

Appendix A

Fortran Syntax

MPI_ALLGATHER(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, REVCOUNT, RECVTYPE, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER SENDCOUNT, SENDTYPE, REVCOUNT, RECVTYPE, COMM, IERR

MPI_ALLGATHERV(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, REVCOUNTS, DISPLS, RECVTYPE, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER SENDCOUNT, SENDTYPE, REVCOUNTS(*), DISPLS(*), RECVTYPE, COMM, IERR

MPI_ALLREDUCE(SENDBUF, RECVBUF, COUNT, DATATYPE, OP, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER COUNT, DATATYPE, OP, COMM, IERR

MPI_ALLTOALL(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, REVCOUNT, RECVTYPE, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER SENDCOUNT, SENDTYPE, REVCOUNT, RECVTYPE, COMM, IERR

MPI_ALLTOALLV(SENDBUF, SENDCOUNTS, SDISPLS, SENDTYPE, RECVBUF, REVCOUNTS, RDISPLS, RECVTYPE, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER SENDCOUNTS(*), SDISPLS(*), SENDTYPE, REVCOUNTS(*), RDISPLS(*), RECVTYPE, COMM, IERR

MPI_ALLTOALLW(SENDBUF, SENDCOUNTS, SDISPLS, SENDTYPES, RECVBUF, REVCOUNTS, RDISPLS, RECVTYPES, COMM, IERR)

<type> SENDBUF(*), RECVBUF(*)

INTEGER SENDCOUNTS(*), SDISPLS(*), SENDTYPES(*), REVCOUNTS(*), RDISPLS(*), RECVTYPES(*), COMM, IERR

MPI_BARRIER(COMM, IERR)

INTEGER COMM, IERR

MPI_BCAST(BUFF, COUNT, DATATYPE, ROOT, COMM, IERR)

<type> BUF(*)

INTEGER COUNT, DATATYPE, ROOT, COMM, IERR

MPI_BSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, IERR)

<type> BUF(*)

INTEGER COUNT, DATATYPE, DEST, TAG, COMM, IERR

MPI_BUFFER_ATTACH(BUFF, SIZE, IERR)
< type> BUFF(*)
INTEGER SIZE, IERR

MPI_BUFFER_DETACH(BUFF, SIZE, IERR)
< type> BUFF(*)
INTEGER SIZE, IERR

MPI_EXSCAN(SENDBUF, RECVBUF, COUNT, DATATYPE, OP, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER COUNT, DATATYPE, OP, COMM, IERR

MPI_GATHER(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, RECVCOUNT, RECVTYPE,
ROOT, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER SENDCOUNT, SENDTYPE, RECVCOUNT, RECVTYPE, ROOT, COMM, IERR

MPI_GATHERV(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, RECVCOUNTS, DISPLS,
RECVTYPE, ROOT, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER SENDCOUNT, SENDTYPE, RECVCOUNTS(*), DISPLS(*), RECVTYPE, ROOT,
COMM, IERR

MPI_IBSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR

MPI_IRecv(BUF, COUNT, DATATYPE, SOURCE, TAG, COMM, REQUEST, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, SOURCE, TAG, COMM, REQUEST, IERR

MPI_IRSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR

MPI_ISEND(BUF, COUNT, DATATYPE, SOURCE, TAG, COMM, REQUEST, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR

MPI_ISSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, DEST, TAG, COMM, REQUEST, IERR

MPI_OP_CREATE(FUNCTION, COMMUTE, OP, IERR)
EXTERNAL FUNCTION
LOGICAL COMMUTE
INTEGER OP, IERR

MPI_OP_FREE(OP, IERR)
INTEGER OP, IERR

MPI_RECV(BUF, COUNT, DATATYPE, SOURCE, TAG, COMM, STATUS)
<type> BUF(*)
INTEGER COUNT, DATATYPE, SOURCE, TAG, COMM, STATUS(MPI_STATUS_SIZE),
IERR

MPI_REDUCE(SENDBUF, RECVBUF, COUNT, DATATYPE, OP, ROOT, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER COUNT, DATATYPE, OP, ROOT, COMM, IERR

MPI_REDUCE_SCATTER(SENDBUF, RECVBUF, RECVCOUNTS, DATATYPE, OP, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER RECVCOUNTS(*), DATATYPE, OP, COMM, IERR

MPI_REQUEST_FREE(REQUEST, IERR)
INTEGER REQUEST, IERR

MPI_RSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, IERR)
<type> BUF(*)
INTEGER COUNT, DATATYPE, DEST, TAG, COMM, IERR

MPI_SCAN(SENDBUF, RECVBUF, COUNT, DATATYPE, OP, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER COUNT, DATATYPE, OP, COMM, IERR

MPI_SCATTER(SENDBUF, SENDCOUNT, SENDTYPE, RECVBUF, RECVCOUNT, RECVTYPE,
ROOT, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER SENDCOUNT, SENDTYPE, RECVCOUNT, RECVTYPE, ROOT, COMM, IERR

MPI_SCATTERV(SENDBUF, SENDCOUNTS, DISPLS, SENDTYPE, RECVBUF, RECVCOUNT,
RECVTYPE, ROOT, COMM, IERR)
<type> SENDBUF(*), RECVBUF(*)
INTEGER SENDCOUNTS(*), DISPLS(*), SENDTYPE, RECVCOUNT, RECVTYPE, ROOT,
COMM, IERR

MPI_SEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, IERR)
 <type> BUF(*)
 INTEGER COUNT, DATATYPE, DEST, TAG, COMM, IERR

MPI_SSEND(BUF, COUNT, DATATYPE, DEST, TAG, COMM, IERR)
 <type> BUF(*)
 INTEGER COUNT, DATATYPE, DEST, TAG, COMM, IERR

MPI_TEST(REQUEST, FLAG, STATUS, IERR)
 LOGICAL FLAG
 INTEGER REQUEST, STATUS(MPI_STATUS_SIZE), IERR

MPI_WAIT(REQUEST, STATUS, IERR)
 INTEGER REQUEST, STATUS, IERR

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MPI_Allgather(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcount,
 MPI_Datatype recvtype, MPI_Comm comm)

MPI_Allgatherv(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcounts,
 int* displs, MPI_Datatype recvtype, MPI_Comm comm)

MPI_Allreduce(void* sendbuf, void* recvbuf, int count, MPI_Datatype datatype, MPI_Op op,
 MPI_Comm comm)

MPI_Alltoall(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcount,
 MPI_Datatype recvtype, MPI_Comm comm)

MPI_Alltoallv(void* sendbuf, int sendcounts, int *displs, MPI_Datatype sendtype, void* recvbuf,
 int recvcounts, int *rdispls, MPI_Datatype recvtype, MPI_Comm comm)

MPI_Alltoallw(sendbuf, sendcounts, sdispls, sendtypes, recvbuf, recvcounts, rdispls, recvtypes, comm,
 ierr)

MPI_Barrier(MPI_Comm comm)

MPI_Bcast(void* buff, int count, MPI_Datatype datatype, int root, MPI_Comm comm)

MPI_Bsend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm)

MPI_Buffer_attach(void* buff, int size)

MPI_Buffer_detach(void* buff, int* size)

MPI_Exscan(void* sendbuf, void* recvbuf, int count, MPI_Datatype datatype, MPI_Op op,
MPI_Comm comm)

MPI_Gather(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcount,
MPI_Datatype recvtype, int root, MPI_Comm comm)

MPI_Gatherv(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcounts,
int *displs, MPI_Datatype recvtype, int root, MPI_Comm comm)

MPI_Ibsend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm,
MPI_Request *request)

MPI_Irecv(void* buf, int count, MPI_Datatype datatype, int source, int tag, MPI_Comm comm,
MPI_Request *request)

MPI_Irsend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm,
MPI_Request *request)

MPI_Isend(void* buf, int count, MPI_Datatype datatype, int source, int tag, MPI_Comm comm,
MPI_Request *request)

MPI_Issend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm,
MPI_Request *request)

MPI_Op_create(MPI_User_function *function, int commute, MPI_Op op)

MPI_Op_free(MPI_Op op)

MPI_Recv(void* buf, int count, MPI_Datatype datatype, int source, int tag, MPI_Comm comm,
MPI_Status *status)

MPI_Reduce(void* sendbuf, void* recvbuf, int count, MPI_Datatype datatype, MPI_Op op, int root,
MPI_Comm comm)

MPI_Reduce_scatter(void* sendbuf, void* recvbuf, int *recvcounts, MPI_Datatype datatype, MPI_Op op,
MPI_Comm comm)

MPI_Request_free(MPI_Request *request)

MPI_Rsend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm)

MPI_Scan(void* sendbuf, void* recvbuf, int count, MPI_Datatype datatype, MPI_Op op,
MPI_Comm comm)

MPI_Scatter(void* sendbuf, int sendcount, MPI_Datatype sendtype, void* recvbuf, int recvcount,
MPI_Datatype recvtype, int root, MPI_Comm comm)

MPI_Scatterv(void* sendbuf, int *sendcounts, int *displs, MPI_Datatype sendtype, void* recvbuf,
int recvcount, MPI_Datatype recvtype, int root, MPI_Comm comm)

MPI_Send(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm)

MPI_Ssend(void* buf, int count, MPI_Datatype datatype, int dest, int tag, MPI_Comm comm)

MPI_Test(MPI_Request *request, int *flag, MPI_Status *status)

MPI_Wait(MPI_Request *request, MPI_Status *status)