

GT 4.2.0 GSI C Release Notes

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<titleabbrev>Release Notes</titleabbrev>

1. Component Overview

The Globus Toolkit Pre-Web Services Authentication and Authorization component provides APIs and tools for authentication, authorization and certificate management. The authentication API is built using *Public Key* Infrastructure (PKI) technologies, e.g. X.509 Certificates and TLS. In addition to authentication it features a delegation mechanism based upon X.509 *Proxy Certificates*. Authorization support takes the form of a couple of APIs. The first provides a generic authorization API that allows callouts to perform access control based on the client's credentials (i.e. the X.509 certificate chain). The second provides a simple access control list that maps authorized remote entities to local (system) user names. The second mechanism also provides callouts that allow third parties to override the default behavior and is currently used in the Gatekeeper and GridFTP servers. In addition to the above there are various lower level APIs and tools for managing, discovering and querying certificates .

2. Feature summary

Features new in GT 4.2.0

- None

Other Supported Features

- Authentication of user using standard X.509 End Entity and *Proxy Certificates*.
- Delegation using X.509 Proxy Certificates.
- Pluggable authorization based on the client's certificate chain for GridFTP and GRAM2.
- Pluggable authorization for GRAM2 based on the RSL of the job.

Deprecated Features

- None

3. Summary of Changes in GSI

There have been no significant changes to GSI C since 4.0.x.

4. Bug Fixes

- [Bug 1217](#)¹: `gss_export_name()` does not conform to RFC 2743 section 3.2
- [Bug 1334](#)²: request for more strict format checking in `grid-mapfile-check-consistency`
- [Bug 1740](#)³: Implicit module activation
- [Bug 1802](#)⁴: `accept_sec_context` doesn't set `LIMITED_PROXY_FLAG` for `GSI_3_LIMITED_PROXY`
- [Bug 1847](#)⁵: `grid-cert-request` with both `/etc/grid-security` and `$GGL/share/certificates`
- [Bug 1854](#)⁶: `grid-cert-info` help message is missing a word
- [Bug 1927](#)⁷: `authz` linking problems on Mac OS X
- [Bug 2035](#)⁸: `globus_callout_read_config` sets `datum->next` to `datum`
- [Bug 2180](#)⁹: The most trivial bug report ever
- [Bug 2207](#)¹⁰: Missing security error 'timestampNotOk'
- [Bug 2316](#)¹¹: `openssl vendorcc32` on solaris fails
- [Bug 2357](#)¹²: `grid-mapfile*` commands ignoring env var `GRIDMAP`
- [Bug 2368](#)¹³: `grid-default-ca` ignores `X509_CERT_DIR` env. variable
- [Bug 2476](#)¹⁴: 3.9.4 rc3 `gaa_simple` does not build with `--static=1`
- [Bug 2499](#)¹⁵: `grid-cert-request` interactive mode
- [Bug 2558](#)¹⁶: `grid-default-ca` doesn't work if there isn't already a default CA
- [Bug 2564](#)¹⁷: `openssl` in 3.9.4 isn't building for non-dbg `vendorcc` flavors on Solaris

¹ http://bugzilla.globus.org/globus/show_bug.cgi?id=1217

² http://bugzilla.globus.org/globus/show_bug.cgi?id=1334

³ http://bugzilla.globus.org/globus/show_bug.cgi?id=1740

⁴ http://bugzilla.globus.org/globus/show_bug.cgi?id=1802

⁵ http://bugzilla.globus.org/globus/show_bug.cgi?id=1847

⁶ http://bugzilla.globus.org/globus/show_bug.cgi?id=1854

⁷ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=1927

⁸ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2035

⁹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2180

¹⁰ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2207

¹¹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2316

¹² http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2357

¹³ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2368

¹⁴ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2476

¹⁵ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2499

¹⁶ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2558

¹⁷ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2564

- [Bug 2695](#)¹⁸: Openssl pthread build fails on Tru64

5. Known Problems

The following problems and limitations are known to exist for GSI C at the time of the 4.2.0 release:

5.1. Limitations

- No known limitations exist.

5.2. Outstanding bugs

- [Bug 903](#)¹⁹: grid-proxy-init crashes ERROR:Couldn't create *proxy certificate*
- [Bug 989](#)²⁰: Error message I get when 'grid-proxy-init' is all that's required
- [Bug 1301](#)²¹: random errors during ftp tests
- [Bug 1679](#)²²: Unified support for emailAddress in grid-mapfile
- [Bug 1753](#)²³: bug 318 resolution opens door to spoofing ?
- [Bug 1843](#)²⁴: Cert Search Order on Windows
- [Bug 1845](#)²⁵: globus_mutex_lock fails in gss_acquire_cred procedure
- [Bug 2589](#)²⁶: Behavior of C and java grid-proxy-init differ, should be unified
- [Bug 2676](#)²⁷: GSI on Windows?

6. Technology dependencies

The GSI C component depends on the following GT components:

- C Common Libraries

The GSI C component depends on the following 3rd party software:

- OpenSSL

7. Tested platforms

Tested platforms for GSI C:

¹⁸ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2695

¹⁹ http://bugzilla.globus.org/globus/show_bug.cgi?id=903

²⁰ http://bugzilla.globus.org/globus/show_bug.cgi?id=989

²¹ http://bugzilla.globus.org/globus/show_bug.cgi?id=1301

²² http://bugzilla.globus.org/globus/show_bug.cgi?id=1679

²³ http://bugzilla.globus.org/globus/show_bug.cgi?id=1753

²⁴ http://bugzilla.globus.org/globus/show_bug.cgi?id=1843

²⁵ http://bugzilla.globus.org/globus/show_bug.cgi?id=1845

²⁶ http://bugzilla.globus.org/globus/show_bug.cgi?id=2589

²⁷ http://bugzilla.globus.org/globus/show_bug.cgi?id=2676

- i386 Linux

8. Backward compatibility summary

Protocol changes in GSI C since GT 4.0.x

- None

API changes since GT 4.0.x

- None

Exception changes since GT 4.0.x

- Not applicable

Schema changes since GT 4.0.x

- Not applicable

9. Associated Standards

Associated standards for GSI C:

- [RFC 3820](#)²⁸ Proxy Certificates
- [RFC 2744](#)²⁹ GSSAPI: C-bindings
- [RFC 2743](#)³⁰ GSSAPI
- [GSSAPI Extensions](#)³¹
- [RFC 2246](#)³² TLS

10. For More Information

See [GSI C](#) for more information about this component.

Glossary

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proxy certificate

A short lived certificate issued using a EEC. A proxy certificate typically has the same effective subject as the EEC that issued it and can thus be used in its place. GSI uses proxy certificates for single sign on and delegation of rights to other entities.

²⁸ <http://www.faqs.org/rfcs/rfc3820.html>

²⁹ <http://www.faqs.org/rfcs/rfc2744.html>

³⁰ <http://www.faqs.org/rfcs/rfc2743.html>

³¹ <http://www.ggf.org/documents/GWD-I-E/GFD-E.024.pdf>

³² <http://www.faqs.org/rfcs/rfc2246.html>

For more information about types of proxy certificates and their compatibility in different versions of GT, see <http://dev.globus.org/wiki/Security/ProxyCertTypes>.

public key

The public part of a key pair used for cryptographic operations (e.g. signing, encrypting).

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