

ELFI

EGEE Grid storage in a local filesystem interface.

Author: Antonio Messina <antonio.messina@ictp.it>, Riccardo Murri <riccardo.murri@ictp.it>

We value your feed back!

Whether you would like to test ELFI in your VO applications, deploy it for production use, hack the sources, or you just like the idea, we would like to hear from you! And, we're willing to offer installation and usage support and implement your ideas in ELFI.

So, please tell us your suggestions, critiques, bug reports and experiences with ELFI! Write to the mailing list elfi@egrid.it (you can subscribe at <http://www.egrid.it/cgi-bin/mailman/listinfo/elfi>)

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What is ELFI?

ELFI is a filesystem interface to the LFC catalog and EGEE SE's (both SRM-enabled and "classic SE"). With ELFI, you can see the entries in the LFC catalog as files in a locally-mounted filesystem, and directly operate on the replica contents: read/write operations on the local filesystem are acted as read/write operations on a remote SE via the SRMv2 and GSI-RFIO protocol.

All operations on the local filesystem are translated into the appropriate operations on the LFC catalog or the remote SE (via SRMv2 and RFIO/GSI protocols). All usual Grid operations on the catalog or the SE have a local filesystem equivalent.

Highlights

POSIX access to Grid files

Any Linux application can access Grid-stored files.

Low-barrier

You operate on Grid storage as you usually do with local files; no complex training is needed.

Secure

The ELFI filesystem is mounted on a *per-user* basis, thus enabling secure and private access to Grid storage.

Based on standard Linux technology

The ELFI filesystem process runs entirely in user-space: no kernel patching is necessary. ELFI is based on the FUSE (Filesystem in USEr space) framework, which is included in all Linux kernels \geq 2.6.14 (and available as an add-on module since 2.4.21) and supported by all major GNU/Linux distributions.

Use cases

Two main scenarios have guided the development of the ELFI filesystem:

- ◆ ease of access by end-users of the Grid — use of ELFI on the UI
- ◆ some applications cannot be recompiled to make use of the RFIO library directly [\[2\]](#), but they can use the Grid storage with ELFI — use of ELFI on the WNs

[\[2\]](#) Either source code is not available, or there is not enough manpower to actually do the coding, or the authors do not want to fork versions for running on the Grid and on a local computing cluster.

Index of resources

More about ELFI

- A detailed discussion of ELFI's features, use cases and requirements is at: <http://www.egrid.it/sw/elfi/about>
- A short comparison of ELFI and lcg-utils is available at: <http://www.egrid.it/sw/elfi/elfi-vs-lcg-utils>
- The ELFI Wiki is a place for community-contributed and informal documentation: <http://www.egrid.it/sw/elfi/wiki/FrontPage>
- You can find posters and slides at: <http://www.egrid.it/sw/elfi/posters>

How to install

- You can find detailed installation instructions at: <http://www.egrid.it/sw/elfi/install>

Using ELFI

- A quickstart summary of elfi usage is available for the impatient at: <http://www.egrid.it/sw/elfi/summary>
- A ELFI session walkthrough is available at: <http://www.egrid.it/sw/elfi/usage>
- Please have a look at <http://www.egrid.it/sw/elfi/support> if you're looking for support

Download

ELFI and FUSE rpms for Scientific Linux CERN 3.0.x are available from our rpm repository at <http://www.egrid.it/download/rpm/RPMS.egrid/>; you can find installation instructions at <http://www.egrid.it/sw/elfi/install>

ELFI is also distributed as part of the EGRID Ready UI, a LCG-2 UI distribution that you can install and run in a user's home directory.

You can download the ELFI source code from the EGRID subversion repository at <http://www.egrid.it/cvs/products/elfi/current/?root=svn>

Getting support

Please have a look at <http://www.egrid.it/sw/elfi/support> if you're looking for support.

Mailing list

You can subscribe the ELFI mailing list at <http://www.egrid.it/cgi-bin/mailman/listinfo/elfi> ; the mailing list is a forum for discussing all issues about ELFI, including support requests and new feature suggestions.

You can post to the mailing list by sending mail to the address elfi@egrid.it.

IRC channel

You can join the ELFI team online on channel #egrid on the freenode IRC network server `irc.freenode.net`.

An IRC client is available online at <http://www.egrid.it/irc> which will take you directly to the EGRID support channel.

Bugs

Please report any bugs through our issue tracking web interface at <http://www.egrid.it/bugs>

Further informations

The main ELFI author and maintainer is Antonio Messina [mailto:<antonio.messina@ictp.it>](mailto:antonio.messina@ictp.it)

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Licence

You can use, modify and (re)distribute the EGRID Live CD under the terms of the GNU GPL version 2, or —at your option— any later version.

(Please note the GNU GPL does not exempt you from acknowledging other people's work and copyrights!)

Acknowledgements

ELFI would not have been possible if the FUSE framework were not available; we wish to thank all the authors of FUSE for their excellent work.

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