GSI Site Report
- HEPIX Spring 2011

Walter Schön, GSI

European Open File System SCE

Together with supercomputing centers, universities,...
GSI fouded the EOFS as non profit organisation.....
=> Details on my talk on Thursday

New Hardware

- Number crunchers (SM) with 4 nodes each 16 cores (AMD) in 2HE as „standard nodes“ - optimised floating points/Euro
  - Infiniband on board
    => low latency network for planned lattice QCD „activities“

- File Servers (SM) with 48 SATA disks (1TB) powered by a LSI RAID controllers for server (24 disks) + enclosure (24 disks) with about 800 MByte/s I/O

=> talk of Thomas on Wednesday

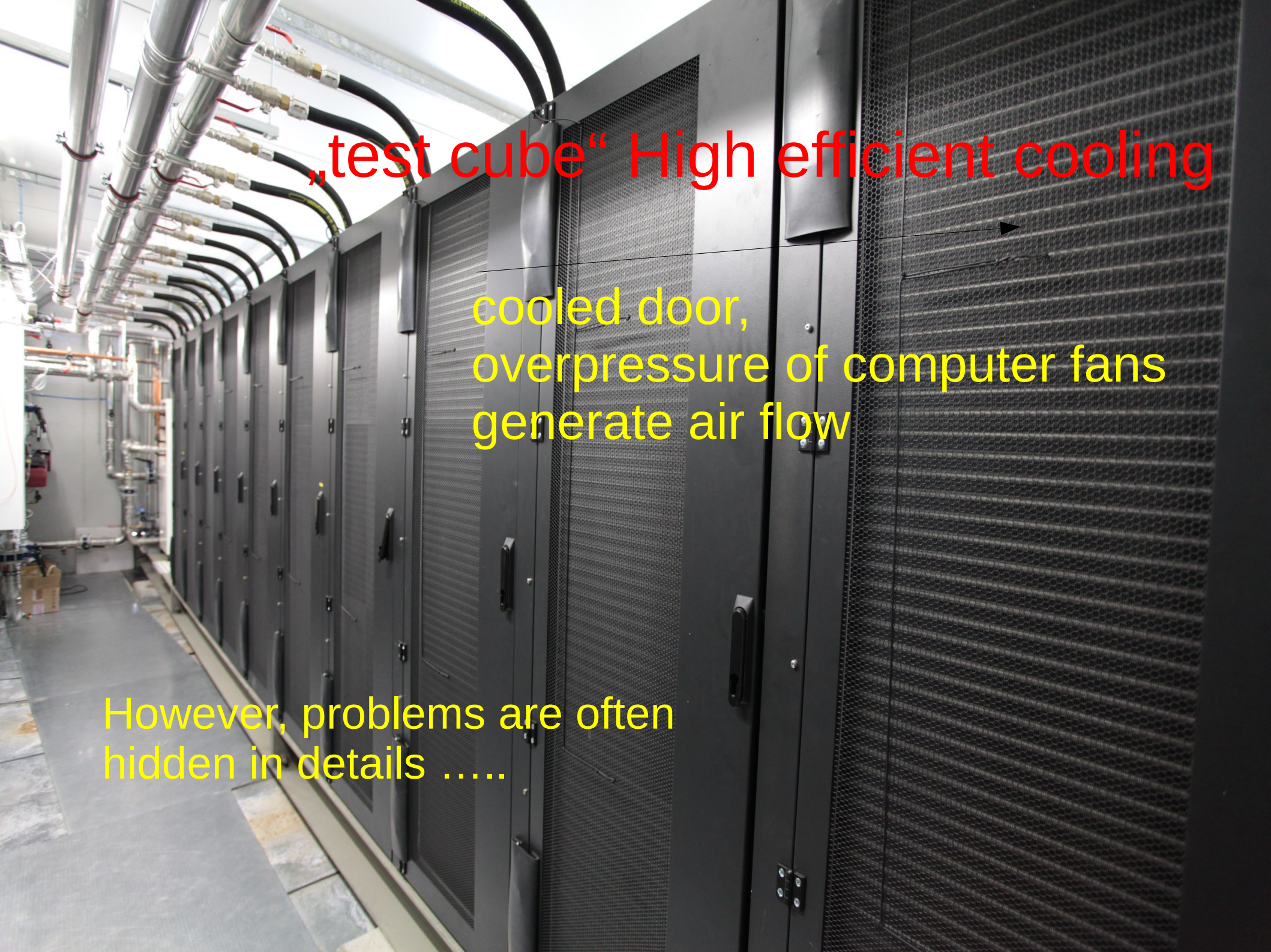
Infrastructure

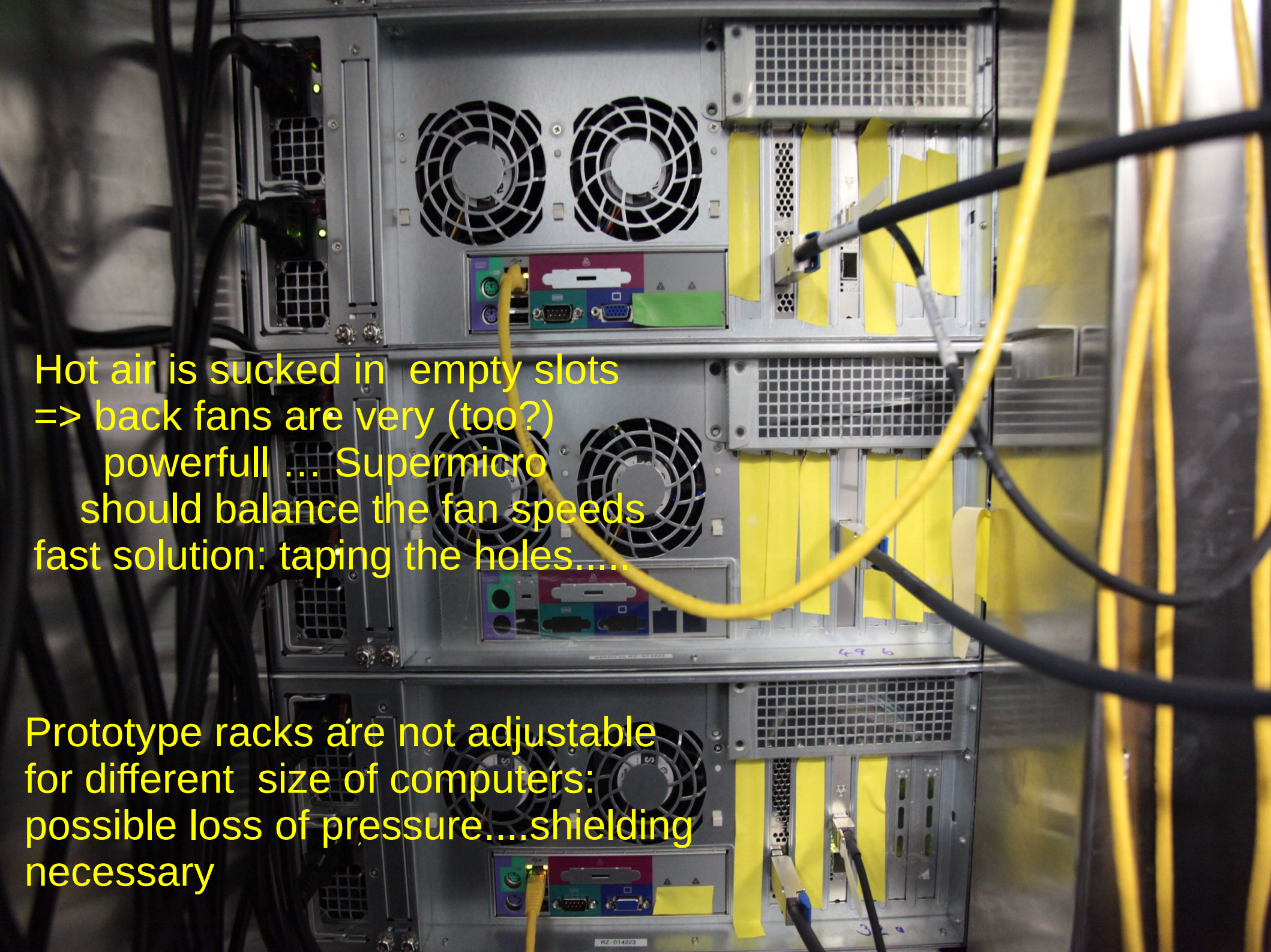
- new ordered 2.000 cores fill last empty space in racks

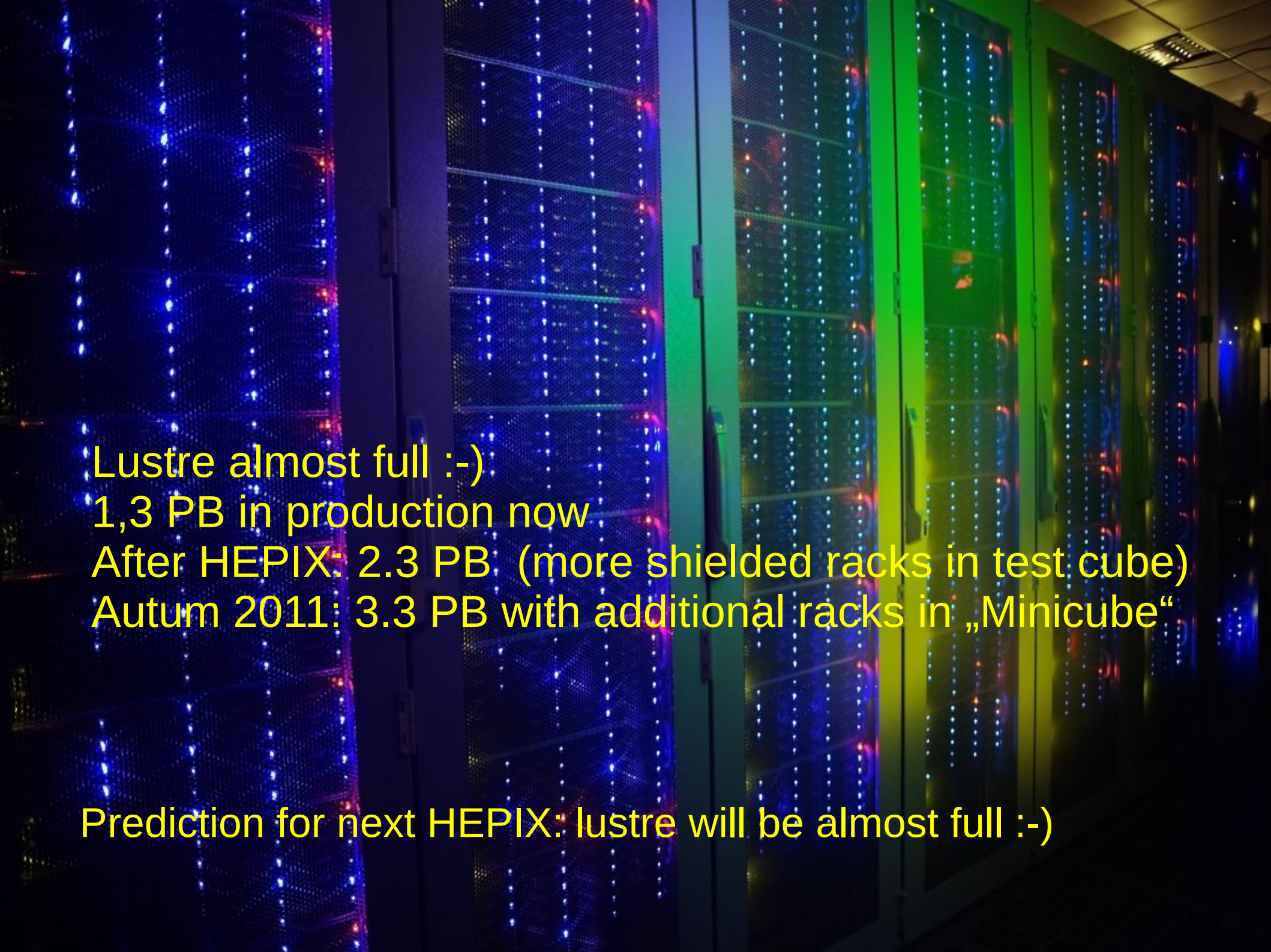
- The „cube“ will solve this problem on medium scale
  => Talk of Prof. Lindenstruth
- Short time solution: The „mini cube“ with 50 racks in two levels will be ready in summer
- The „test cube“ is in production with a part of the Lustre system
- Common to all solutions is a new high efficient cooling system with a PUE ~ 1.
- => details in the talk of Prof. Lindenstruth

Experience with the „test cube“

- PUE ~ 1.1 reached in practice
- No single failure yet (compared with 1 cooling break due to mainenance and one emergency power down due to an overheated electrical distributor in the „conventional“ part of the HPC farm)


„test cube“ High efficient cooling
cooled door,
overpressure of computer fans
generate air flow
However, problems are often
hidden in details …..


Hot air is sucked in empty slots
=> back fans are very (too?)
powerfull ... Supermicro
should balance the fan speeds
fast solution: taping the holes.....
Prototype racks are not adjustable
for different size of computers:
possible loss of pressure....shielding
necessary



Lustre almost full :-)
1,3 PB in production now
After HEPIX: 2.3 PB (more shielded racks in test cube)
Autum 2011: 3.3 PB with additional racks in „Minicube“

Prediction for next HEPIX: lustre will be almost full :-)