EGEE Security Testing.

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- Security Testing.

- General Strategy.

- Component-Specific Testing: FTS

- Present Status.

- Conclusions.

Security Testing

- Security testing in gLite:

- Mostly from the "security testing plan".
  - Tests the security mechanisms/settings.

  - Does not test performance or component functionality.

  - Will initially be implemented using the command-line tools in scripts.

  - Web browser-based tests will not be essential.

  - Will test security functionality that is expected to fail.

  - The result code for failure and success should be caught.

  - Stress and stability tests should be made on the basic AA engines (`org.glite.security.authz-framework-java` and gridsite).

gLite component testing

- After consultation with JRA1, selected the most mature component for testing: File Transfer Service (FTS).

- First, the FTS design must be understood to check security vulnerabilities.
  - Jobs (data transfers) are submitted to a web service (WS) with a user certificate.
    - The WS performs the authentication and authorization (AA).
    - The WS places the user proxy to a MyProxy server for long jobs.
    - Clear-text myproxy passwords are passed between the ODBS and WS.
    - The AA is based on a VOMS role or a mapfile, similar to a grid-mapfile.
  - The web service (portal) communicates with the Oracle database server (ODBS).
  - C++ daemon picks up jobs from the ODBS.
  - The C++ daemon picks up MyProxy credentials.

FTS test plans

- Jobs (data transfers) are submitted to a web service (WS) with a user certificate.

- Check the security of the WS, tomcat settings?

- The WS AA, based on a VOMS role or a mapfile, similar to a grid-mapfile.

- Check permissions of mapfiles.

- Send the AA service a series of valid/invalid certificates
  (`org.glite.security.test-utils`).

- The WS places the user proxy to a MyProxy server for long jobs.

- Check the security of the WS-MyProxy server connection.

- The web service (portal) communicates with the Oracle database server (ODBS).

- Clear-text myproxy passwords are passed between the ODBS and WS.

- Check the security of the WS-ODBS connection, check for clear-text passwords.

- C++ daemon picks up jobs from the ODBS.

- Check the security of the WS-C++ daemon, check for clear-text passwords.

- The C++ daemon picks up MyProxy credentials.

- Check the security of the C++ daemon-MyProxy server, check for clear-text passwords.

FTS Security Tests: Current Status.

- Using gLite deployment module (RPM). With MUCH help from Gavin McCance.

- Using `glite-file-transfer-service-oracle_installer.sh` from `R1.1 / R20050430`

- Have had to fix some incorrect variables:
  - @org.glite.deployment.config.info.version@ → 1.1.2
  - @org.glite.deployment.config.info.age@ → 1

- Oracle/sqlplus account/connection OK.

- Page `https://uimon.cern.ch/twiki/bin/view/LCG/FtsClientInstall` gives important info:
  - How to set up the `services.xml` file. Done.

- Tomcat and service `glite-transfer-agent-fts-test` start OK.

FTS Security Tests: Current Status.

- As of June 16, 2005.

- Mapfiles edited. (submit,manager,cancel). Important. Overwrites.

- Web interface to `https://pchip12.cern.ch:8443/test/glite-data-transfer-fts/` works OK.

- Test method function (page) works.

- So far, all command line commands have worked.

- Currently:
  - Writing scripts to test permissions on mapfiles.

  - Looking at the connections between WS ODBS C++ daemon and MyProxy server.

Conclusions.

- Testing of "security" components still to be started properly.

- Security testing of FTS underway.