

Trilinos Wins R&D 100 Award

Researchers at Sandia National Laboratories received a 2004 R&D 100 award for the development of the Trilinos framework to facilitate the design, development, integration and ongoing support of mathematical software libraries. Every year since 1963, R&D Magazine has showcased the 100 best ideas in industrial and technical innovation through the annual awards program known informally as "the Oscars of Invention." Trilinos is an object-oriented software framework that provides numerical solver functionality for the solution of large-scale, complex multiphysics engineering and scientific applications. Figure 2 (next page) shows the structure of Trilinos, including the major packages and capabilities that are currently available.

Trilinos has been under development at Sandia for the past 4 years, and has had a major impact on Sandia's modeling and simulation capabilities during the past several years by providing uniform access to accurate, robust and efficient solvers and tools. It also facilitates more rapid development of new libraries by providing important core functionality and software engineering processes for developers. Trilinos unifies a diverse collection of libraries that have been developed at Sandia, as well as tools developed by other researchers. Trilinos has also been the development framework for fundamental algorithmic advances in nonlinear solvers and continuation methods, time integration methods, eigenvalue solvers and multi-level preconditioners. Trilinos was released externally for the first time in September 2003 under an open-source license and has been eagerly adopted by academia, industry and other laboratories. Trilinos 4.0 was released in June 2004.

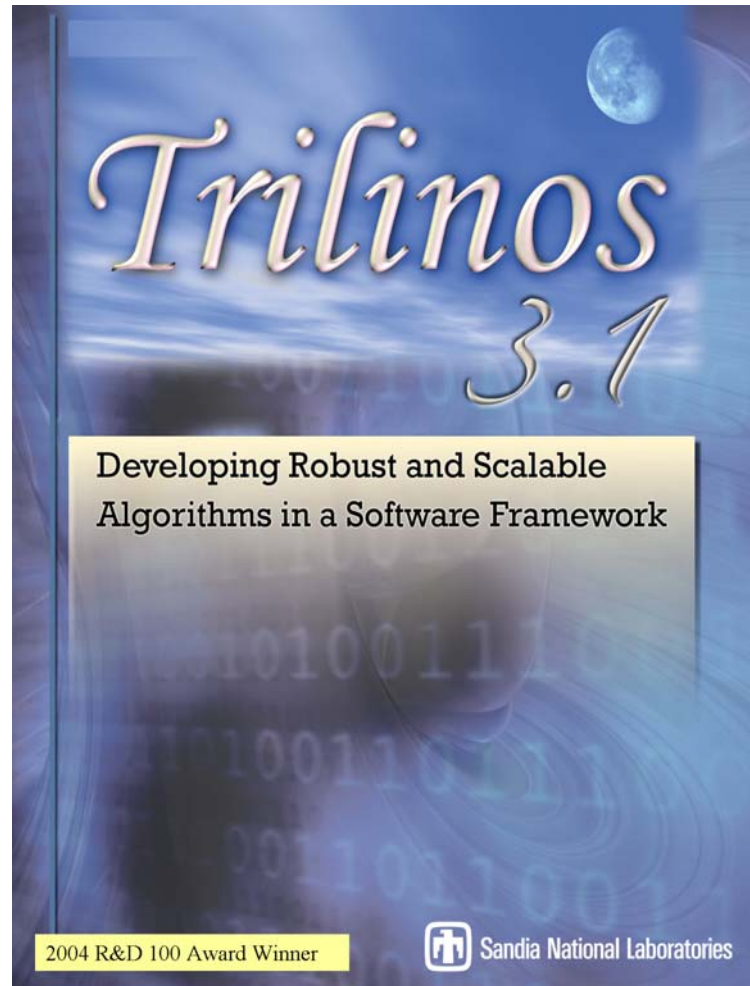


Figure 1: The 2004 R&D 100 Award identifies Trilinos as one of the 100 most technologically significant products introduced this year.

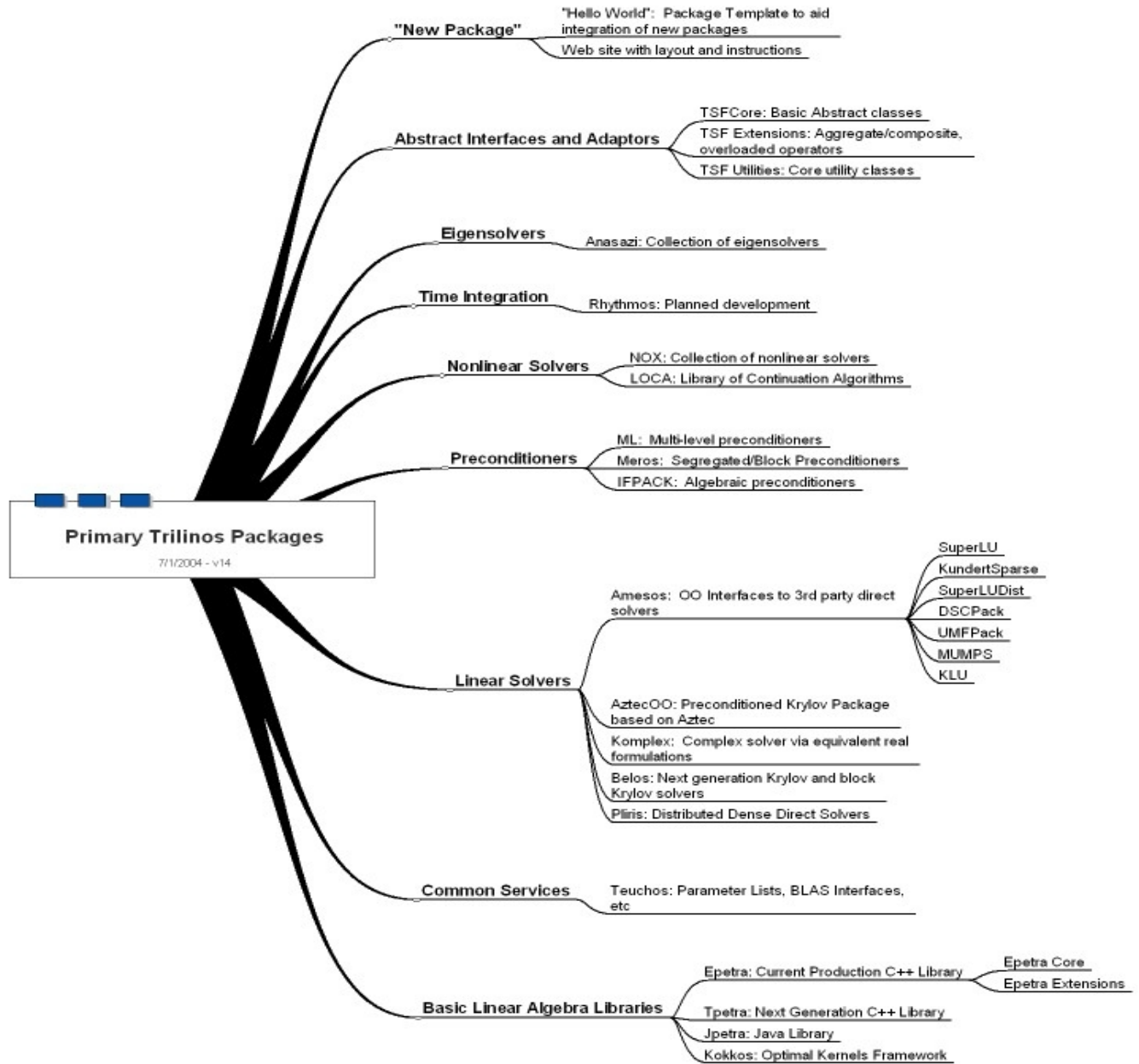


Figure 2. The Trilinos framework provides access to the wide range of solver capabilities shown above.