### bbcount user manual

Title	bbcount (Basic block counter annotation pass for Machine-SUIF)
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v1.0.0	2004-10-02
	Initial release.

### 1. Introduction

bbcount is an annotation pass built to be used with the SUIF2/MachSUIF2 compiler infrastructure. This pass creates a basic block annotation (BbNote) that is attached to the first machine instruction of basic block. BbNote information can then be exported to text files for diagnostic and other uses. A BbNote can then be read by subsequent passes.

The BbNote class extends Machine-SUIF class Note and provides the following methods:

```
int get_idnum() const
```

Returns the first member of the note (procedure/CFG identification number).

```
void set_idnum(int idnum)
```

Sets the first member of the note to idnum.

```
IdString get_bb_counter() const
```

Returns the basic block counter (second member) as a string.

```
void set_bb_counter(IdString idbb).
```

Sets the basic block counter to the idbb string contents.

This pass uses the machine and cfg libraries. What it actually generates are the the values of BbNote annotations in a text file (bb\_counters.txt). The format of this file is shown below:

proc\_name: is the string representation of the procedure's name

proc\_count: the absolute enumeration of the procedure in the translation unit

**bb\_num:** the absolute enumeration of the basic block in the given CFG/procedure.

This pass works for the SUIFvm instruction set as well as other MachSUIF backends. The bbcount pass has been tested with MachSUIF 2.02.07.15.

## 2. File listing

The bbcount distribution includes the following files:

/bbcount	Top-level directory
AUTHORS	List of bbcount authors.
LICENSE	The modified BSD license governs bbcount.
README.rst	This file.
README.html	HTML version of README.
README.pdf	PDF version of README.
VERSION	Current version of the project sources.
bbcount.cpp	Implementation of the bbcount pass.
bbcount.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_bbcount that implements the pass.
suif_pass.cpp	Define the SUIF pass built as the dynamically loadable library libbbcount.so.
suif_main.h	C++ header file for the above.
utils.h	C header file with implementations of auxiliary functions.

### 3. Installation

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

The program binary (do\_bbcount) will be installed at \$NCIHOME/bin and the shared library (libbbcount.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\_bbcount test.cfg