

Forschungszentrum  
Karlsruhe

In der Helmholtzgesellschaft



## US Grid Tools

- Condor
- PFS
- Virtual Data/Planning
- VDT
- Security

# Why am I talking about all this?

- Stayd 2 months at Fermilab with US-CMS
- Found that my EDG viewpoint very different from the US-view
- Found that extended diffusion would be healthy

- Condor-G learned Classads
  - Communicates them in a proprietary way
  - Considering to publish Classads in an MDS
  - condor\_glidein
    - Connects a remote Condor-Pool via Globus to the local pool
    - To be extended to allow automatic extension of pool
      - Under development
- Pacman
  - Lightweight Meta-Packager
    - Support for OS-dependent binary-files
    - Specification of Installation scripts
    - Dependencies
    - Non-root installation

=><http://physics.bu.edu/~youssef/pacman>

- **Pluggable File System PFS**

- Diverts basic io-calls (read(), seek(), ...) using a pre-load mechanism for dynamic executables

- Offers Posix access to remote files

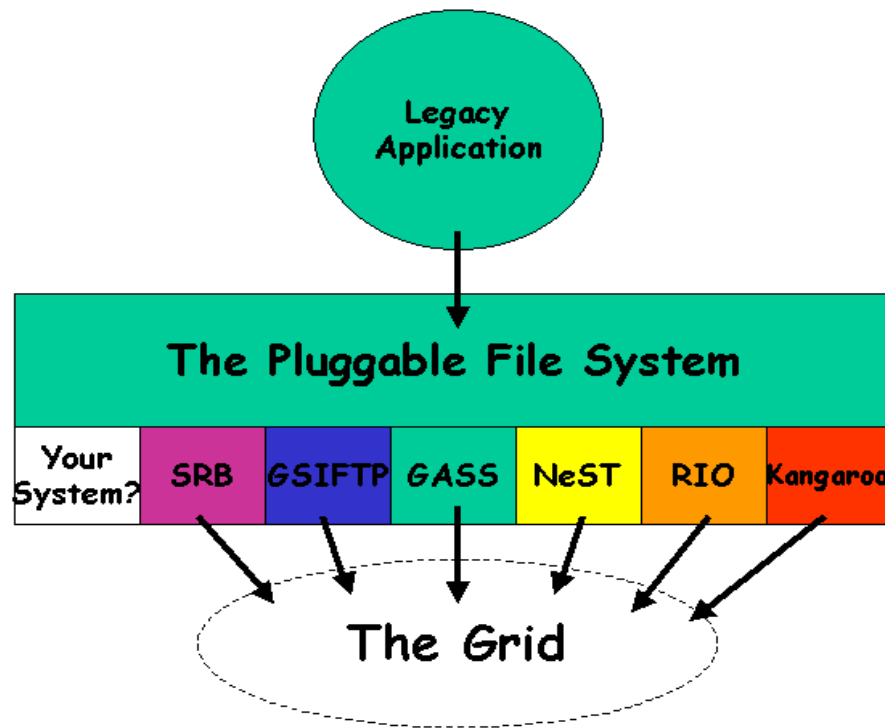
- Lives in Userspace:

`# pfsrun tcsh`

`# cat /http/cvs.fzk.de/index.html`

`# ls /gsiftp/se001.fzk.de/flatfiles`

- <http://www.cs.wisc.edu/condor/pfs>



# Virtual Data / planning

- US-CMS-View misses the planner in EDG => MOP
  - NSF Proposal was accepted last month
- DAG submission to EDG could be done
- Chimera Virtual Data System (U. of Chicago)
  - Database stores
    - Transformations, Derivations, Provenance
  - gendax produces DAGman-like xml-file (.dax)
    - Contains dependencies of jobs
    - Logical File Names / no resources
    - Allows for cutting off already done dependencies
  - Separate planner generates Condor-DAG with physical filenames and resources for execution  
=> Clear interface for creating an EDG-planner  
=> <http://www-unix.griphyn.org/chimera>

- VDT bundles the software that is installed on US Testbeds:
  - IGT, DGT (Integration/Development Grid Testbed)
- Distributed via meta-packager pacman:
  - Tarballs with installation scripts
    - => very smooth installation (hardly any User Interaction)
  - Installs:
    - Condor-G, Globus (gpt, Job submission, Replica Mgmt), EDG-CRL handling, Certificates, mkgridmap, GDMP, Chimera, Fault Tolerant Shell (ftsh)  
GLUE-Schema-1.0
- Provides working environment for US-CMS Production
  - => <http://www.lsc-group.phys.uwm.edu/vdt>

- Strong emphasis on Kerberos
- KCA: 'Converts' Kerberos-ticket to globus-proxy
  - Intensive work ongoing in the 'VO-Project'
  - Provides support for submitting jobs
- Kerberized-only access policy avoids incoming jobs
  - => Prevents incoming jobs from Rest of the world
    - Sec-People mainly afraid of FNAL HW used for DDOSes
    - If WN's don't need outbound connectivity: problem solved
- Jobs dying in the Queue problem
  - Solutions just start to be discussed

