# PGAS Support in the TAU Performance System®

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## Advantages

**A consistent tool across multiple standards and implementations**

TAU generates library wrappers to match the specific implementation.

**Complete program stack coverage**

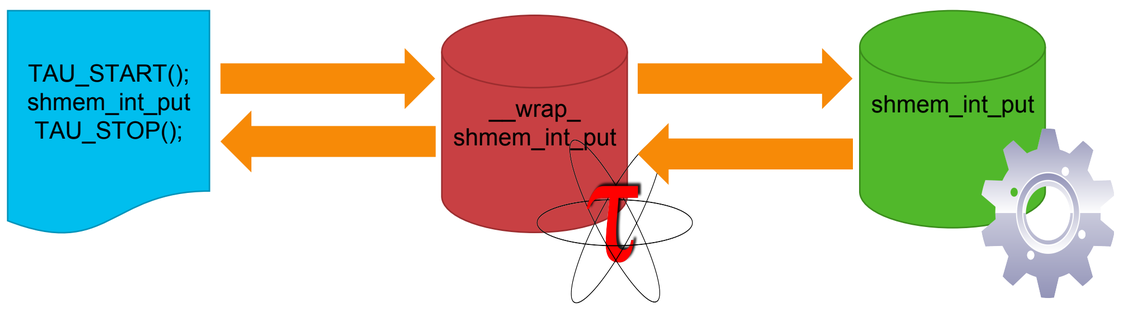
TAU profiles both the program source and runtime library.

**A unified tool chain**

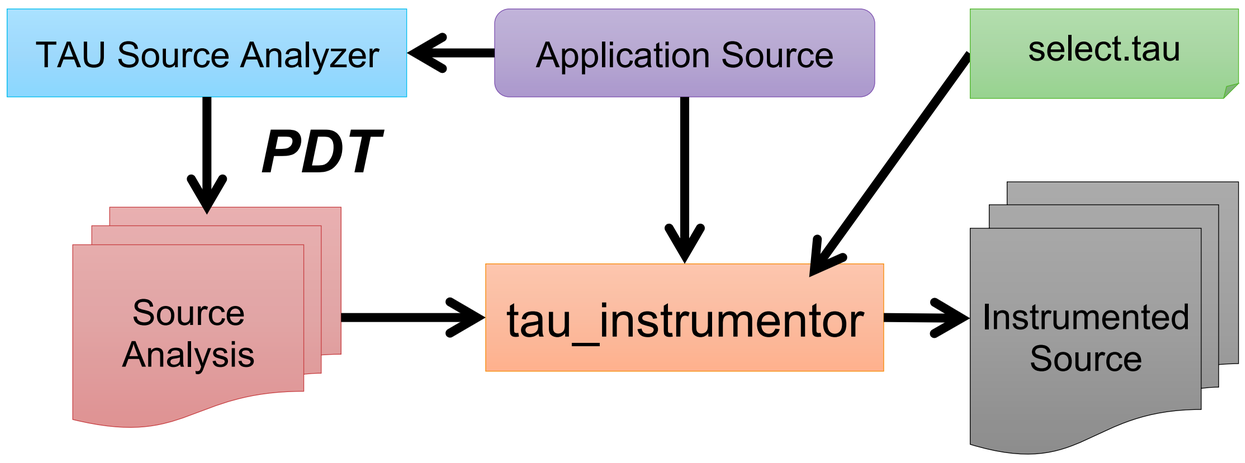
TAU provides multiple analysis and debugging tools in a single toolkit.

## Instrumentation and Measurement

1. **Parse header files and wrap runtime libraries.**
   - Transparently intercept low-level runtime layer routines.
   - Record message sizes, allocation sizes, etc.



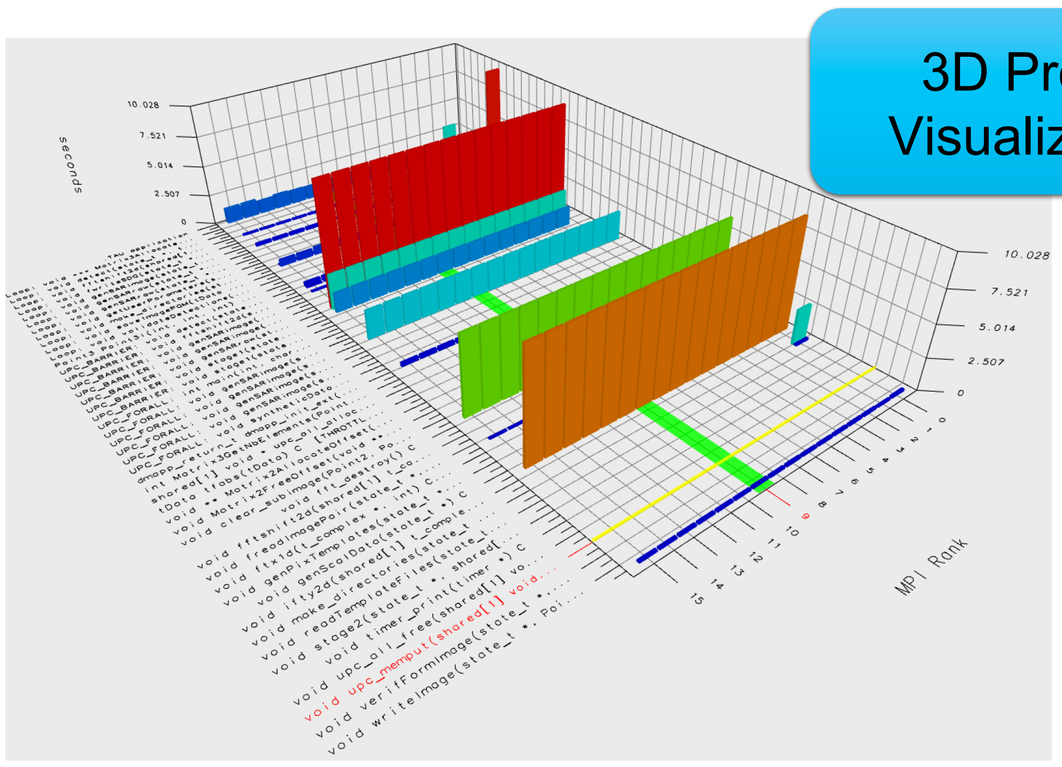

2. **Parse source code to intercept and measure significant program events.**
   - Function entry/exit, memory allocation, etc.



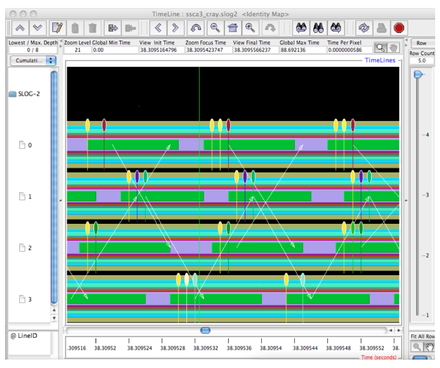

2. **Use selective instrumentation to intercept important language constructs.**
   - upc_forall, upc_barrier, upc_notify, upc_fence, etc.

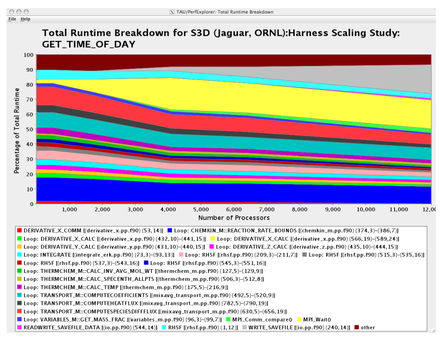
## Performance Results

3D Profile Visualization

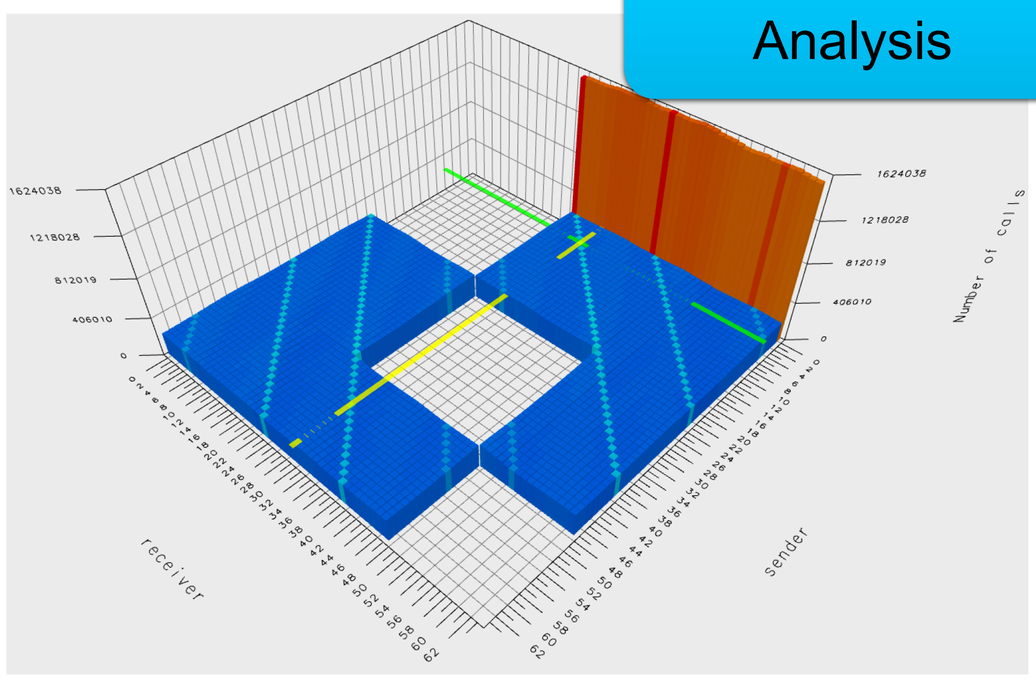



Data Mining, Trace Analysis, Performance Regression Testing

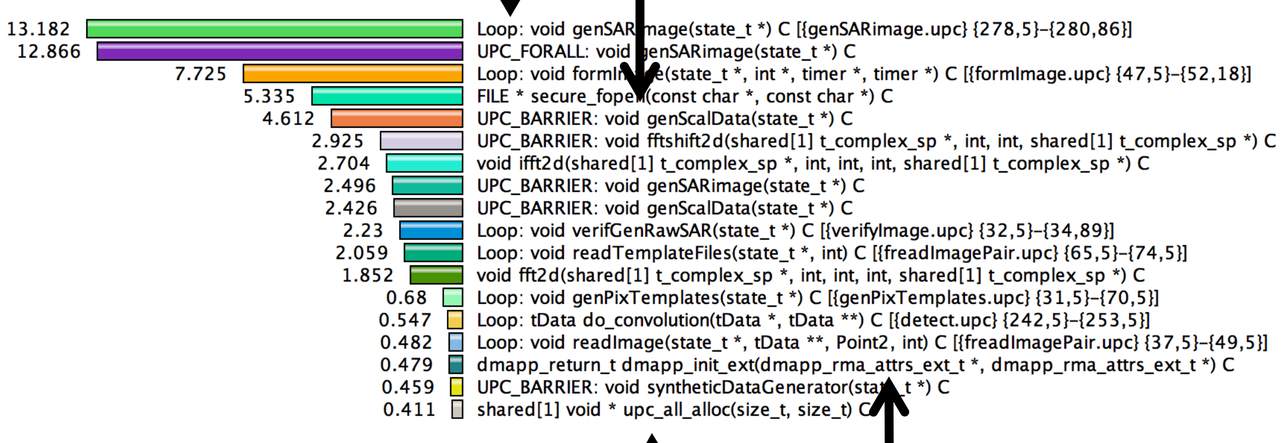





Communication Analysis




Parallel loops and barriers




Global allocations

Vendor library calls

Scan to learn more about TAU

ParaTools