Package: fstcore (via r-universe)

October 28, 2026

Type Package

Title R Bindings to the 'Fstlib' Library

Description The 'fstlib' library provides multithreaded serialization of compressed data frames using the 'fst' format. The 'fst' format allows for random access of stored data and compression with the 'LZ4' and 'ZSTD' compressors.

Version 0.10.0

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Depends R (>= 3.0.0)

Imports Rcpp

LinkingTo Rcpp

SystemRequirements little-endian platform

RoxygenNote 7.3.2

Suggests testthat, lintr

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Encoding UTF-8

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URL https://www.fstpackage.org/fstcore/

BugReports https://github.com/fstpackage/fst/issues

NeedsCompilation yes

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`fstcore-package` *R bindings to the fstlib library*

Description

R package `fstcore` contains R bindings to the C++ `fstlib` library which allows interfacing with *fst* files. It also contains the `LZ4` and `ZSTD` sources used for compression. `fstcore` exists as a package separate from the `fst` package to facilitate independent updates to the `fstlib`, `LZ4` and `ZSTD` libraries and is used as a backend to `fst`.

Details

The fstcore package is based on six C++ libraries or components:

- **fstlib**: library containing code to write, read and compute on files stored in the *fst* format. Written and owned by Mark Klik.
- **LZ4**: library containing code to compress data with the LZ4 compressor. Written and owned by Yann Collet.
- **ZSTD**: library containing code to compress data with the ZSTD compressor. Written by Yann Collet and owned by Facebook, Inc.
- **libdivsufsort-lite**: a lightweight suffix array construction algorithm. This code is bundled with the ZSTD compression library. Written and owned by Yuta Mori.
- **sources from zstdmt**: a multithreading library for Brotli, Lizard, LZ4, LZ5 and Zstandard. This code is bundled with the ZSTD library. Written and owned by Tino Reichardt.

- **source file zstd_opt.h**: Price functions for optimal parser. Written and owned by Yann Collet and Przemyslaw Skibinski. This code is bundled with the ZSTD library.

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fstlib - A C++ library for ultra fast storage and retrieval of datasets

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You can contact the author at:

- zstdmt source repository: https://github.com/mcmilk/zstdmt

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See Also

Useful links:

- https://www.fstpackage.org/fstcore/
- Report bugs at https://github.com/fstpackage/fst/issues

`lib_versions` *Display versioning information of fstcore library dependencies*

Description

Display versioning information of fstcore library dependencies

Usage

```
lib_versions()
```

Value

a list with library versions

`threads_fstlib` *Get or set the number of threads used in parallel operations*

Description

For parallel operations, the performance is determined to a great extend by the number of threads used. More threads will allow the CPU to perform more computational intensive tasks simultaneously, speeding up the operation. Using more threads also introduces some overhead that will scale with the number of threads used. Therefore, using the maximum number of available threads is not always the fastest solution. With `threads_fstlib` the number of threads can be adjusted to the users specific requirements. As a default, `fstcore` uses a number of threads equal to the number of logical cores in the system.

Usage

```
threads_fstlib(nr_of_threads = NULL, reset_after_fork = NULL)
```

Arguments

`nr_of_threads`	number of threads to use or `NULL` to get the current number of threads used in multithreaded operations.
`reset_after_fork`	when `fstcore` is running in a forked process, the usage of OpenMP can create problems. To prevent these, `fstcore` switches back to single core usage when it detects a fork. After the fork, the number of threads is reset to it's initial setting. However, on some compilers (e.g. Intel), switching back to multi-threaded mode can lead to issues. When `reset_after_fork` is set to `FALSE`, `fstcore` is left in single-threaded mode after the fork ends. After the fork, multithreading can be activated again manually by calling `threads_fstlib` with an appropriate value for `nr_of_threads`. The default (`reset_after_fork = NULL`) leaves the fork behavior unchanged.

Details

The number of threads can also be set with `options(fst_threads = N)`. NOTE: This option is only read when the package's namespace is first loaded, with commands like `library`, `require`, or `::`. If you have already used one of these, you must use `threads_fstlib` to set the number of threads.

Value

the number of threads (previously) used

Examples

```
# get current number of threads
threads_fstlib()

# set the number of threads
```

```
threads_fstlib(12)

# leave in single threaded mode after a fork
threads_fstlib(12, reset_after_fork = FALSE)

# reset number of threads after a fork
threads_fstlib(12, reset_after_fork = TRUE)
```

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