

Software Testing and the R Language

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We have been developing TIBCO Enterprise Runtime for R (TERR), an Open Source R compatible engine for several years. I will describe the testing processes we have created for this engine. We are testing for both numerical correctness as well as compatibility with Open Source R. We have developed a framework that uses a large portion of the tests from our extensive collection of S-PLUS test suites. Several packages that we have developed for this testing will be presented.

Testing of packages from CRAN is another challenge. We have created a system for testing packages with both TERR and R. We will describe how the system automatically creates tests from a package's source files. Issues with stochastic algorithms and testing on multiple platforms will be discussed. Suggestions for improving packages with tests will also be presented.