liveanalysis user manual

Title	liveanalysis (Liveness analysis pass for Machine-SUIF)
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Rev. history	
v1.0.1	2004-10-01 Correct minor documentation issue.
v1.0.0	2004-10-01 Initial release.

1. Introduction

`liveanalysis` is a liveness analysis pass built to be used with the SUIF2/ MachSUIF2 compiler infrastructure. This pass generates a textual representation for the liveness information in a given control-flow graph. It reports the live-in and live-out sets, while the kill and gen set can also be reported by setting the `REPORT_KILL_GEN_SET` compile-time switch.

This pass uses the cfa, bvd and machine libraries of Machine-SUIF. It works for the SUIFvm instruction set as well as other MachSUIF backends. The `liveanalysis` pass has been tested with MachSUIF 2.02.07.15.

2. File listing

The `liveanalysis` distribution includes the following files:

/liveanalysis	Top-level directory
AUTHORS	List of `liveanalysis` authors.
LICENSE	The modified BSD license governs `liveanalysis`.
README.rst	This file.
README.html	HTML version of README.
README.pdf	PDF version of README.
VERSION	Current version of the project sources.

liveanalysis.cpp	Implementation of the `liveanalysis` pass.
liveanalysis.h	C++ header file containing declarations and prototypes for the above.
rst2docs.sh	Bash script for generating the HTML and PDF versions of the documentation (README).
suif_main.cpp	Entry point for building the standalone program `do_liveanalysis` that implements the pass.
suif_pass.cpp	Define the SUIF pass built as the dynamically loadable library `libliveanalysis.so`.
suif_main.h	C++ header file for the above.

3. Installation

Unpack the `liveanalysis` archive wherever you like, e.g. in `$MACHSUIFHOME/cfa/liveanalysis`. You don't need to modify anything in the Makefile, if you have a working MachSUIF 2 installation.

The program binary (`do_liveanalysis`) will be installed at `$NCIHOME/bin` and the shared library (`libliveanalysis.so`) at `$NCIHOME/solib`, where NCIHOME is the SUIF 2 top-level directory.

4. Usage details

The pass accepts an input file in CFG form to operate. Textual output is generated, written to stdout by default.

Usage synopsys:

```
$ do_liveanalysis test.cfg
```