

GT 4.0 Contribution: pyGlobus

GT 4.0 Contribution: pyGlobus

Overview

This component is a **contribution** for the GT 4.0 final distribution. Contributions are not supported by GT and have very limited GT documentation.

pyGlobus provides a high-level, object-oriented interface to the Globus Toolkit 2(r) libraries and related packages such as MyProxy. pyGlobus includes a series of modules that provide access to the full functionality of the Pre-WS API while hiding much of the complexity. In addition, a number of servers and command line tools are provided, e.g., a GridFTP server, a GridFTP GUI client, pyglobusrun, and pyglobus-url-copy. pyGlobus supports the rapid development of Pre-WS applications, and allows for easy integration with C/C++ and Fortran code.

Table of Contents

1. System Administrator's Guide	1
1. Introduction	1
2. Building and installing	1
3. Configuring	1
4. Deploying	1
5. Testing	1
6. Security considerations	2
7. Troubleshooting	2
2. Fact Sheet	3
1. Brief component overview	3
2. Summary of features	3
3. Backward compatibility summary	3
4. Technology dependencies	4
5. Tested platforms	4
6. Associated standards	4
7. For More Information	4
3. 4.0.8 Release Notes	5
1. Introduction	5
2. Changes Summary	5
3. Bug Fixes	5
4. Known Problems	5
5. For More Information	5
4. 4.0.7 Release Notes	6
1. Introduction	6
2. Changes Summary	6
3. Bug Fixes	6
4. Known Problems	6
5. For More Information	6
5. 4.0.6 Release Notes	7
1. Introduction	7
2. Changes Summary	7
3. Bug Fixes	7
4. Known Problems	7
5. For More Information	7
6. 4.0.5 Release Notes	8
1. Introduction	8
2. Changes Summary	8
3. Bug Fixes	8
4. Known Problems	8
5. For More Information	8
7. 4.0.4 Release Notes	9
1. Introduction	9
2. Changes Summary	9
3. Bug Fixes	9
4. Known Problems	9
5. For More Information	9
8. 4.0.3 Release Notes	10
1. Introduction	10
2. Changes Summary	10
3. Bug Fixes	10
4. Known Problems	10

5. For More Information	10
9. 4.0.2 Release Notes	11
1. Introduction	11
2. Changes Summary	11
3. Bug Fixes	11
4. Known Problems	11
5. For More Information	11
10. 4.0.1 Release Notes	12
1. Introduction	12
2. Changes Summary	12
3. Bug Fixes	12
4. Known Problems	12
5. For More Information	12
11. 4.0.0 Release Notes	13
1. Component Overview	13
2. Feature Summary	13
3. Technology Dependencies	13
4. Supported Platforms	14
5. Backward Compatibility Summary	14
6. For More Information	14

Chapter 1. GT 4.0 pyGlobus: System Administrator's Guide

1. Introduction

pyGlobus provides a Python API to the pre-OGSI GT API (GT2). This guide contains installation and configuration information for system administrators installing pyGlobus. It explains how to install, configure and test the installation.

Important

This information is in addition to the basic Globus Toolkit prerequisite, overview, installation, security configuration instructions in the [GT 4.0 System Administrator's Guide](#)¹. Read through this guide before continuing!

2. Building and installing

pyGlobus requires [python](#)² version 2.2 or newer and the GT2 libraries built with a threaded flavor. The full source [installation](#)³ of GT 4.0 will build the prerequisite libraries with the correct flavor.

3. Configuring

pyGlobus requires that the environment variables `GLOBUS_LOCATION` and `GPT_LOCATION` are set. These are set to the base of your globus installation and gpt installation. In GT 4.0 GPT (Grid Packaging Toolkit) is installed in the same place as globus, so you can set both of these environment variables to the same location.

4. Deploying

To install pyGlobus, set the `GLOBUS_LOCATION` and `GPT_LOCATION` environment variables. Use the python `distutils` setup script:

```
%python setup.py install
```

5. Testing

pyGlobus comes with unittests that are arranged by module. To run the unittests you first must be able to create a valid user proxy using `grid-proxy-init`. You must edit `config.txt` in the `pyGlobus/test` directory.

To run all of the tests:

```
%python test_pyGlobus.py
```

If you only wish to run tests from a single module, for example the security module:

```
%python test_security.py
```

¹ [../admin/docbook/](#)

² <http://www.python.org>

³ <http://www.globus.org/toolkit/docs/4.0/admin/docbook/>

6. Security considerations

pyGlobus has a security module which allows for proxy creation, signing, encryption, and the creation and inquiry of security contexts. Care must be taken when developing applications which use GSI to ensure that authentication information will not be compromised. When creating a security context, one must ensure that the context will have the properties that they desire. For example, should the context use confidentiality of integrity? These concerns are not specific to pyGlobus but rather to any application developer who is using low level security APIs.

7. Troubleshooting

See our [FAQ](#)⁴ and [web page](#)⁵ for any problems concerning pyGlobus.

You can also contact us on our mailing list python-discuss@globus.org⁶.

⁴ <http://www.dsd.lbl.gov/gtg/projects/pyGlobus/FAQ.html>

⁵ <http://www.dsd.lbl.gov/gtg/projects/pyGlobus/index.html>

⁶ <mailto:python-discuss@globus.org>

Chapter 2. GT 4.0 Component Fact Sheet: pyGlobus (Contribution)

1. Brief component overview

pyGlobus provides a high-level, object-oriented interface to the Globus Toolkit 2(r) libraries and related packages such as MyProxy. pyGlobus includes a series of modules that provide access to the full functionality of the Pre-WS API while hiding much of the complexity. In addition, a number of servers and command line tools are provided, e.g., a GridFTP server, a GridFTP GUI client, pyglobusrun, and pyglobus-url-copy. pyGlobus supports the rapid development of Pre-WS applications, and allows for easy integration with C/C++ and Fortran code.

2. Summary of features

Features new in release GT 4.0:

- Ability to deny a gassTransfer request in the gassTransfer API.

Other Supported Features

- security: X509 proxy generation, signing, verifying, context creation.
- gridFTP support, third party transfer, setting ftp buffer sizes, GSI authentication.
- GRAM: Ability to generate RSL strings, submit and monitor GRAM jobs.
- XIO: A socket API which can use the different drivers provided with the XIO package.
- GASS: The ability to cache, transfer and copy files, and to start up GASS servers.
- MyProxy: The ability to delegate and retrieve MyProxy credentials.
- RLS: The ability to make RLS requests to a RLS server.

Deprecated Features

- None

3. Backward compatibility summary

Protocol changes since GT version 3.2:

- None

API changes since GT version 3.2:

- Changes in the gassTransfer and Xio APIs.
- Bug fixes and new functionality allowing the denial of a gassTransfer request.
- An XioSocket class was developed which has an interface similar to the Python 2.3 Socket API. For example, it allows timeouts.

Exception changes since GT version 3.2:

- None

Schema changes since GT version 3.2:

- None

4. Technology dependencies

pyGlobus depends on the following GT components:

- GT2 SDK bundles, built with a threaded flavor

pyGlobus depends on the following 3rd party software:

- [python](#)¹ 2.2 or newer

5. Tested platforms

Tested Platforms for pyGlobus

- pyGlobus has been successfully tested on Linux, OSX, Solaris, and FreeBSD.

6. Associated standards

Associated standards for pyGlobus:

- RFC 2744
- RFC 2228
- RFC 3820

7. For More Information

Click [here](#)² for more information about this component.

¹ <http://www.python.org>

² [index.html](#)

Chapter 3. GT 4.0.8 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.8. It includes a summary of changes since 4.0.7, bug fixes since 4.0.7 and any known problems that still exist at the time of the 4.0.8 release. This page is in addition to the top-level 4.0.8 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.8>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

No changes have been made since the previous release.

3. Bug Fixes

No bug fixes have been made since the previous release.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of this release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² http://dev.globus.org/wiki/Python_Core

Chapter 4. GT 4.0.7 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.7. It includes a summary of changes since 4.0.6, bug fixes since 4.0.6 and any known problems that still exist at the time of the 4.0.7 release. This page is in addition to the top-level 4.0.7 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.7>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

No changes have been made since the previous release.

3. Bug Fixes

No bug fixes have been made since the previous release.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of this release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² http://dev.globus.org/wiki/Python_Core

Chapter 5. GT 4.0.6 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.6. It includes a summary of changes since 4.0.5, bug fixes since 4.0.5 and any known problems that still exist at the time of the 4.0.6 release. This page is in addition to the top-level 4.0.6 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.6>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

No changes have been made since the previous release.

3. Bug Fixes

No bug fixes have been made since the previous release.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of this release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² http://dev.globus.org/wiki/Python_Core

Chapter 6. GT 4.0.5 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.5. It includes a summary of changes since 4.0.4, bug fixes since 4.0.4 and any known problems that still exist at the time of the 4.0.5 release. This page is in addition to the top-level 4.0.5 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.5>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

No changes have been made since 4.0.3.

3. Bug Fixes

No bug fixes have been made since 4.0.3.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of the 4.0.5 release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² http://dev.globus.org/wiki/Python_Core

Chapter 7. GT 4.0.4 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.4. It includes a summary of changes since 4.0.3, bug fixes since 4.0.3 and any known problems that still exist at the time of the 4.0.4 release. This page is in addition to the top-level 4.0.4 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.4>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

There have been no changes to pyGlobus.

3. Bug Fixes

There have been no bug fixes.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of the 4.0.4 release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² http://dev.globus.org/wiki/Python_Core

Chapter 8. GT 4.0.3 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.3. It includes a summary of changes since 4.0.2, bug fixes since 4.0.2 and any known problems that still exist at the time of the 4.0.3 release. This page is in addition to the top-level 4.0.3 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.3>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

No changes have occurred for pyGlobus since 4.0.2.

3. Bug Fixes

No bugs have been fixed for pyGlobus since GT 4.0.2.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of the 4.0.3 release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² [index.html](#)

Chapter 9. GT 4.0.2 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.2. It includes a summary of changes since 4.0.1, bug fixes since 4.0.1 and any known problems that still exist at the time of the 4.0.2 release. This page is in addition to the top-level 4.0.2 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.2>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

The following changes have occurred for pyGlobus: internal refactoring, improved documentation, and maintenance on the myProxy module.

3. Bug Fixes

The myProxy module was fixed to work with the later versions of myProxy.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of the 4.0.2 release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² [index.html](#)

Chapter 10. GT 4.0.1 Incremental Release Notes: PyGlobus

1. Introduction

These release notes are for the incremental release 4.0.1. It includes a summary of changes since 4.0.0, bug fixes since 4.0.0 and any known problems that still exist at the time of the 4.0.1 release. This page is in addition to the top-level 4.0.1 release notes at <http://www.globus.org/toolkit/releasenotes/4.0.1>.

For release notes about 4.0 (including feature summary, technology dependencies, etc) go to the [PyGlobus 4.0 Release Notes](#)¹.

2. Changes Summary

The following changes have occurred for pyGlobus:

- Support for new RFC 3820 proxy certificates.
- A script that generates a configuration file for the unit tests.

3. Bug Fixes

No bugs were fixed for pyGlobus.

4. Known Problems

There are no known problems to exist for pyGlobus at the time of the 4.0.1 release.

5. For More Information

Click [here](#)² for more information about this component.

¹ http://www.globus.org/toolkit/docs/4.0/contributions/pyglobus/PyGlobus_Release_Notes.html

² [index.html](#)

Chapter 11. GT 4.0 Release Notes: pyGlobus

1. Component Overview

pyGlobus provides a high-level, object-oriented interface to the Globus Toolkit 2(r) libraries and related packages such as MyProxy. pyGlobus includes a series of modules that provide access to the full functionality of the Pre-WS API while hiding much of the complexity. In addition, a number of servers and command line tools are provided, e.g., a GridFTP server, a GridFTP GUI client, pyglobusrun, and pyglobus-url-copy. pyGlobus supports the rapid development of Pre-WS applications, and allows for easy integration with C/C++ and Fortran code.

2. Feature Summary

Features new in release GT 4.0:

- Ability to deny a gassTransfer request in the gassTransfer API.

Other Supported Features

- security: X509 proxy generation, signing, verifying, context creation.
- gridFTP support, third party transfer, setting ftp buffer sizes, GSI authentication.
- GRAM: Ability to generate RSL strings, submit and monitor GRAM jobs.
- XIO: A socket API which can use the different drivers provided with the XIO package.
- GASS: The ability to cache, transfer and copy files, and to start up GASS servers.
- MyProxy: The ability to delegate and retrieve MyProxy credentials.
- RLS: The ability to make RLS requests to a RLS server.

Deprecated Features

- None

3. Technology Dependencies

pyGlobus depends on the following GT components:

- GT2 SDK bundles, built with a threaded flavor

pyGlobus depends on the following 3rd party software:

- [python](http://www.python.org)¹ 2.2 or newer

¹ <http://www.python.org>

4. Supported Platforms

Tested Platforms for pyGlobus

- pyGlobus has been successfully tested on Linux, OSX, Solaris, and FreeBSD.

5. Backward Compatibility Summary

Protocol changes since GT version 3.2:

- None

API changes since GT version 3.2:

- Changes in the gassTransfer and Xio APIs.
- Bug fixes and new functionality allowing the denial of a gassTransfer request.
- An XioSocket class was developed which has an interface similar to the Python 2.3 Socket API. For example, it allows timeouts.

Exception changes since GT version 3.2:

- None

Schema changes since GT version 3.2:

- None

6. For More Information

Click [here](#)² for more information about this component.

² [index.html](#)