Program Analysis Toolkit

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http://www.cs.uoregon.edu/research/paracomp/proj/
Architecture of TAU
Vampir* and TAU

* http://www.pallas.de
TAU Portable Profiling and Tracing

- **Platforms:**
  - IBM SP, SGI Origin, Intel Teraflop, Cray T3E, HP, Sun, Windows 95/98/NT, Compaq Alpha Linux cluster, Intel Linux cluster

- **Languages:**
  - C, C++, Fortran 77/90, HPF, HPC++, Java

- **Communication libraries:**
  - MPI, PVM, Nexus, Tulip, ACLMPL

- **Thread libraries:**
  - pthreads, Tulip threads, SMARTS threads, Java threads, Windows threads

- **Compilers:**
  - KAI, PGI, GNU, Fujitsu, Sun, Microsoft, SGI and Cray

- **Uses:**
  - PCL (Performance Counter Library, ZAM)
  - PDT (Program Database Toolkit, UO, LANL, ZAM)
  - DyninstAPI (Dynamic Instrumentation, U. Maryland)
  - Vampir (Trace Visualization, Pallas)

- **URL:** [http://www.acl.lanl.gov/tau](http://www.acl.lanl.gov/tau)
PDT Processing Steps

❑ Edison Design Group (EDG) Front End:
  ○ parses a C++, F90, Java source file
  ○ creates an intermediate-language (IL) tree

❑ IL Analyzer:
  ○ processes the intermediate language tree
  ○ creates another file in “program database” (PDB) format, that can be easily and efficiently read by a programming or a scripting language

❑ DUCTAPE (C++ program Database Utilities and Conversion Tools APplication Environment):
  ○ processes and merges PDB files
  ○ is a C++ library that provides access to the “program database” for applications

❑ URL: http://www.acl.lanl.gov/pdtoolkit