Vampir

www.vampir.eu

Tool Chain

Vampir's visual performance analysis provides a convenient way to gain insight into parallel program behavior. To generate its input event traces it relies on the powerful Open Source toolkit Score-P for code instrumentation and run-time monitoring.

Analysis Workflow

Performance analysis is an essential step for the optimization of parallel applications. It allows analysts to judge the current application speed, to uncover performance weak spots as starting points for optimizations, and to evaluate the performance gain of optimized versions.

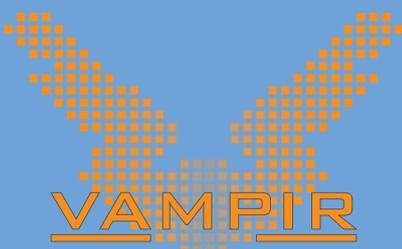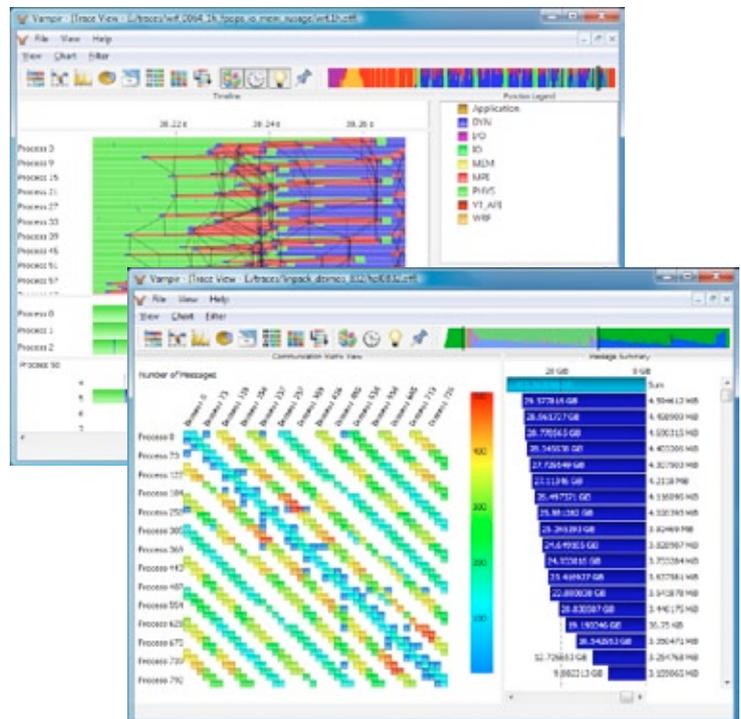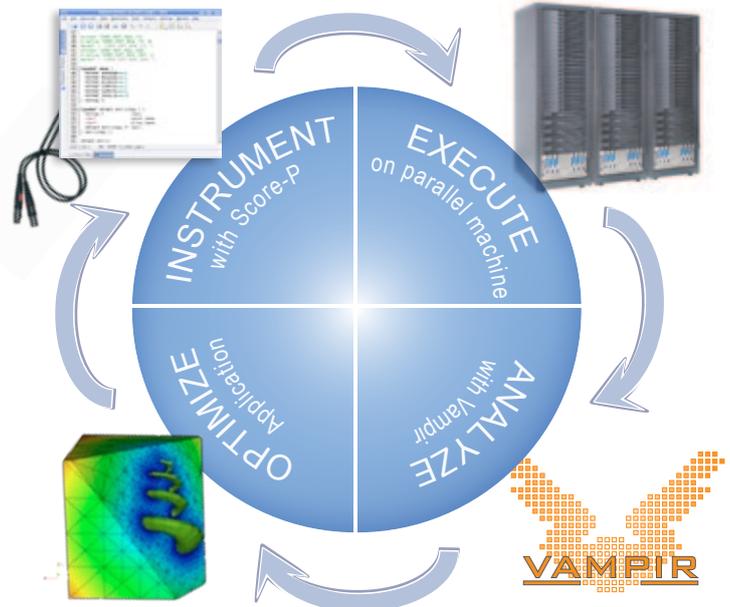The analysis consists of three stages:

- code instrumentation to insert measurement points into the parallel program
- run-time monitoring of a parallel run with a typical input data set on the target hardware
- post-mortem analysis using interactive event trace visualization.

The first two steps are covered by Score-P, the last is provided by the Vampir GUI.

Score-P and Vampir

Score-P is an Open Source community toolset for monitoring parallel programs. It collects data related to the source code, to the parallelization method (e.g., MPI, OpenMP, CUDA), hardware performance counters (e.g., PAPI) and more. It generates either profiles or event traces. Vampir's previous default monitoring software VampirTrace is still available.

Vampir implements optimized event analysis algorithms and customizable displays, enabling a fast and interactive rendering of very complex performance monitoring data. Ultra large data volumes can be analyzed with a parallel version of Vampir. The graphical user interface runs on desktop workstations as well as on parallel production systems. The program is available for all major UNIX platforms, Windows, and Mac OS X.