

SGI MPT

Category: MPI Libraries

SGI's Message Passing Interface (MPI) is a component of the Message Passing Toolkit (MPT), which is a software package that supports parallel programming across a network of computer systems through a technique known as message passing. It requires the presence of an Array Services daemon (**arrayd**) on each host to run MPI processes.

SGI's MPT 1.x versions support the MPI 1.2 standard and certain features of MPI-2. The 2.x versions will be fully MPI-2 compliant.

On Columbia, the current system default version is mpt.1.16. A 2.x version will be available when the operating system is upgraded to SGI ProPack 7SP1.

On Pleiades, there is no default version. You can enable the recommended version, mpt.2.06a67, by:

```
%module load mpi-sgi/mpt.2.06a67
```

Note that certain environment variables are set or modified when an MPT module is loaded. To see what variables are set when a module is loaded (for example, mpi-sgi/mpt.2.06a67), do:

```
%module show mpi-sgi/mpt.2.06a67
```

To build an MPI application using SGI's MPT, use a command such as one of the following:

```
%ifort -o executable_name prog.f -lmpi
```

```
%icc -o executable_name prog.c -lmpi
```

```
%icpc -o executable_name prog.cxx -lmpi++ -lmpi
```

```
%gfortran -I/nasa/sgi/mpt/2.06a67/include -o executable_name prog.f -lmpi
```

```
%gcc -o executable_name prog.c -lmpi
```

```
%g++ -o executable_name prog.cxx -lmpi++ -lmpi
```

TIP: Note that the Fortran 90 **USE MPI** feature is supported for the **ifort** command, but not **gfortran**. Replace **USE MPI** with **include "mpif.h"** if you want to use **gfortran** to compile your Fortran 90 code and link to an SGI MPT library.

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