Hi,

I need to use charm++ on a cluster that runs parallel jobs using mpirun. The cluster uses slurm to submit jobs, but for technical reasons slurm can't be built to be aware of the mpi distribution we need to use, so srun does not correctly run jobs in parallel.

The trouble is charmrun always seems to try to use srun, even if I give it ++mpiexec as an option. But I can run jobs fine by hand by using mpirun directly in a script I pass to sbatch.

Is there a way to be sure charmrun uses mpirun? Either an option when calling charmrun or when compiling charm?

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#1 - 12/29/2018 11:25 AM - Sam White
Can you try with this:

```
./charmrun ++mpiexec ++remote-shell "mpirun <mpirun_args>" ./pgm <application_args>
```

#2 - 12/30/2018 06:47 AM - Geoffrey Lovelace
I tried this, and it still called srun. Might I need to build charm++ differently? I used

```
./build charm++ mpi-linux-x86_64 mpicxx smp -j16 --with-production
```

#3 - 12/30/2018 07:07 AM - Geoffrey Lovelace
I'm using charm++ v6.8.

#4 - 12/31/2018 04:37 PM - Sam White
Is that v6.8.0 or v6.8.2? Can you try with v6.9.0? You shouldn't need to build Charm++ any differently.

#5 - 01/03/2019 11:08 AM - Geoffrey Lovelace
It's v6.8.0. We're working on adding support for v6.9.0 to our code base [https://github.com/sxs-collaboration/spectre](https://github.com/sxs-collaboration/spectre), but that will take us a bit. Is it normal for the ++mpiexec option to not work in version 6.8.0?

#6 - 01/03/2019 12:46 PM - Sam White
No, it's not. What MPI library are you using? And could you post the output of what happens when you try the "++mpiexec ++remote-shell" command I posted above?

#7 - 01/03/2019 03:16 PM - Jim Phillips
For the mpi+... builds of Charm++ you can run the binary with mpirun/mpiexec/srun directly rather than via charmrun. In fact charmrun is just a script on these builds. The binary charmrun and ++mpiexec options are only needed for netlrits-, verbs-, and similar builds.

#8 - 02/12/2019 11:33 AM - Evan Ramos

As Jim said, those ++mpiexec ++remote-shell options are only valid with the netlrits/verbs version of charmrun. For the MPI machine layer, mpirun was moved ahead of srun in charmrun's precedence for the 6.9.0 release. You may want to cherry-pick commit 8aaa484c022306918988aa3114e578b4a9748662.