

**Quality Criteria Verification**  
**Executive Summary**  
**For QCV, Stage Rollout, DMSU and EGI internal**

Name of the component	Globus-gsissh		
Release	5.5.4	RT Ticket	4457
Software Provider	IGE		
	Mattias Ellert	mattias.ellert@fysast.uu.se	
Validator	Name:	E-Mail	
	Enol Fernández	<a href="mailto:enolfe@ifca.unican.es">enolfe@ifca.unican.es</a>	
V. Hours Worked	1:00		
Component status	<b>Accepted</b>	Date	23/01/2013
Verification start date	23/01/2013	Verification end date	23/01/2013

**Summary:**

Globus gsissh includes both server and client packages for ssh using gsi security. This is the first release for deb6. The most prominent change is the update of the underlying OpenSSH version. No other significant changes to test included.

Documentation links are incorrect, they should point to:

<http://globus.org.eu/toolkit/docs/5.2/5.2.2/gsiopenssh>

and

<http://globus.org.eu/toolkit/docs/5.2/5.2.2/gsiopenssh/admin>

**GGUS Tickets:**

None

**Summary of Quality Criteria verification:**

	Generic Quality Criteria Total (Critical/Non critical)			
	Passed	Not passed	Not Applicable	Total
<b>TP</b>				
<b>VLD</b>	18		3	21
	Specific Quality Criteria			
<b>TP</b>				
<b>VLD</b>	8		4	12

Criteria	Accepted (Y/N/NA)	Tested (TP/VLD)	Comments	RELEASE:
<b>DOCUMENTATION QC</b>				
GENERIC_DOC_1 (Functional Description)	Y	VLD	Available at <a href="http://globus.org.eu/toolkit/docs/5.2/5.2.2/gsiopenssh">http://globus.org.eu/toolkit/docs/5.2/5.2.2/gsiopenssh</a>	ige.globus-gsi
GENERIC_DOC_2 (Release Notes)	Y	VLD	Release notes available at: <a href="http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/rn/#opensshRN">http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/rn/#opensshRN</a>	
GENERIC_DOC_3 (User Documentation)	Y	VLD	Available at: <a href="http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/user/#opensshUser">http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/user/#opensshUser</a>	
GENERIC_DOC_4 (Online help (man pages))	Y	VLD	Commands have man and -h options.	
GENERIC_DOC_5 (API Documentation)	NA	VLD		
GENERIC_DOC_6 (Administrator Documentation)	Y	VLD	Available at <a href="http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/admin/#opensshAdmin">http://globus.org.eu/toolkit/docs/5.0/5.0.3/security/openssh/admin/#opensshAdmin</a>	
GENERIC_DOC_7 (Service Reference Card)	Y	VLD	Data needed for the reference card is available but not in a single document!	
GENERIC_DOC_8 (Software License)	Y	VLD	Apache License	
GENERIC_DOC_9 (Release changes testing)	Y	VLD	Document available, but no tests (no bugs or new features in the release)	
<b>SOFTWARE DISTRIBUTION QC</b>				
GENERIC_DIST_1 (Source Code Availability)	Y	VLD	Source repo is available	
GENERIC_DIST_3 (Binary Distribution)	Y	VLD	Debs installed without issues	
<b>SOFTWARE FEATURES QC</b>				
GENERIC_SOFT_1 (Backwards Compatibility)	Y	VLD	No previous version available in debian	
GENERIC_SOFT_2 (New features testing)	Y	VLD	No new features	
<b>SERVICE CRITERIA QC</b>				
GENERIC_SERVICE_1 (Service control and status)	Y	VLD	Service control scripts working fine	
GENERIC_SERVICE_2 (Log Files)	Y	VLD	Logs go to standard place (/var/log/auth.log)	
GENERIC_SERVICE_3 (Service Reliability)	Optional			
GENERIC_SERVICE_4 (Service Robustness)	Optional			
GENERIC_SERVICE_6 (Default Password Configuration)	Y	VLD	Does not use passwords anywhere	
GENERIC_SERVICE_7 (Default Configuration)	NA	VLD	Does not use yaim	
<b>SECURITY QC</b>				
GENERIC_SEC_1 (World Writable Files)	Y	VLD	Not found	
GENERIC_SEC_3 (Passwords in world readable)	Y	VLD	Does not use passwords anywhere	
<b>MISCELLANEOUS QC</b>				
GENERIC_MISC_1 (Bug Tracking System)	Y	VLD	IGE is enrolled in GGUS	
<b>AUTHENTICATION QC</b>				
AUTHN_CRED_1 (X.509 Certificate support)	Y	VLD		
AUTHN_CRED_2 (SHA2 Certificate support)	Y	VLD	Tested with SHA2 host certificates	
AUTHN_CRED_3 (RFC Proxy support)	Y	VLD	tested with -rfc proxies	

AUTHN_PROTO_1 (TLSSSLv3 Support)	NA		
<b>AUTHORISATION QC</b>			
AUTHZ_PCYDEF_3 (Ban UserGroup of users)	NA	VLD	Only allowed users
AUTHZ_PCYDEF_4 (Allowed users definition)	Y	VLD	In grid-mapfile
AUTHZ_PEP_2 (User Mapping)	Y	VLD	In grid-mapfile
<b>INTERACTIVE JOB MANAGEMENT QC</b>			
INTERACTIVE_JOB_1 (Interactive login)	Y	VLD	See report
<b>MONITORING PROBES QC</b>			
MON_PROBE_GENERIC_1 (Certificate Lifetime)	NA		
MON_PROBE_GENERIC_2 (Service Probe)	NA		
<b>CLIENT TOOLS QC</b>			
CLIENT_TOOLS_1 (Command line options cohe)	Y	VLD	man pages and command line coherent
CLIENT_TOOLS_2 (Error Messages)	Y	VLD	Error messages coming from openssh

## Validator comments:

### Installation:

#### 1. Installation

```
# apt-get install --force-yes -qq ige-meta-globus-gsissh
WARNING: The following packages cannot be authenticated!
 libglobus-common0 libglobus-gsi-openssl-error0 libglobus-gsi-proxy-ssl1
libglobus-openssl-module0
 libglobus-gsi-cert-utils0 libglobus-gsi-sysconfig1 libglobus-gsi-callback0
 libglobus-gsi-credential1 libglobus-gsi-proxy-core0 libglobus-gssapi-gsi4
gsi-openssh-client
 globus-common-progs globus-gsi-cert-utils-progs libglobus-callout0
libglobus-gss-assist3
 globus-proxy-utils libglobus-xio0 libglobus-usage0 gsi-openssh-server gsi-
openssh
 ige-meta-globus-gsissh
Selecting previously deselected package libltdl7.
(Reading database ... 39123 files and directories currently installed.)
Unpacking libltdl7 (from .../libltdl7_2.2.6b-2_amd64.deb) ...
Selecting previously deselected package libglobus-common0.
Unpacking libglobus-common0 (from .../libglobus-common0_14.7-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-openssl-error0.
Unpacking libglobus-gsi-openssl-error0 (from .../libglobus-gsi-openssl-
error0_2.1-2~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-proxy-ssl1.
Unpacking libglobus-gsi-proxy-ssl1 (from .../libglobus-gsi-proxy-ssl1_4.1-
2~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-openssl-module0.
Unpacking libglobus-openssl-module0 (from .../libglobus-openssl-module0_3.2-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-cert-utils0.
Unpacking libglobus-gsi-cert-utils0 (from .../libglobus-gsi-cert-utils0_8.3-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-sysconfig1.
Unpacking libglobus-gsi-sysconfig1 (from .../libglobus-gsi-sysconfig1_5.3-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-callback0.
Unpacking libglobus-gsi-callback0 (from .../libglobus-gsi-callback0_4.3-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-credential1.
Unpacking libglobus-gsi-credential1 (from .../libglobus-gsi-credential1_5.3-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gsi-proxy-core0.
Unpacking libglobus-gsi-proxy-core0 (from .../libglobus-gsi-proxy-core0_6.2-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gssapi-gsi4.
Unpacking libglobus-gssapi-gsi4 (from .../libglobus-gssapi-gsi4_10.7-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package gsi-openssh-client.
Unpacking gsi-openssh-client (from .../gsi-openssh-client_5.5p1-
4.1~bpo60+1_amd64.deb) ...
Selecting previously deselected package globus-common-progs.
Unpacking globus-common-progs (from .../globus-common-progs_14.7-
1~bpo60+1_amd64.deb) ...
Selecting previously deselected package globus-gsi-cert-utils-progs.
Unpacking globus-gsi-cert-utils-progs (from .../globus-gsi-cert-utils-
progs_8.3-1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-callout0.
```

```

Unpacking libglobus-callout0 (from ../libglobus-callout0_2.2-1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-gss-assist3.
Unpacking libglobus-gss-assist3 (from ../libglobus-gss-assist3_8.6-1~bpo60+1_amd64.deb) ...
Selecting previously deselected package globus-proxy-utils.
Unpacking globus-proxy-utils (from ../globus-proxy-utils_5.0-2~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-xio0.
Unpacking libglobus-xio0 (from ../libglobus-xio0_3.3-1~bpo60+1_amd64.deb) ...
Selecting previously deselected package libglobus-usage0.
Unpacking libglobus-usage0 (from ../libglobus-usage0_3.1-2~bpo60+1_amd64.deb) ...
...
Selecting previously deselected package gsi-openssh-server.
Unpacking gsi-openssh-server (from ../gsi-openssh-server_5.5p1-4.1~bpo60+1_amd64.deb) ...
Selecting previously deselected package gsi-openssh.
Unpacking gsi-openssh (from ../gsi-openssh_5.5p1-4.1~bpo60+1_all.deb) ...
Selecting previously deselected package ige-meta-globus-gsissh.
Unpacking ige-meta-globus-gsissh (from ../ige-meta-globus-gsissh_3.0~bpo60+1_all.deb) ...
Processing triggers for man-db ...
Setting up libltdl7 (2.2.6b-2) ...
Setting up libglobus-common0 (14.7-1~bpo60+1) ...
Setting up libglobus-gsi-openssl-error0 (2.1-2~bpo60+1) ...
Setting up libglobus-gsi-proxy-ssl1 (4.1-2~bpo60+1) ...
Setting up libglobus-openssl-module0 (3.2-1~bpo60+1) ...
Setting up libglobus-gsi-cert-utils0 (8.3-1~bpo60+1) ...
Setting up libglobus-gsi-sysconfig1 (5.3-1~bpo60+1) ...
Setting up libglobus-gsi-callback0 (4.3-1~bpo60+1) ...
Setting up libglobus-gsi-credential1 (5.3-1~bpo60+1) ...
Setting up libglobus-gsi-proxy-core0 (6.2-1~bpo60+1) ...
Setting up libglobus-gssapi-gsi4 (10.7-1~bpo60+1) ...
Setting up gsi-openssh-client (5.5p1-4.1~bpo60+1) ...
Setting up globus-common-progs (14.7-1~bpo60+1) ...
No diversion 'diversion of /usr/share/globus/config.guess to /usr/share/globus/config.guess.gpt by globus-common-progs', none removed.
Setting up globus-gsi-cert-utils-progs (8.3-1~bpo60+1) ...
Setting up libglobus-callout0 (2.2-1~bpo60+1) ...
Setting up libglobus-gss-assist3 (8.6-1~bpo60+1) ...
Setting up globus-proxy-utils (5.0-2~bpo60+1) ...
Setting up libglobus-xio0 (3.3-1~bpo60+1) ...
Setting up libglobus-usage0 (3.1-2~bpo60+1) ...
Setting up gsi-openssh-server (5.5p1-4.1~bpo60+1) ...
Creating SSH2 RSA key; this may take some time ...
Creating SSH2 DSA key; this may take some time ...
insserv: warning: script 'K01vmcontext' missing LSB tags and overrides
insserv: warning: script 'S18cloud' missing LSB tags and overrides
insserv: warning: script 'vmcontext' missing LSB tags and overrides
insserv: warning: script 'cloud' missing LSB tags and overrides
Restarting OpenBSD Secure Shell server: gsisshd.
Setting up gsi-openssh (5.5p1-4.1~bpo60+1) ...
Setting up ige-meta-globus-gsissh (3.0~bpo60+1) ...

```

### Configuration:

1. Removed password authentication from /etc/gsissh/ssh\_configd
2. Changed port to 2222 in /etc/gsissh/ssh\_configd (ssh running in port 22 in the same machine)
3. Test init scripts:

```

root@test19:~# service gsissh status
gsisshd is running.
root@test19:~# ps aux | grep gsissh

```

```

root      12672  0.0  0.1  74208  1260  ?           Ss   10:02   0:00
/usr/sbin/gsisshd
root      12744  0.0  0.0   7548   836 pts/2      S+   10:22   0:00 grep gsissh
root@test19:~# service gsissh stop
Stopping OpenBSD Secure Shell server: gsisshd.
root@test19:~# ps aux | grep gsissh
root      12756  0.0  0.0   7548   836 pts/2      S+   10:22   0:00 grep gsissh
root@test19:~# service gsissh status
could not access PID file for gsisshd ... failed!
root@test19:~# service gsissh start
Starting OpenBSD Secure Shell server: gsisshd.
root@test19:~# service gsissh status
gsisshd is running.
root@test19:~# ps aux | grep gsissh
root      12772  0.0  0.1  74208  1240  ?           Ss   10:22   0:00
/usr/sbin/gsisshd
root      12784  0.0  0.0   7548   836 pts/2      S+   10:22   0:00 grep gsissh

```

#### 4. Check host certificates are SHA2:

```

# openssl x509 -in hostcert.pem -text -noout | grep Algor
    Signature Algorithm: sha256WithRSAEncryption
    Public Key Algorithm: rsaEncryption
    Signature Algorithm: sha256WithRSAEncryption

```

#### Tests:

1. Created test accounts: enol & test
2. Created grid-mapfile mapping "/DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo" to test
3. Copied valid RFC proxy to enol account:

```

enol@test19:~$ grid-proxy-info
subject   : /DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-
delCastillo/CN=1894128777
issuer    : /DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo
identity  : /DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo
type      : RFC 3820 compliant impersonation proxy
strength  : 512 bits
path      : /tmp/x509up_u1000
timeleft  : 11:59:55

```

#### 4. Execute a command with gsissh:

```

enol@test19:~$ id && gsissh -p 2222 test19.egi.cesga.es id
uid=1000(enol) gid=1000(enol) groups=1000(enol)
uid=1001(test) gid=1001(test) groups=1001(test)

```

#### Log file:

```

Jan 24 10:25:20 localhost gsisshd[12847]: GSI user
/DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo mapped to target user
test
Jan 24 10:25:20 localhost gsisshd[12847]: GSI user
/DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo is authorized as
target user test
Jan 24 10:25:20 localhost gsisshd[12847]: Accepted gssapi-keyex for test from
127.0.0.1 port 41161 ssh2
Jan 24 10:25:20 localhost gsisshd[12847]: pam_unix(gsisshd:session): session
opened for user test by (uid=0)

```

#### 5. Remote shell with gsissh:

```

enol@test19:~$ gsissh -p 2222 test19.egi.cesga.es
Linux localhost 2.6.32-5-xen-amd64 #1 SMP Sun May 6 08:57:29 UTC 2012 x86_64

```

```
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.
```

```
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.
```

```
Last login: Thu Jan 24 09:52:56 2013 from localhost
```

```
test@test19:~$ pwd
```

```
/home/test
```

```
test@test19:~$ whoami
```

```
test
```

```
test@test19:~$ w
```

```
09:55:55 up 16:23, 3 users, load average: 0.00, 0.03, 0.03  
USER      TTY      FROM          LOGIN@      IDLE        JCPU       PCPU WHAT  
root      pts/0    gaepc14.ifca.uni 09:42      1:20       0.24s      0.24s -bash  
root      pts/1    gaepc14.ifca.uni 09:42      0.00s      0.43s      0.00s gsissh -p 2222  
test19.egi.cesga.es  
test      pts/2    test19.egi.cesga 09:55      0.00s      0.26s      0.00s w  
test@test19:~$ exit  
logout  
Connection to test19.egi.cesga.es closed.  
enol@test19:~$
```

## 6. gsiscp

```
enol@test19:~$ seq $RANDOM > testfile  
enol@test19:~$ ls -l testfile  
-rw-r--r-- 1 enol enol 116214 Jan 24 09:56 testfile  
enol@test19:~$ md5sum testfile  
e3cb697dc347f971dacc57750cae9572 testfile  
enol@test19:~$ gsiscp -P 2222 testfile test19.egi.cesga.es:remote  
testfile 100%  
113KB 113.5KB/s 00:00  
enol@test19:~$ gsissh -p 2222 test19.egi.cesga.es "ls -l && md5sum remote"  
total 120  
-rw-r--r-- 1 test test 116214 Jan 24 09:58 remote  
e3cb697dc347f971dacc57750cae9572 remote
```

**Not applicable Quality Criteria**

**Specific Functional Tests to be repeated in SR:**

Test number	Description	Motivation

**Specific Non-functional tests (Scalability, etc...) to be repeated in SR:**

Test number	Description	Motivation

**Comments for UMD QC definition (TSA2.2):**

**Comments for SR (TSA1.3):**

**Comments for DMSU (TSA2.5):**

**Comments for TP:**