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void compute_node_stencil(int dimx, int dimy, int dimz, int nreps ) {
    int np, pid;
1.  MPI_Comm_rank(MPI_COMM_WORLD, &pid);
2.  MPI_Comm_size(MPI_COMM_WORLD, &np);
3.  int server_process = np - 1;

4.  unsigned int num_points      = dimx * dimy * (dimz + 8);
5.  unsigned int num_bytes      = num_points * sizeof(float);
6.  unsigned int num_halo_points = 4 * dimx * dimy;
7.  unsigned int num_halo_bytes  = num_halo_points * sizeof(float);

    /* Alloc host memory */
8.  float *h_input = (float *)malloc(num_bytes);
    /* Alloc device memory for input and output data */
9.  float *d_input = NULL;
10. cudaMalloc((void **)&d_input, num_bytes );
11. float *rcv_address = h_input + num_halo_points * (0 == pid);
12. MPI_Recv(rcv_address, num_points, MPI_FLOAT, server_process,
           MPI_ANY_TAG, MPI_COMM_WORLD, &status );
13. cudaMemcpy(d_input, h_input, num_bytes, cudaMemcpyHostToDevice);

```