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Point To Point Communication FunctionsÂ¶

(Since NCCL 2.7) Point-to-point communication primitives need to be used when ranks need to send and receive arbitrary data from each other, which cannot be expressed as a broadcast or allgather, i.e. when all data sent and received is different.

ncclSendÂ¶

[ncclResult_t](types.html#c.ncclResult_t "ncclResult_t") `ncclSend`(const void*_ sendbuff_, size_t _ count_, [ncclDataType_t](types.html#c.ncclDataType_t "ncclDataType_t") _ datatype_, int _ peer_, [ncclComm_t](types.html#c.ncclComm_t "ncclComm_t") _ comm_, cudaStream_t _ stream_)Â¶

Send data from `sendbuff` to rank `peer`.

Rank `peer` needs to call ncclRecv with the same `datatype` and the same `count` as this rank.

This operation is blocking for the GPU. If multiple `ncclSend()` and `ncclRecv()` operations need to progress concurrently to complete, they must be fused within a [`ncclGroupStart()`](group.html#c.ncclGroupStart

"ncclGroupStart")/ [`ncclGroupEnd()`](group.html#c.ncclGroupEnd
"ncclGroupEnd") section.

Related links: [Point-to-point communication](../usage/p2p.html#point-to-
point).

ncclRecvÂ¶

[ncclResult_t](types.html#c.ncclResult_t "ncclResult_t") `ncclRecv`(void*_
recvbuff_, size_t _ count_, [ncclDataType_t](types.html#c.ncclDataType_t
"ncclDataType_t") _ datatype_, int _ peer_,
[ncclComm_t](types.html#c.ncclComm_t "ncclComm_t") _ comm_, cudaStream_t _
stream_)Â¶

Receive data from rank `peer` into `recvbuff`.

Rank `peer` needs to call ncclSend with the same `datatype` and the same
`count` as this rank.

This operation is blocking for the GPU. If multiple `ncclSend()` and
`ncclRecv()` operations need to progress concurrently to complete, they must
be fused within a [`ncclGroupStart()`](group.html#c.ncclGroupStart
"ncclGroupStart")/ [`ncclGroupEnd()`](group.html#c.ncclGroupEnd
"ncclGroupEnd") section.

Related links: [Point-to-point communication](../usage/p2p.html#point-to-point).

[Next](types.html "Types") [Previous](group.html "Group Calls")

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