```
# An example of distributed computation function
    @register(transfer_mode=3D_PROTO)
    def update actor(self, prompts: DataProto):
# Allocate devices for a ResourcePool
resource_pool = ResourcePool([n_gpus_per_machine] * n_machines)
# Map the model to allocated devices and init model
actor_model = ActorWorker(actor_config, resource_pool)
                                     Machine 1
           DP1
             DP0
                                                             Model (P, T, D)
      TP1,PP0
                TP0,PP0
                                 ResourcePool()
          Model) Config
                                                          ParallelWoker(
                          (a) Actor model initialization
       Call from controller
                                               Single Controller
       Return data futures
       Collect data futures
                                           Actor
                                                                  Critic
       Distribute data futures
                                           DP0
                                                                   DP<sub>0</sub>
                                                          (6)
                                                                           \bigcirc
       Transfer data
                                    TP1,PP0 TP0,PP0
                                                                TP0,PP0
 TP.PP TP. PP rank on a GPU
                                                                TP0.PP
                                           DP1
       in a DP group
                                    TP1,PP0 TP0,PP0
                                                                   DP1
                                                                TP0,PP0
   Actor (p, t, d) = (1, 2, 3)
                                           DP2
                                                                TP0.PP
   Critic (p, t, d) = (2, 1, 2)
                                    TP1,PP0 TP0,PP0
                (b) Data resharding and asynchronous execution
```

class ActorWorker(3DParallelWorker):