

Update Log for MINT3 Compiler and VM

Michael D. Godfrey

27 July 2013

1. Edited vm-c code to be more compatible with gcc 4.8.1 and with C++. Also, created vm-c++ which compiles correctly as C++. At present all the source code is identical to that in vm-c, only the makefile is different. The option -fpermissive is required for C++ since the code is really still C. There are still some warnings from both the C and the C++ versions. It is doubtful that any generated code was changed (other than changes in the compiler), but I incremented the vm version to 1.2.4.

9 April 2012

1. Removed unused variables in vm-c code. These generated warnings from current gcc 4.6.3. This has no effect on the VM, so its version remains the same.

13 January 2006

The VM version is now 1.2.3.

1. Made changes to the VM to permit correct compilation on x64 architecture systems. This mainly involved distinguishing between integers, unsigned integers, and pointers. There were a few (signed vs. unsigned) oversights in mload.c which prevented correct VM loading when the VM was compiled on an x64 system. A change in casting was needed in SLKP and GLKP so that store and load of 64bit pointers to/from VSTORE worked correctly. There are now #defines in mdefs.h to control integer size selection. The current #defines work for both 32bit and 64bit systems. They have the effect that all data (VSTORE and stacks) are 32bit, only pointers are 64bit on 64bit systems. When compiling on 64bit systems, such as Linux using gcc, there are warnings about size mismatch. I tried to prevent these but did not succeed. Using these choices, both PF and PD Mint formats are portable between 32bit and 64bit systems.

28 December 2004

The VM version is now 1.2.2.

1. Corrected vm-c for an error in writing and reading the link and object stacks during PDUMP and PDUMP format load. Incorrect indexes were used so that the stack base and index were frequently incorrect.
2. Modified FTITLE so that it does a NOLIST before it sets the new listing param-

eters. This corrects the problem that incorrect spacing was introduced if multiple `TITLE` commands were used. This is sufficiently minor so that no new compiler version number was introduced.

15 August 2004

1. Corrected `vm-c` for VM addresses above 2^{31} . A number of variables were long which should have been unsigned long. In particular, `PDUMP` would not write correctly if the `VSTORE` end address was above 2^{31} . Experiments with Ulysses found this problem.
2. Improvements to diagnostic output. These include better formatting, handling of “segmentation faults,” and correct value of program counter in dumps.
3. Turned on `-Wall` diagnostics in `gcc` and corrected all warnings. This may have made the VM-C code somewhat `gcc` dependent. But, most of the problems concerned type mismatches in `fprintf` statements, so they should be easy to fix.

10 July 2004

1. Modified `OPNL` so that it updates the line count (`RLNO`) if `PGLNGTH` is non-zero. This eliminates the need for `OPNLL` as a compiler-internal function. This also improves the use of `TITLE` for pagination. The fact that `OPNL` did not update `RLNO` was noticed when adjusting the formatting of `MTOC`.
 2. The use of `;CR` embedded in strings was removed and replaced with use of `OPNL`. The only use of `;CR` is now in `MINTDIAG` in order to avoid use of `OPNL` early in the diagnostics. `;CR` is retained for users.
-