**Matrix Properties:**

- **Large System:**
  - $N = 11,333,520$
  - # of nonzeros: $61,026,416$
  - Bandwidth: 334,613

- **Medium System:**
  - $N = 1,416,576$
  - # of nonzeros: 7,577,084
  - Bandwidth: 41,821

Both systems are symmetric

**The Basic Spike Algorithm:**

The SPIKE hybrid scheme exhibits better performance than other parallel banded or direct sparse solvers used alone.

**Scalability results:**

**SPIKE vs BoomerAMG (Hypre)**

**SPIKE vs PETSc-MG**

**Computing Platform:**

[Quad Core Intel(R) Xeon(R) CPU -- X5560 @ 2.80GHz] cluster with Infiniband interconnection