▲ ◀ ▶   **Quantum Computing & Cryptography**

0100001011100110101001110110110111010011011111100001010100010011010100110111010110110001010100111100000111111010010100001101000101011111111100010101100111111100000101011011110011010101011101111111
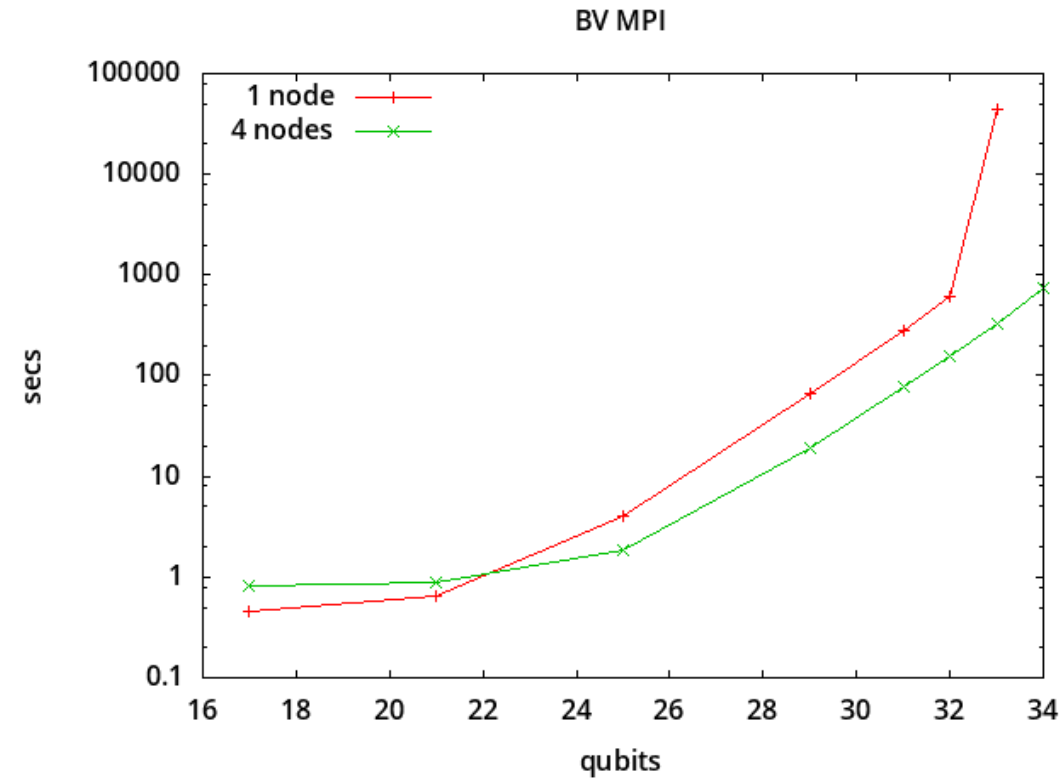
Simulation: distributed computing

For n=33 qubits, 128 GB of memory is required just for the array of quantum amplitudes. On a single 128 GB node this causes swapping, and the run-time increases to 43832 seconds (about 12 hours) which is a factor of 36 times what would be expected following the exponential scaling (20 minutes). For n=34 qubits a single node has insufficient memory and can not perform the simulation.

Simulating Single Qubit Gate Operations in a Distributed Environment, R. Perry, 2019