MPI_Send

Performs a basic send

Synopsis

```
#include "mpi.h"
int MPI_Send( buf, count, datatype, dest, tag, comm )
void             *buf;
int              count, dest, tag;
MPI_Datatype     datatype;
MPI_Comm         comm;
```

Input Parameters

buf - initial address of send buffer (choice)

count - number of elements in send buffer (nonnegative integer)

datatype - datatype of each send buffer element (handle)

dest - rank of destination (integer)

tag - message tag (integer)

comm - communicator (handle)

Notes

This routine may block until the message is received.

Notes for Fortran

All MPI routines in Fortran (except for `MPI_WTIME` and `MPI_WTICK`) have an additional argument `ierr` at the end of the argument list. `ierr` is an integer and has the same meaning as the return value of the routine in C. In Fortran, MPI routines are subroutines, and are invoked with the `call` statement.

All MPI objects (e.g., `MPI_Datatype`, `MPI_Comm`) are of type `INTEGER` in Fortran.

Errors

All MPI routines (except `MPI_Wtime` and `MPI_Wtick`) return an error value; C routines as the value of the function and Fortran routines in the last argument. Before the value is returned, the current MPI error handler is called. By default, this error handler aborts the MPI job. The error handler may be changed with `MPI_Errhandler_set`; the predefined error handler `MPI_ERRORS_RETURN` may be used to cause

error values to be returned. Note that MPI does *not* guarentee that an MPI program can continue past an error.

MPI_SUCCESS - No error; MPI routine completed successfully.

MPI_ERR_COMM - Invalid communicator. A common error is to use a null communicator in a call (not even allowed in `MPI_Comm_rank`).

MPI_ERR_COUNT - Invalid count argument. Count arguments must be non-negative; a count of zero is often valid.

MPI_ERR_TYPE - Invalid datatype argument. May be an uncommitted

MPI_Datatype (see `MPI_Type_commit`).

MPI_ERR_TAG - Invalid tag argument. Tags must be non-negative; tags in a receive (`MPI_Recv`, `MPI_Irecv`, `MPI_Sendrecv`, etc.) may also be `MPI_ANY_TAG`. The largest tag value is available through the the attribute `MPI_TAG_UB`.

MPI_ERR_RANK - Invalid source or destination rank. Ranks must be between zero and the size of the communicator minus one; ranks in a receive (`MPI_Recv`, `MPI_Irecv`, `MPI_Sendrecv`, etc.) may also be `MPI_ANY_SOURCE`.

See Also

MPI_Isend, MPI_Bsend

Location:send.c