

The SPIM Simulator for the MIPS R2000/R3000

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The SPIM S20 is a software simulator that runs assembly language programs for the MIPS R2000/R3000 RISC computers. SPIM can run files containing assembly language statements and read and run MIPS a.out files (when compiled and running on a system containing a MIPS processor). It is a self-contained system for running these programs and contains a debugger and interface to the operating system. SPIM is portable; it has run on a DECStation 3100/5100, Sun 3, Sun 4, PC/RT, IBM RS/6000, HP Bobcat, HP Snake, and Sequent. Students can generate code for a simple, clean, orthogonal computer, regardless of the machine used. SPIM comes with complete source code and documentation of all instructions.

SPIM has a simple terminal style and a flashy X-windows interface. SPIM also includes an optional extension by Anne Rogers and Scott Rosenberg of Princeton that performs a cycle-by-cycle MIPS simulation that exposes the hardware pipeline. UNIX, Windows, and Macintosh formats are available via anonymous FTP from the University of Wisconsin. See instructions below.

Retrieval of the SPIM by FTP

spim and xspim are available for anonymous ftp from ftp.cs.wisc.edu in the file pub/spim/spim.tar.Z (which is a compressed tar file).

For those unfamiliar with anonymous ftp, here are the steps to follow to get a copy of spim and xspim:

1. ftp to ftp.cs.wisc.edu from your computer:
% ftp ftp.cs.wisc.edu
2. The ftp server will respond and ask you to login. login as anonymous and use your email address as a password:

Name (ftp.cs.wisc.edu:larus): anonymous
331 Guest login ok, send login or email address as password
Password:

3. The server will then print a welcome message. Select the directory containing the spim format that you wish to retrieve:

```
ftp> cd pub/spim
```

4. Set binary mode for the transfer (since the file is compressed):

```
ftp> binary
```

5. Copy the file to your machine:

```
ftp> get spim.tar.Z           (UNIX)
ftp> get spim.zip             (Windows 3.1)
ftp> get SPIM.sit.bin         (Mac)
ftp> get SPIM.sit.Hqx.txt     (Mac)
```

6. Exit the ftp program:

```
ftp> quit
```

7. Uncompress and untar the file:

```
% uncompress spim.tar.Z
% tar xvf spim.tar
```

If the uncompression fails, you probably forgot to set binary (step 4). Try again. Read the directions in the file README.