

Routines for building ghost elements

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We use vertices global ID to identify neighboring processor information, each mesh object stores a list of neighboring processor IDs.

MSTK_BuildNborProcs(Mesh_ptr mesh, int rank, MPI_Comm comm)

This function builds neighboring processors information, it includes 2 routines:

- **MSTK_SendPVertices(Mesh_ptr mesh, int rank, MPI_Comm comm)**

send the list of PBoundary vertices' global IDs to all the processors.

- **MSTK_RecvPVertices(Mesh_ptr mesh, int rank, MPI_Comm comm)**

receive the list of PBoundary vertices' global IDs from all the processors, receive buffer should hold n lists of vertices of global IDs

MSTK_BuildGhostElements(Mesh_ptr mesh, int rank, MPI_Comm comm) This function builds ghost elements information on each processor.

- **MSTK_SendGhostElements(Mesh_ptr mesh, int rank, MPI_Comm comm)**

send the list of PBoundary elements' global IDs to the neighboring processors. It can be a broadcast operation on communicator i

- **MSTK_RecvGhostElements(Mesh_ptr mesh, int rank, MPI_Comm comm)**

receive the list of PBoundary elements' global IDs from the neighboring processors. receive buffer should hold n lists of vertices of global IDs