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Dear Developer,

Thank you for purchasing SGI development software. The MIPSpro 7.4.Im maintenance release CD contains overlay updates for each of the MIPSpro™ 7.4 compiler products. MIPSpro 7.4.Im is installable on any version of IRIX 6.5. The MIPSpro 7.4 compiler base images are a prerequisite for MIPSpro 7.4.Im.

MIPSpro 7.4 introduces several new features for the IRIX® development environment.

OpenMP™ 2.0 Support in C and C++

OpenMP is a standard initiated by SGI and maintained by a multi-company consortium. It defines parallel programming APIs for various languages on UNIX® and Windows NT® OS-based systems with shared memory. Support for the 2.0 standard was implemented in the MIPSpro 7.4 versions of Fortran 90 and Fortran 77. In this release, support for the 2.0 standard has been added to the C and C++ compilers.

Among the new features introduced in the OpenMP™ 2.0 specification for C and C++ are the following:

- The *copyprivate* clause for the broadcast of sequential reads
- Portable timing routines

For more information about OpenMP 2.0 support, see the “New Features” chapter of the C and C++ release notes. They can be viewed as follows:

- % relnotes c_fe 4
- % relnotes c++_fe 4

For more information about OpenMP, see <http://www.openmp.org>.

Support for POSIX 1003.9-1992 in Fortran

The POSIX 1003.9-1992 standard defines an API in Fortran for accessing the system services of ISO/IEC 9945-1:1990 (IEEE Std 1003.1-1990 also known as POSIX.1). A subset of this API had originally been provided in MIPSpro™ 7.3 Fortran 90. MIPSpro 7.4.1 adds support for a variety of subroutines such as PXFGETC and PXFFGETC. For more information, refer to the “New Features” chapter of the Fortran 90 release notes [% relnotes ftn90_fe 4].

Back-End and Linker Enhancements

Various performance and correctness bugs have been fixed in the optimizer, loop-nest optimizer, code generator, and linker. For a full list, see the “New Features” and “Fixed Bugs” chapters of the Base Compiler Development release notes:

- % relnotes compiler_dev 3
- % relnotes compiler_dev 5

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