Algorithmic C™ Datatypes Release Notes

Software Version 2.6

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Changes and Enhancements

There are no enhancements in this release.

Corrected Problems

The following customer reported problem was fixed in this release.

- **DR 756512** — GCC4.3 -Wall verbosity increased significantly for Catapult headers. See "Excessive Compiler Warnings" on page 5.

Known Problems and Workarounds

Excessive Compiler Warnings

Newer versions of GCC and Visual C++ introduce many additional warning messages when the *-Wall* option is used.

The header files *ac_int.h* and *ac_fixed.h* are updated to avoid such warnings. For example, one of the new warnings for GCC advises the use of parentheses in expressions such as:

```
A && B || C
```

Prior to this change, the workaround was to use the *-Wno-parentheses* option in GCC.

Warnings in Visual C++ have also been addressed by either a source change or disabling the warning locally (does not affect code that includes the header files). However, Visual C++ 10 still reports numerous warnings when using the *-Wall* option. The warnings are mainly of the type C4514 "*unreferenced inline function has been removed*" and appear despite the fact that both *ac_int.h* and *ac_fixed.h* explicitly disable that warning number (appears to be a bug in Visual C++ warning system). Such warnings are also reported for system header files that are part of Visual C++.

Supported Compilers

The ac_int, ac_fixed and ac_complex classes rely heavily on template mechanisms to achieve efficient simulation runtimes. We recommend that you use the following versions of GCC (GNU Compiler Collection) and Microsoft compilers.

GCC 3.2.3 or later

It is also important to run the compiler with optimizations turned on in order to get the best runtime performance:

```
c++ -O3 -I$MGC_HOME/shared/include test.cxx -o test
```

Optimization level O3 is recommended, although O1 in most cases delivers most of the benefit (20x runtime improvement has been seen by going from O0 (no optimization) to O1).

You can obtain gcc compilers from the GNU web site: http://gcc.gnu.org.

Microsoft Visual C++ 2008

To download and install Microsoft Visual C++ 2008, go to the Microsoft web site http://msdn.microsoft.com/visualc and follow the instructions on the web page. You can also download and install a free version called “Visual C++ 2008 Express” http://www.microsoft.com/express/download/#webInstall.

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