PAL Performance and Architecture Lab
http://www.c3.lanl.gov/PAL/

Can the applications on your cluster do this?

```
p = malloc(1099511627776UL);  // 1 terabyte
```

They can with JumboMem!

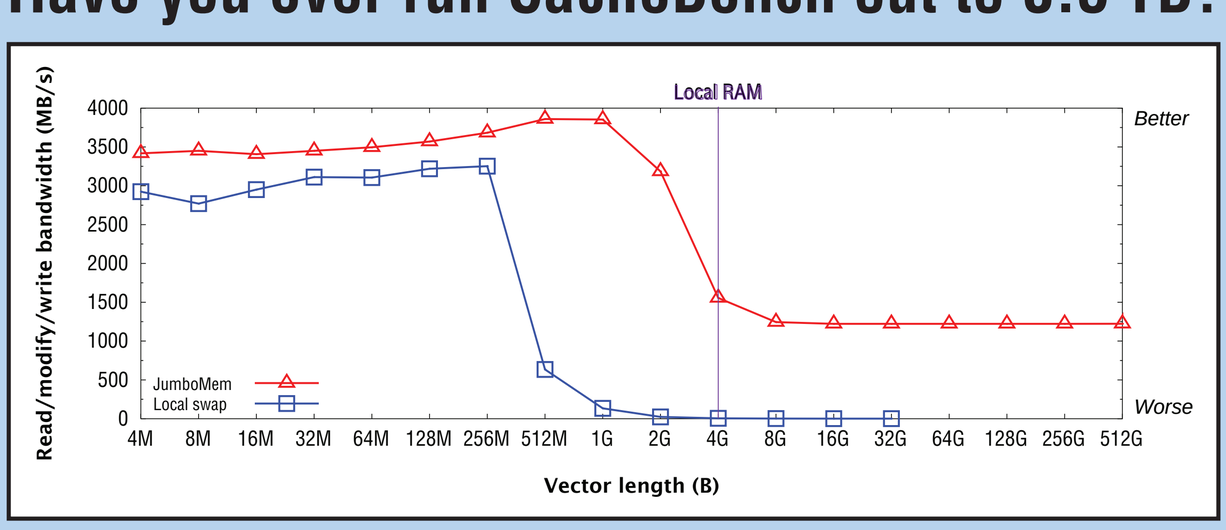
JumboMem is the first **entirely user-level** memory server that enables **unmodified sequential applications** to directly access all of the memory in a cluster. You already have that memory; why not use it?

No administrative access is required.
All you need is an ordinary account on any Linux cluster. If you can run an MPI program you can run JumboMem.

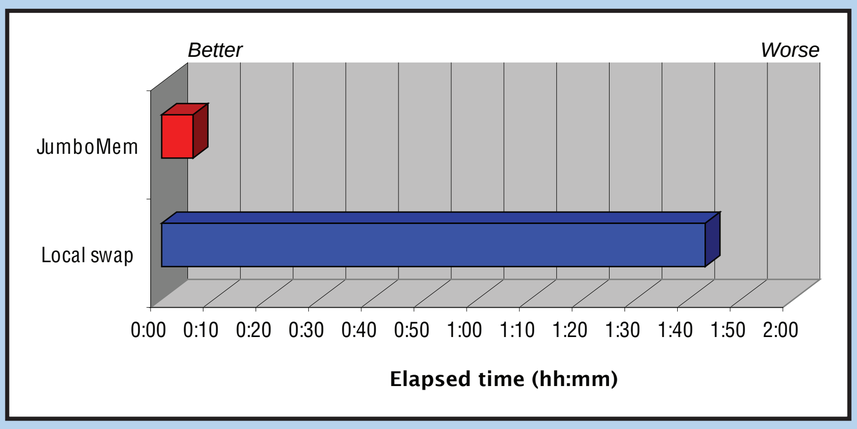
Your applications don't need to be modified.
Even binaries are okay. You can also run Perl, Python and other scripting languages.

JumboMem is open-source software.
Want to try out some fancy new page-replacement algorithm? Go ahead and hack up the JumboMem source code. It's easy to do.

Have you ever run CacheBench out to 0.5 TB?



Here's how long it takes to multiply a 65,536 x 65,536 element matrix by a 65,536 element vector in an *interactive* GNU Octave session:



JumboMem

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NNSA National Nuclear Security Administration