

Max-Planck-Institut für Meteorologie
Bundesstraße 53
D-20146 Hamburg
Germany

22nd August 2017

Dear Reinhard,

Cray support for Programming Standards

Cray is very supportive of standards in our programming compiler environments and engages fully with the relevant standards bodies.

Cray's Fortran compilers are fully compliant with the Full Fortran 2008 standard, including Fortran Coarrays, which have been part of our Fortran implementation for many years as integral part of the language. The Cray compiler and programming environment provides one of the leading high performance implementations of Fortran Coarrays with support both for the basic semantics and sophisticated optimizations. We are already working on the support of the Fortran 2015 standard. Bill Long is our representative on the Fortran committee.

The Cray C/C++ compiler has been compliant with the C++ 11 standard since 2015 and has been compliant with the C++14 standard since June 2017. In addition, the Cray C/C++ compiler supports the C11 standard.

The Cray compiler has been fully compliant with OpenMP 4.5 since June 2017. Deepak Eachempati and Luiz DeRose represent Cray at the OpenMP committee. Luiz mostly participates at the OpenMP Architecture Review Board meetings and Deepak at the Language committee.

Cray provides full MPI-3 support with the exception of the MPI-2 Dynamic process management (MPI_Comm_spawn), which we are planning to add support by the end of the year, although this isn't currently a priority. We are an active participant in the MPI Forum, with attendance rotating within our MPI team.

The Cray programming environment is also compliant with UPC 1.3 and OpenACC 2.0.

Yours sincerely,



Philip Brown
Earth Sciences Segment Leader, Cray