Comparison

FB

2025-12-05

Set-up

In order to run this comparison we need to change the package name in the *development* branch to
 freesurferformatsDev , see DESCRIPTION . For some reason MRtrix3 creates a file with white space in
it's first line, we should file an issue to MRtrix3 's issue tracker. However, we can easily adjust the check to a
more robust version and re-write the function for speed-ups in runtime.

```
# devtools::load_all()
# TCK ------------------------------------------------------------------
tckf = file.path('tests', 'testdata', 'dwi', 'tracks.tck')

tryCatch(freesurferformats::read.dti.tck(tckf), error = \(e)
        sprintf('Fails due to white space and issues:\n%s', e) |> cat()
        )
```

```
## Fails due to white space and issues:
## Error in freesurferformats::read.dti.tck(tckf): File not in TCK format: Invalid fi
rst line.
```

```
# i.e.
readLines(tckf, n=1L)
```

```
## [1] "mrtrix tracks    "
```

Modification for Comparison

We remove the check in freesurferformats::read.dti.tck() and store the result in read.dti.tck2()

```
# modification to continue with benchmark
if (exists('hasRun_tck')==FALSE) {
  body(freesurferformats::read.dti.tck)[[6L]]
  read.dti.tck2 = freesurferformats::read.dti.tck
  body(read.dti.tck2)[[6L]] = NULL # remove check
  hasRun_tck = TRUE
}
```

to run a comparison on tckf .

```
bench_tck =
  suppressMessages(
    suppressWarnings(
      microbenchmark::microbenchmark(
        # re-named dev package in DESCRIPTION:
        dev = { L1 = freesurferformatsDev::read.dti.tck(tckf) },
        current = { L2 = read.dti.tck2(tckf) },
        times = 10L)
    )
)

with(summary(bench_tck), mean[2] / mean[1])
```

```
## [1] 14.47226
```

TBC

```
# # TSF -------------------------------------------------------------------
# tsff = file.path('tests', 'testdata', 'dwi', 'tracks.tsf')
# not shown
```

Notes

on output comparison

```
cbind(c(unlist(L1$header$derived), L1$header[-1]),
      c(unlist(L2$header$derived), L2$header[-1])) |>
  `colnames<-`(c('dev', 'current'))
```