

## Procedure for running MPI programs using nodes besides master

1. Create a file (could name it as "machines") with the names of the nodes in it. A file with content as below will do:

```
compute-0-0
compute-0-1
compute-0-2
compute-0-3
compute-0-4
compute-0-5
compute-0-6
compute-0-7
compute-0-8
compute-0-9
compute-0-10
compute-0-11
compute-0-12
compute-0-13
```

2. To avoid the prompts for password/passphrase by the individual nodes, you need to create an ssh passphrase by following the steps below:

```
cd ~/.ssh/
```

```
ssh-keygen -t dsa
```

When prompted for file name and a passphrase, simply press ENTER to accept default. *artg/.ssh/id\_dsa*

Add the public portion of the new key to authorization file

```
(cat ~/.ssh/id_dsa.pub >> ~/.ssh/authorized_keys2)
```

Now you can invoke an ssh-agent so the passphrase only has to be entered once (ssh-agent sh -c 'ssh-add < /dev/null && bash')

The ssh-agent gives you a password/passphrase-less login (for example, a simple "ssh compute-0-0" would put you at node 0 without asking for a password or a passphrase)

1. Run your MPI program (say, a.out) as follows. (The part "-mca btl self,tcp" will suppress the warning messages about performance regarding infiniband.)  
mpirun --mca btl self,tcp -np 4 -machinefile machines a.out