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

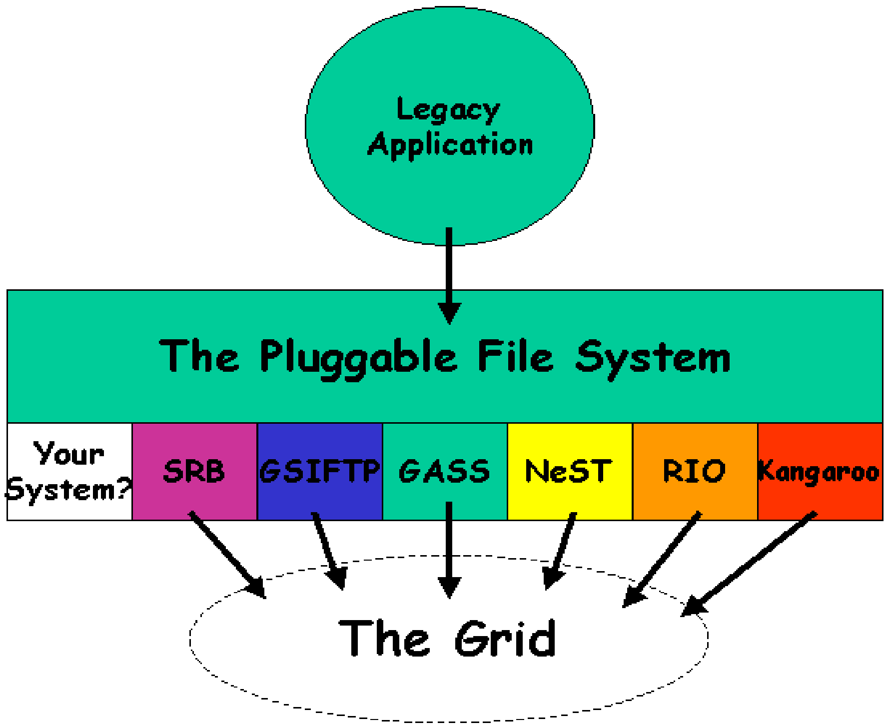
Condor

- 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

PFS

- 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

- VDT bundles the software that is installed on US Testbeds:
  - IGT, DGT (**I**ntegration/**D**evelopment **G**rid **T**estbed)
- 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

Security

- 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

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