



Enabling Grids for E-science

# SA3 – PSNC work status

*Adrian Stelmaszyk, Gerard Frankowski*  
*Poznań Supercomputing and Networking Center*

[www.eu-egee.org](http://www.eu-egee.org)



- **Porting**
  - Adrian Stelmaszyk, PSNC Supercomputing Department
- **Security**
  - Gerard Frankowski, PSNC Security Team

- **Daily work on porting**

- Debian problems with capital letters, bug #34130: capitalization not allowed in packageName under Debian

- We notice errors like this:

*dpkg-gencontrol: error: source package name `gSOAP' contains illegal character `S'*

*dh\_gencontrol: command returned error code 65280*

*make: \*\*\* [binary-arch] Error 1*

- Problems with lib32 vs lib64 libraries:

*libglobus\_gss\_assist\_gcc32dbg.so is a 32-bit binary could not be linked with a 64-bit library*

- Problems with multiple includes in tarballs (huge packages)
- Preparing VDT x86\_64 tarballs basing on locally installed software

- Preparing unixODBC in correct version
- Problem with download unixODBC, the default version was set unixodbc v. 2.2.13-11 for Debian x86\_64 but during build was being checked out as unixODBC-2.2.11-13.tar.gz
- Wrong version of BOOST during building glite-WN\_R\_3\_1\_0\_1\_dev. Bug #43466 reported on savannah
- Problem with glite-security-lcmaps\_R\_1\_4\_3\_4 -- recompile with -fPIC
  - We are working on this. More information you can see at: [http://porting.egEE.man.poznan.pl/sdb1/WN-test1/reports/reportModuleDetail-org.glite.security.lcmaps-glite-security-lcmaps\\_R\\_1\\_4\\_3\\_4.html](http://porting.egEE.man.poznan.pl/sdb1/WN-test1/reports/reportModuleDetail-org.glite.security.lcmaps-glite-security-lcmaps_R_1_4_3_4.html)
- Problem with org.glite.amga.server.
  - In progres. Error: cannot convert 'SQLINTEGER\*' to 'SQLLEN\*' for argument '6' to 'SQLRETURN SQLBindCol

- **Organization of work on porting**
  - Dedicated cluster node has been prepared for porting purposes (x86\_64 Debian 4)
  - All build are running locally basing on central ETICS configuration
  - Build packages and reports available on the Web
    - Locally: <http://porting.egee.man.poznan.pl>
    - Common ETICS build reports: <http://grid.ie/autobuild>

- **Worker Node Build Status**
  - Basic - Success rate: 100% (12/12)
  - RGMA - Success rate: 100% (41/41)
  - externals - Success rate: 100% (30/30)
  - torque - Success rate: 100% (3/3)
  - VOMS - Success rate: 100% (11/11)
  - VDT - Success rate: 100% (2/2)
  - *WN-dev* - Success rate: 82% (53/65)
  - *DM* - Success rate: 94% (17/18)
  - *GFAL* - Success rate: 86% (18/21)

- **The team**

- Gerard Frankowski

- Security tests
    - Coordination
    - Reporting

- Błażej Miga

- Security tests
    - Since 1 November no more in PSNC, please forward all the issues to Gerard

- Tomasz Nowocień

- Security tests
    - Patching activities)

- **Workplan for May 08-Oct 08:**
  - Finishing EGEE2 tasks
    - Patching activities
    - *Security Best Practices* document
    - DPM report
  - PSNC EGEE3 site security
    - reef.man.poznan.pl → eventually moved to SA1
    - Torque/PBS
  - gLite security tests
    - Review of the gLite modules
    - HYDRA
      - *Documentation review (HYDRA and its environment)*
      - *Consultation of security test plan*
  - Other issues (mainly organization & reporting)



- **Continuation of work started in EGEE-II**
  - Finishing *Security Best Practices* document
  - Finishing DPM report document
  - Patching activities
    - Patch #1672
      - *Service release version information provider*
      - <<http://savannah.cern.ch/patch/?1672>>
    - Patch #1682
      - *[ YAIM ] glite-yaim-myproxy with info provider service configuration*
      - <<http://savannah.cern.ch/patch/?1682>>

- **This task was moved to SA1, however please read the recommendations**
  - Mount NFS filesystems with *nosuid* option
  - Block as much incoming traffic as possible directed to PBS/Torque
  - Minimize the number of run *suid root* applications
  - Switch off or uninstall unnecessary services and daemons
  - Prepare a sufficient software update policy (with respect to the complexity level of used software)
  - Harden the *iptables* configuration (even if you use a corporate firewall)
  - Restrict access to „sensitive” system directories

- **Security of the EGEE-III infrastructure installed in PSNC**
  - CERNCERT-20080805 incident
  - PSNC reef site analyzed
  - Torque/PBS found as potentially dangerous software that must be running due to appropriate work of the cluster
- **torque code analysis**
  - 2.1.9-4cri.slc4.i386 – the latest used in gLite 3.1
  - 2.3.3 – the latest available at <http://www.clusterresources.com>
- **Network services (and clients) investigated**
  - pbs\_mom, pbs\_sched, pbs\_server and pbs\_iff (*suid root!*)

- **Types of vulnerabilities found**
  - Inappropriate memory handling
  - Using *assert* macro for data validation
  - Heap overflow vulnerabilities
  - Connections from privileged TCP ports
  - Insufficiently restrictive ACL implementation
- **Reported to SA3 leader on October 31**
- **Full information for the vendor is being prepared**

- **Analysis of essential/interesting gLite modules**
- **Security tests of Hydra module**
  - Hydra is encrypted file storage solution. It encrypts files and stores them on normal storage elements. The sensitive information is the encryption key, which is after generation split and distributed on several different places, called the Hydra Keystores
  - more on: <https://twiki.cern.ch/twiki/bin/view/EGEE/DMEDS>
  - initial security tests plan established by the developers and consulted by PSNC - <https://twiki.cern.ch/twiki/bin/view/EGEE/HydraTestPlan>
  - The work so far has been focused on analysis of the provided functionality and the Hydra environment (e.g. Tomcat server)
  - thanks to the people at CERN (Kalle, Andreas) we will have an access to the CERN testbed

- **Participation in conferences and meetings**
  - SA3 AHM in Geneva: Tomasz Nowocień
  - EGEE 08 Conference: Gerard Frankowski
  - SA3 AHM in Prague: Gerard Frankowski
  - Phone conferences (general and patching)
  - Internal meetings
- **Reporting**
  - 2 quarterly reports
  - PPT

- **gLite security testing**
  - 10<sup>th</sup> of November – start of Hydra security tests
  - end of December – Hydra: finishing security tests
  - 2<sup>nd</sup> week of January, 2009 – Hydra: report available
    - Critical issues will be reported at once
- **EGEE-III infrastructure security**
  - 15<sup>th</sup> of November – full information for the PBS vendor prepared

**Thank you for your attention!**

[adisan@man.poznan.pl](mailto:adisan@man.poznan.pl)

(Adrian Stelmaszyk – Porting)

[gerard@man.poznan.pl](mailto:gerard@man.poznan.pl)

(Gerard Frankowski – Security)