Introduction to the National Analysis Facility

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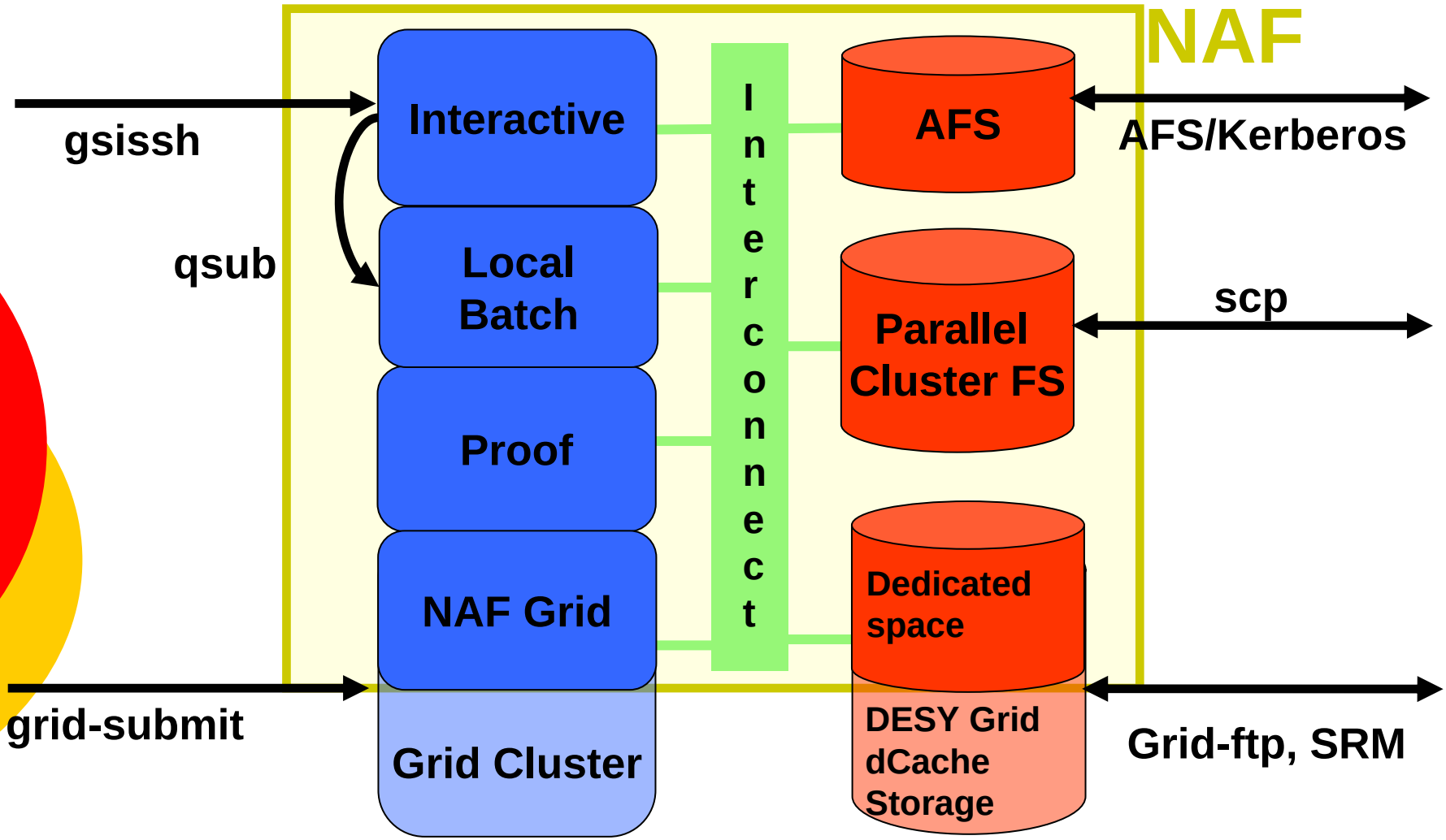
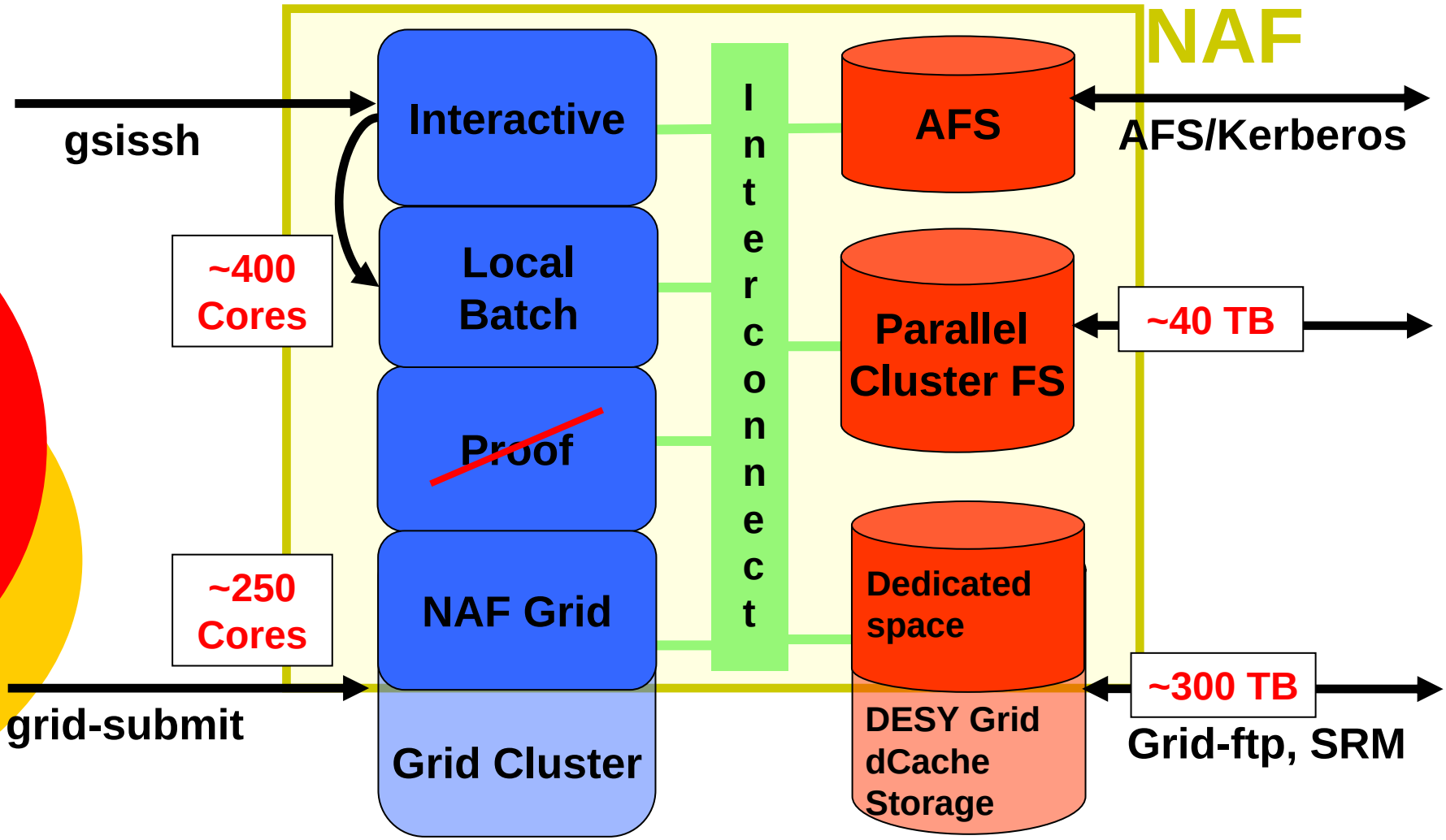
National Analysis Facility

- http://naf.desy.de
- The National Analysis Facility (NAF) is part of the Strategic Helmholtz Alliance (http://terascale.de) for German particle physics (ALTAS, CMS, LHCB, ILC).
- It should provide additional computing resources for analysis to the German particle physics groups!
- Planned for a size of about 1.5 average Tier2, but with more emphasize on data.
- The NAF provides:
  - additional Grid resources
  - interactive resources

Infrastructure



Infrastructure – Extension I (ATLAS)



Infractructure – Extension II

- The NAF prototype was funded by the Terascale alliance.
- For 2008/2009 the BMBF funded the NAF with 1.37 MEuro (LHC Anschubfinanzierung):
  - phase I (summer 2008): batch und dCache storage
  - phase II (winter 2008): batch
  - phase III (2009): ???
  - the experiments can influence the extension plans of the NAF and are waiting for experience from first data.
- For 2010/11 the NAF is funded but ~300 kEuro/year by the Terascale Alliance

Use Cases

- The interactive resources are designed for fast analysis.
- The setup should be flexible enough to adapt to our analysis needs. We need input from you!

- Lustre is a high performance file system with a very high IO rate and full support in the batch system. Ideal for fast ntuple analysis.
- Lustre should be the ideal storage for PROOF.
- Access to ATLAS data (collision/MC) is realised via the DESY T2 Storage Element, including dedicated (and permanent) space for ATLAS Germany users.

- Clearly, typical Grid applications should be run on the Grid.

Atlas Resources

- **Grid:**
  - worker nodes: 128 Cores
  - privileged access using /atlas/de VOMS role
  - Grid storage (dCache)

- **Interactive:**
  - 2 work group server
  - worker nodes in batch system: 50% share
  - AFS home and group space
  - high IO rate file system (Lustre, scratch, 18 TB)
  - Grid storage (dCache) for long term user storage and data import

Accessing the NAF

- **All authentication is done via Grid tools!**
  - Grid certificate with VO registration is essential
  - /atlas/de VOMS role is beneficial
- **Grid resources:**
  - additional resources (CE, SE) are ATLAS wide usable/readable
  - privileged access only via /atlas/de VOMS role (CE, SE)
- **Interactive resources:**
  - registration is needed, see http://naf.desy.de
  - authentication via Grid proxy and gsi tools (gsissh/gsiscp/gsisftp from Grid UI)
- **ATLAS TAG + Conditions DB**

Support

- The NAF is a joint venture between DESY IT and the German particle physics groups!
- **Support:**
  - problems with hardware, operating system and common software: naf-helpdesk@desy.de (IT)
  - general ATLAS problems: https://hypernews.cern.ch/HyperNews/Atlas/get/gridkaCloudUserSupport.html Please, use it!
  - specific ATLAS problems, e. g. requests for accounts, resources and ATLAS software: naf-atlas-support@desy.de (ATLAS-D/DESY)
  - don't contact specific people in case of problems!
- **NAF User Committee (NUC):**
  - user committee with 2 experiments contacts each and NAF admins
  - ATLAS-D: Jan Erik Sundermann (Freiburg), Wolfgang Ehrenfeld (DESY)
  - minutes are distributed to users, give feedback to experiment contacts
  - http://naf.desy.de/nuc

Summary

- The NAF is ready and can be used! Try it out.
- For documentation and tutorials see:
  - http://naf.desy.de
  - http://naf.desy.de/atlas