



## Implementation of System Dependence Graphs

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### The Invention

This software program consists of a collection of C modules (C-type definitions and associated code) for implementing:

- System dependent graphs – a data structure representing the dependencies that hold among program elements (see link below)
- Algorithms for program slicing and chopping
- Other miscellaneous processing, such as diagnostics and test programs
- A specification for a browsing tool for viewing slices, chops, etc.

### Key Benefits

- Enables detection of dependencies among program elements, which focuses the user's attention on portions of a program relevant to a particular computation
- Useful for creating program "projections" (reduced or simplified programs)
- Slicing and chopping operations are carried out on system dependence graphs, rather than computed by iterative calculations
- Slicing and chopping operations are "precise up to valid paths" – that is, only dependencies that reflect matched call/return patterns are reported

### Additional Information

#### For More Information About the Inventors

- [Thomas Reps](#)

#### Tech Fields

- [Information Technology : Computing methods, software & machine learning](#)

For current licensing status, please contact Emily Bauer at [emily@warf.org](mailto:emily@warf.org) or 608-960-9842