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Lmod Testing System

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- ▶ Testing philosophy in Lmod
- ▶ Goals of testing Lmod
- ▶ Hermes/tm basic operations
- ▶ Details of how an Lmod test works
- ▶ Future Topics

Testing philosophy in Lmod

- ▶ Lmod's success relies heavily on the testing system.
- ▶ Passing all the tests usually means a new version can be released.
- ▶ I don't think that anyone is using it beside Lmod (But it is very useful)
- ▶ My philosophy is to test features in general
- ▶ Not to setup a torture test
- ▶ No way I can test every possible scenario.
- ▶ My imagination is not that good.

Goals of testing Lmod

- ▶ Test various features of Lmod.
- ▶ New feature won't break old features.
- ▶ Test Lmod on Linux/macOS, Lua 5.1 to 5.4
- ▶ Make development of Lmod easier.
- ▶ Add tests of new bugs \Rightarrow Don't repeat them!

It is hard to test everything

- ▶ Testing Old data with new versions(Collections, spiderT.lua)
- ▶ One test (end2end) builds Lmod and tests the built version
- ▶ All other tests use the source code directly
- ▶ Special hacks to use configuration options.
- ▶ Environment variable are checked NOT configuration options

Hermes/tm Testing system

- ▶ Hermes is a group of tools to help with testing
- ▶ tm is the testing manager.
- ▶ The main function of tm is to select tests and run them.
- ▶ Each test is independent
- ▶ Must tell if test passed via special file (Lua file named t1.results)
- ▶ Three kinds of results
 1. Passed: All steps passed
 2. Failed: Did not produce a t1.results file
 3. Diffed: Produced diffs between gold files and test result files.

tm flow

- ▶ tm searches for tests from the current directory down
- ▶ It is looking for files with the *.tdesc extension (test directory)
- ▶ Once all tests have been selected, it runs them all
- ▶ For each test directory a sub-dir tree is created.
- ▶ Typically: t1/<\$TARG>-<date_time>-<uname
-s>-<arch>-<test_name>

Future Topics

- ▶ Write one new test.
- ▶ Explain how Mname object converts names into a filename.
- ▶ More internals of Lmod?