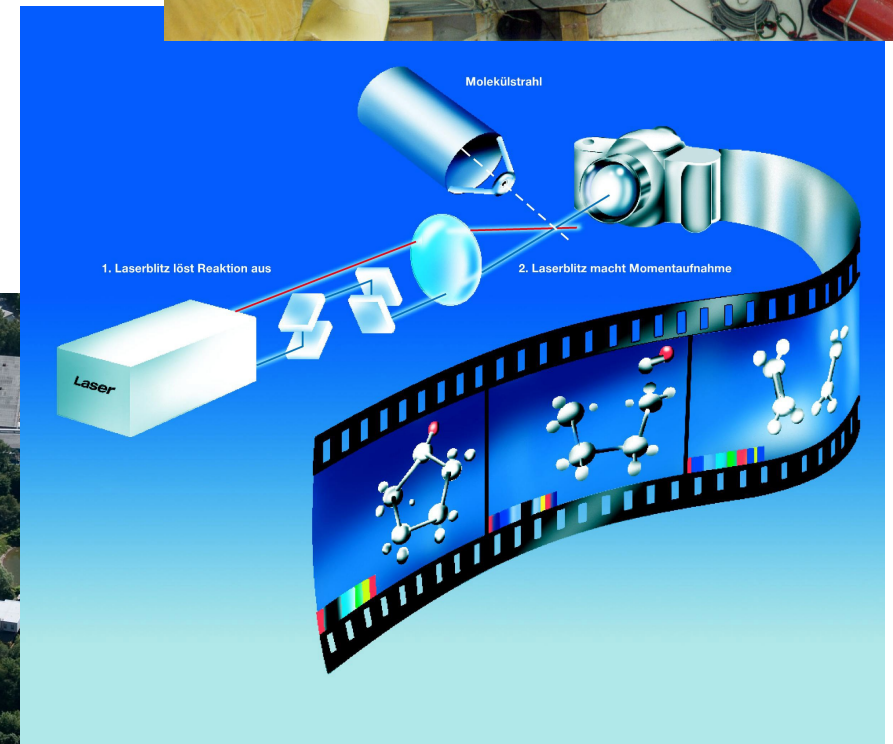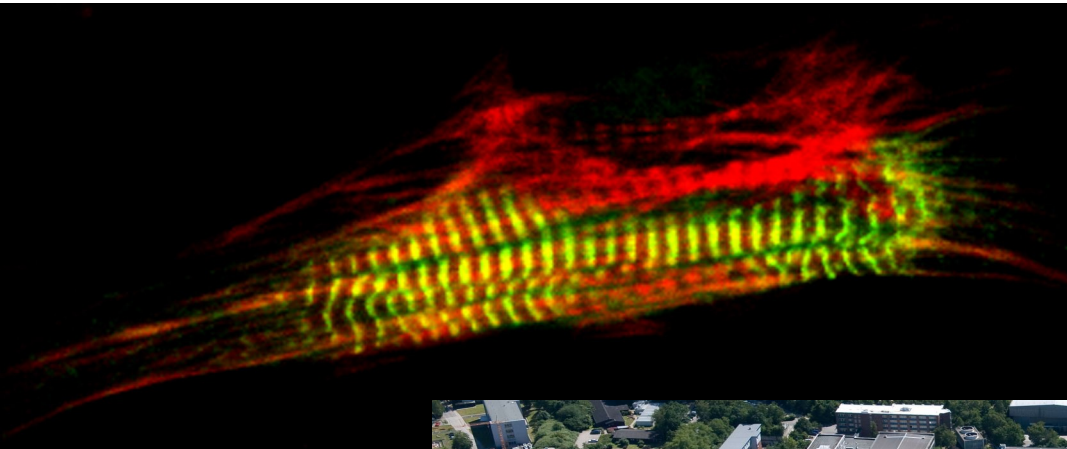# DESY Site Report

Stephan Wiesand
European AFS Workshop
Rome, 2009-09-30

DESY

About DESY

> Publicly funded research lab

- High Energy Physics
- Research with Photons

AFS Cells & Usage

> DESY has two sites

- Hamburg

- Zeuthen

> and three AFS cells

- Hamburg (desy.de)

- Zeuthen (ifh.de)

- National Analysis Facility (naf.desy.de), distributed over both sites

    > project started late 2007

- all cells use Heimdal for authentication

> AFS is used for

- Linux home directories (alternatives: none)

- group/project space (alternatives: Lustre, panasas, dCache, NFS)

    > and a few more

Zeuthen Cell

- > 65 TB

- > 30 file servers, 3 DB servers

  - ◼ all servers Linux, amd64, SL5, 1.4.7 & a few 1.4.11

  - ◼ direct attached storage, hardware RAID-5/6, mostly SCSI/SAS drives

- > 650 Clients

- > 250 active users

- > 4000 Volumes

- > + OSD + vicep access w/ lustre backend

  - ◼ still in test / evaluation, but integrated in production cell

- > backup: homegrown scripts → vos dump to disk → TSM

  - ◼ most data not backed up

- > specials: afs_admin, mount point db (scanning vice partitions)

DESY

Hamburg Cell

- > 35 TB, growing rapidly

- > 20 file servers, 3 DB servers

  - ■ most fileservers are Solaris10, using ZFS for data integrity checks

    - > DESY discovered what is now known as silent data corruption (in HEP)

  - ■ SAN storage on FC and direct attached storage SAS/SATA disks

  - ■ some Linux using ext3/xfs on direct attached and SAN disks

- > 3000+ clients, 2000+ active AFS users, 11000+ volumes

- > OSD not in production cell yet - planned for Q4/09

  - ■ providing test/integration cell for HSM (dCache) support

- > backup

  - ■ using buserver/butc to files, then regular TSM backup (DR)

  - ■ using TSM on AFS file space for user driven restoration (not all data)

National Analysis Facility Cell

> 8 TB

> 3 DB servers (SL5 amd64 Xen Vms)

> 4 file servers (Solaris, RAID-Z2 on JBODs, SAS drives)

> 150 clients

> 100 active users

> 500 Volumes

> backup: like Hamburg cell

> using afs_admin to delegate volume administration to users

> using gsissh to authenticate users by X.509 certificate

- no passwords
- script exists to get an AFS token from outside the facility