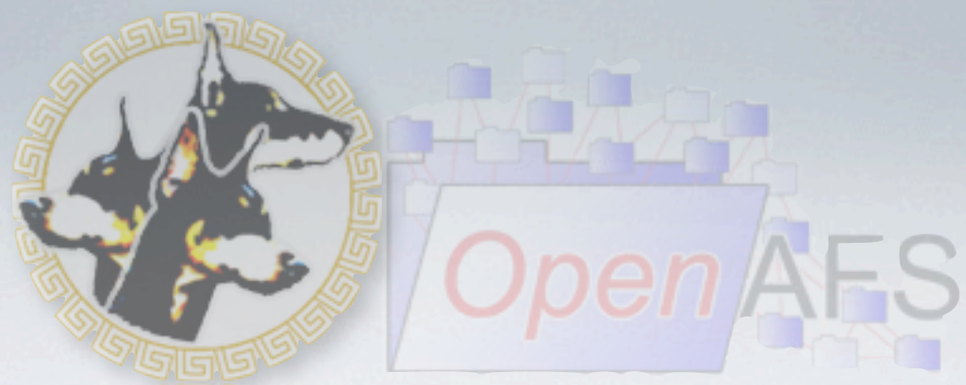
Site Report

OpenAFS and Kerberos
at the Max Planck Institute for Gravitational Physics

October 18th, 2012



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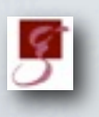


Max-Planck-Institut für Gravitationsphysik
IT-Dept.

Overview

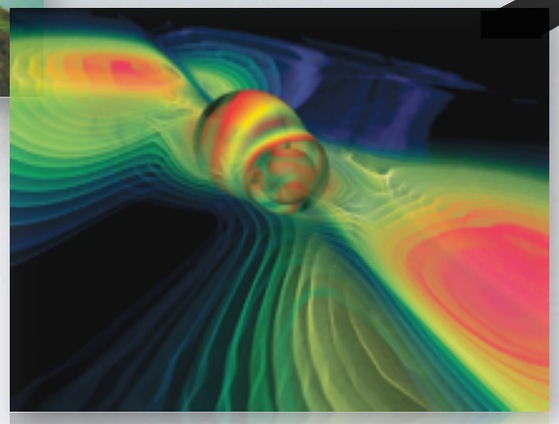
- Introduction to the institute
- Site-Report
- Unified user-managent

Introduction

Scientific Institute within the Max Planck Society (MPG)

- search for gravitational waves
- filling the gap between

  Einstein's theory of relativity
  and
  quantum mechanics



Source: Google Earth

Site-Report - some history

since 1998:

- Cell "`aei-potsdam.mpg.de`" (diploma thesis)
- Hardware: digital AlphaServers 2100, DS20
- AFS provided:
    - $HOME
    - applications/libs for various OSs via `sys@`
        - Tru64
        - IRIX
        - Linux (very few, Kernel 2.2)

Site-Report - some history

around 2001:

OpenAFS

or

what?

Site-Report - some history

until today:

- 3x db, Ubuntu 10.04 LTS (VMs) V 1.4.12
- 2x fs, Scientific Linux 5.3, (Dell PE R300) V 1.4.14 (+1 RO fs)
  - Storage: Dell MD3000 RAID dualpath
  - 2x 2.5 TB as `/vicepa` available (1.5 TB used)
- ~600 user volumes, ~5 million files (RW, 5GB std. Quota)
- 60-70 MB/s write performance inhouse

Site-Report - some history

<u>until today:</u>

- OpenAFS provides:
  - `$HOME` / personal Web-Pages via `~/WWW`
  - SVN repositories / project directories

- Clients:
  - workstations SL 6.2 (1.6.0-93.pre4.sl6)
  - notebook clients become more popular

Backup/Restore

- one fs for RO Volumes only (disaster recovery)
  - nightly releases
- via AFS-Client into Tape Library in IPP Garching
- rsync of all userdata into /lustre (400 TB avail.)

drawbacks until 2011:

- Hannover was "out of the game"
- user objects in Golm were spread over several servers:
  - NIS, KAServer, E-Mail, Windows, HPC
- poor password handling
- E-mail server end of life (OX 5), dying hardware
- approach to SSO with KRB5

Site-Report - Migration Project

So we were looking for:

- OpenLDAP
- KRB5 authentication
- Windows Integration via SAMBA
- OpenXchange integration
- web-based Administration

Site-Report - Migration Project

- first tests looked very promessing:
  - Windows Domain Login
  - Linux LDAP/KRB5 Login

- creation of AFS user objects via so called listener modules:

```
/usr/lib/univention-directory-listener/system/afs-listener.py

/usr/lib/univention-directory-listener/system/aei-db-listener.py
```

Site-Report - Migration Project

Migration in a nutshell:

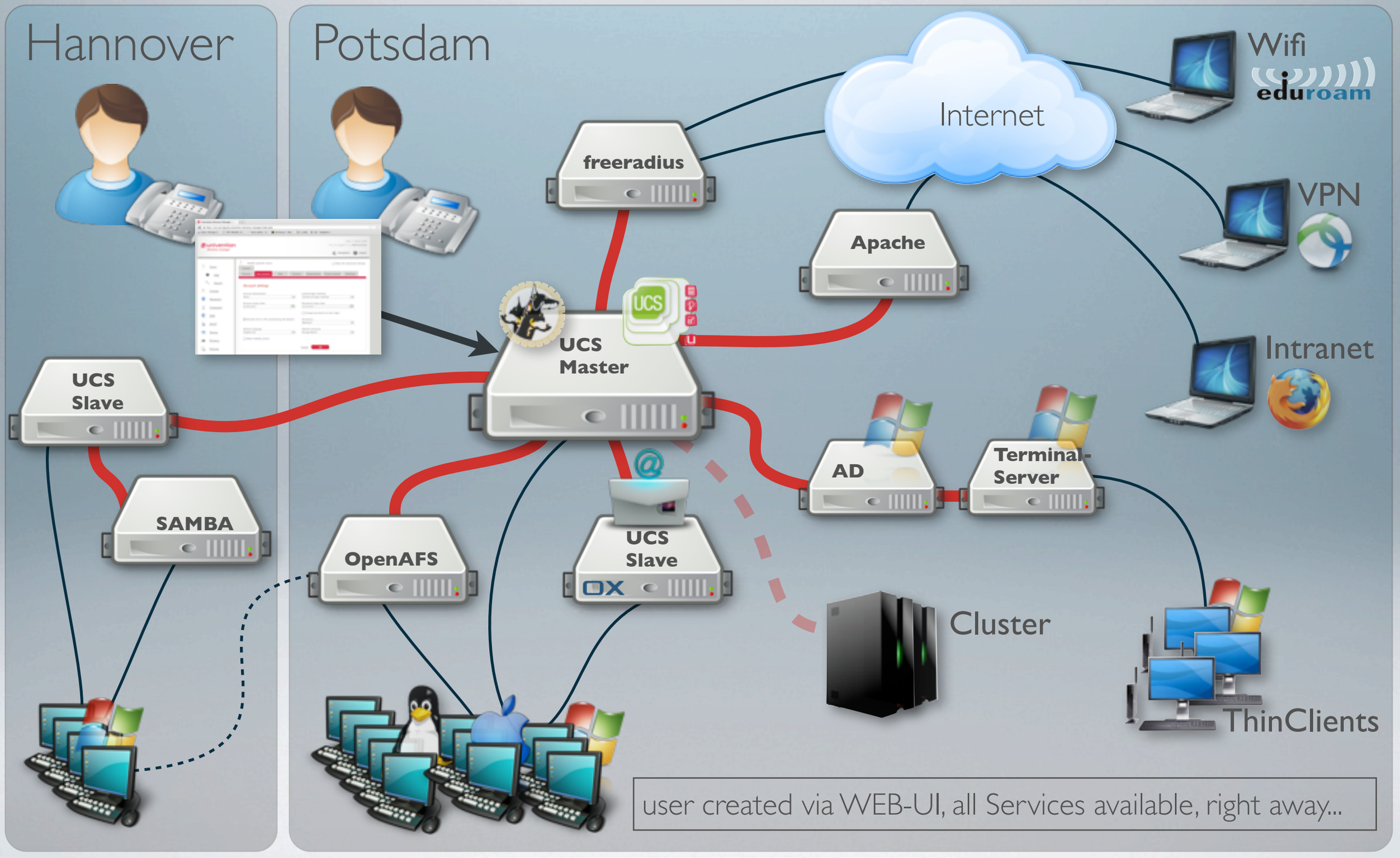
- created new cell "`aei.mpg.de`", UCS-Master server is KDC
- bound "empty" OX6 Server to UCS-Master
- created list of users "to be me migrated"
- created new workstation installation SL 6.0 with new AFS-Cell and LDAP/KRB against UCS-Master
- instructed users
- launched migration script (fed user list)
  - all users get created in new cell can pickup their passwords...

Site-Report - Migration Project

Migration in a nutshell:

- migration day:
  - rsync old $HOMES new $HOMES (particular files only)
    - project and SVN dirs
  - ~200 workstation reinstalled
- all INBOXES rsynced to new OX6
- reconfigure Apache for new personal WEB-pages
- by 6 p.m. up and running again

Site-Report - Migration Project



Site-Report

TODO:

- push OpenAFS usage in Hannover
- push real SSO, kerberize E-Mail/WEB access
- push Cluster authentication / lustre integration

Questions