**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 3: Using a Cluster**

**Lesson 7: Scaling on a Cluster 1**

**Sample Assessment**

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Assessments in this lesson are geared toward understanding speedup, Amdahl’s Law, and Gustafson’s Law. Assessments can be issued under the form of providing the parallel or serial portion of a program and asking students to calculate potential speed up given a certain number of additional processors.

Another way to frame the question is that assuming a research wants their program to run X times faster (speedup), and they know the serial proportion of this program, is it possible to add more resources to do this, and how many.