

Testing client connection

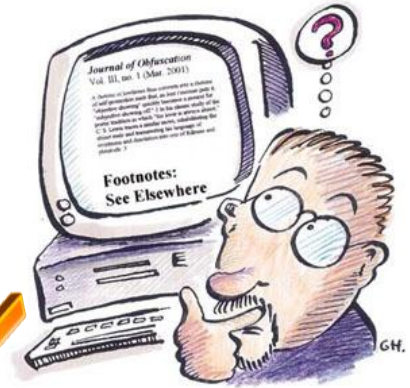
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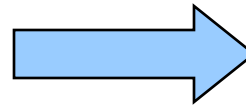
Physics Data Processing group Nikhef

Amsterdam

- What is the problem?
 - GSI authentication failures
 - Configuration problems
- Which grid component is involved?



- **Tools available**
 - openssl
 - curl
 - voms-proxy-info
- **Disadvantages**
 - Need to know which does what
 - Output hard to understand



- **Client_connect**
 - Bash script doing most of the testing for you

- Environmental settings
- The certificate itself – both on the used side and on the server side
- Certificate revocation lists
- Public and private key rights on the user side
- Proxy certificates
- Local time
- Time skew between the client and the server
- Is the service accessible and can we establish a secure connection
- ...



- **Services tested**
 - User Interface
 - Workload Management System
 - Computing Element – Cream CE
 - Logging and Bookkeeping server
 - Virtual Organization Membership Service
 - Site Central Authorization Service

- **Recommendations for the server administrators**
 - Provide a stateless service call, which can be interrogated
 - Provide the Date field in the HTTP response

- **WMS test when nothing is wrong...**

```
-bash-3.00$ ./connection_test.sh -wms
```

```
**** 2009-09-17T14:04:11+0200 : Logging output ****
```

WARNING : Warning messages regarding closed ports test ports which should be opened with a default installation.

Perform UI tests

UI tests performed, if no warnings or errors are displayed above, everything should work...

WARNING: Error occurred while trying to connect with the SSL v2 protocol

Perform WMS tests

WARNING: CRL not in DER format

WARNING: Port 9000 is not open on graszode.nikhef.nl

WARNING: The WMS should have port 9000 opened by default to communicate with the Logging and Bookkeeping server, but this port is closed.

... (other warnings regarding closed ports)

WMS tests performed, if no warnings or errors are displayed above, everything should work fine...

- **Grid environment not set**

```
-bash-3.00$ ./connection_test.sh
```

```
**** 2009-09-17T14:41:08+0200 : Logging output ****
```

```
WARNING : Warning messages regarding closed ports test ports which should be opened with a default installation.
```

```
ERROR: Cannot find trusted certificates directory in either the environment variable X509_CERT_DIR, or /etc/grid-  
security/certificates or /user/tbalint/.globus/certificates
```

- **No proxy certificate found**

```
-bash-3.00$ ./connection_test.sh
```

```
**** 2009-09-17T14:32:12+0200 : Logging output ****
```

```
WARNING : Warning messages regarding closed ports test ports which should be opened with a default installation.
```

```
ERROR: cannot locate proxy certificate at default location, try -help for more information
```

- **CRL on client side is old**

```
tunde@schrift:~/Nikhaf_safe/testing_tool$ ./connection_test.sh -proxy ../x509up_u7924
```

```
**** 2009-09-17T14:55:06+0200 : Logging output ****
```

```
WARNING : Warning messages regarding closed ports test ports which should be opened with a default installation.
```

```
WARNING: Could not find voms-proxy-info.
```

```
Perform UI tests
```

```
WARNING: Downloaded CRL newer then CRL on client
```

```
UI tests performed, if no warnings or errors are displayed above, everything should work...
```


- **Server side CRL is out of date or missing**

```
bash-3.00$ ./connection_test.sh -connect kop.nikhef.nl -wms -no_ui
```

ERROR: Not logged in. Can be that the CRL is out of date on the server side or that the VO you want to use isn't allowed to access the server. The used VO can be specified with the voms-proxy-init command.

Original error:

530-globus_xio: Authentication Error

530-globus_gsi_gssapi: SSLv3 handshake problems: Couldn't do ssl handshake

530-OpenSSL Error: by_file.c:162: in library: x509 certificate routines, function X509_load_cert_file: PEM lib

530-OpenSSL Error: pem_lib.c:637: in library: PEM routines, function PEM_read_bio: no start line Expecting:

TRUSTED CERTIFICATE

530 End.

- **If the /etc/hosts file on the Computing Element looks like this :**

“127.0.0.1 localhost.localdomain localhost kop.nikhef.nl”

→ globus-url-copy will not work

```
-bash-3.00$ ./connection_test.sh -no_ui -ce -connect kop.nikhef.nl
```

ERROR: The server is trying to connect to itself. Or GLOBUS_HOSTNAME is set or something is wrong in /etc/hosts. Contact the system administrator.

- **Client_connect**

- Required tools: GNU awk, OpenSSL, Curl, Date, Grep, Sed, Stat, Ntpdate, Cat, voms-proxy-info

- **Web site**

- http://www.nikhef.nl/~tbalint/verify_tool.html

- **Contact**

- Tünde Bálint – tbalint@nikhef.nl
- Jan Just Keijser – janjust@nikhef.nl



Thank you for your attention