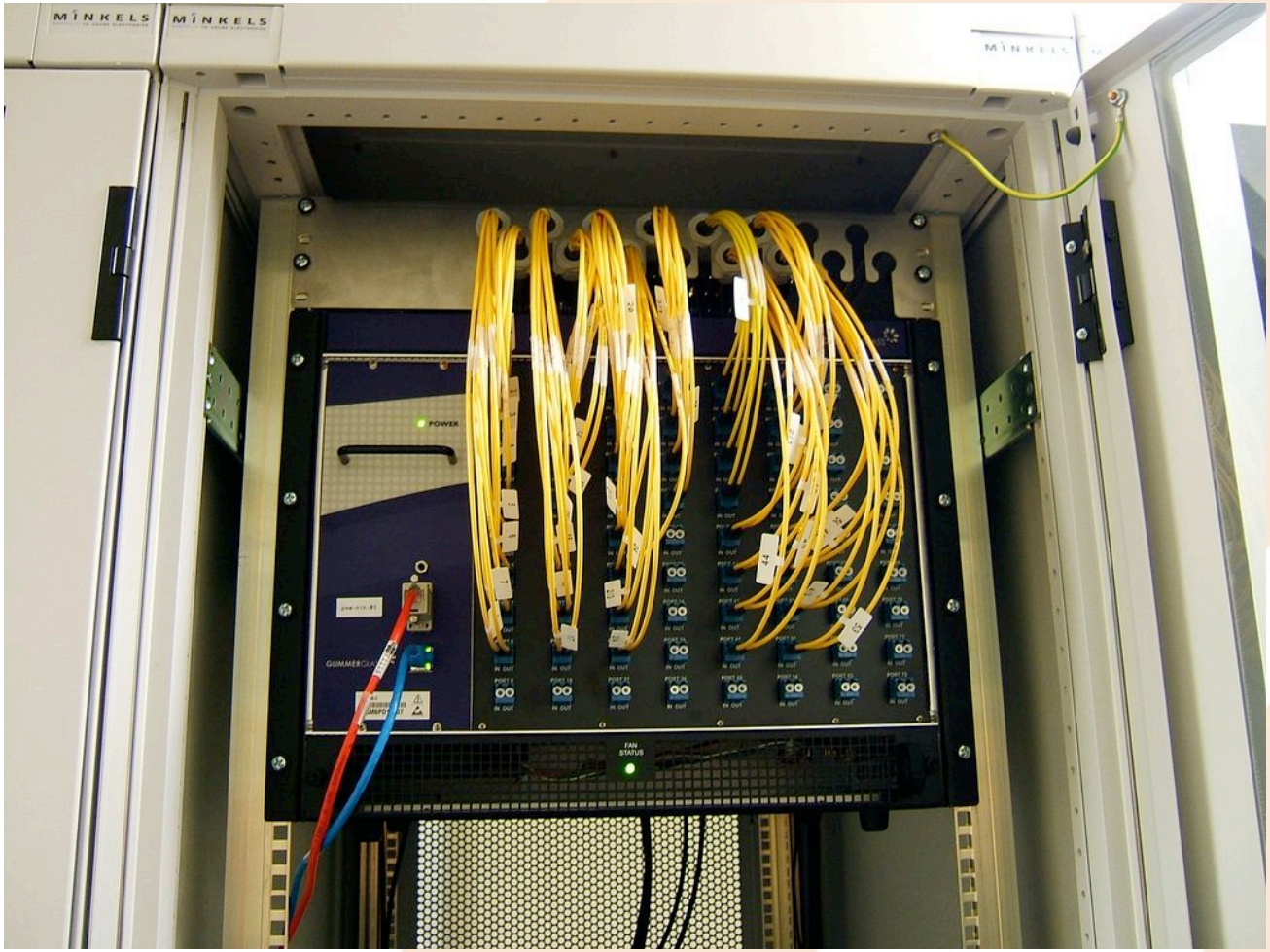
Topology phase 3 (48-83 10GE)



Topology phase 4 (97-127 10GE)



Photonic switch



What after phase 4 ?

- Estimate:
  - 127 10GE ports end 2007, early 2008
- What do we need to after that:
  - Larger switches
  - 128 10GE ports on a single switch
    - We know these are being worked on.
  - Introduction 100GE
    - Between 2008 and 2011
- Slow start of 100GE standardization process