

MPI code in C for clusters - intel.com/go/mpi

```
for (d=1; d<ntasks; d++) {
    rows = (d <= extra) ? avrow+1 : avrow;
    printf(" sending %d rows to task %d\n", rows, dest);
    MPI_Send(&offset, 1, MPI_INT, d, mtype, MPI_COMM_WORLD);
    MPI_Send(&rows, 1, MPI_INT, d, mtype, MPI_COMM_WORLD);
    MPI_Send(&a[offset][0], rows*NCA, MPI_DOUBLE, d, mtype, MPI_COMM_WORLD);
    MPI_Send(&b, NCA*NCB, MPI_DOUBLE, d, mtype, MPI_COMM_WORLD);
    offset = offset + rows;
}
```

Matrix Multiply in Fortran using Intel® Math Kernel Library - intel.com/software/products

```
call DGEMM(transa,transb,m,n,k,alpha,a,lda,b,ldb,beta,c,ldc)
```

Per element multiply in C using OpenCL - intel.com/go/opencv

```
kernel void
    dotprod( global const float *a,
              global const float *b,
              global float *c) {
    int myid = get_global_id(0);
    c[myid] = a[myid] * b[myid];
}
```