

Distributed SAGE

Microsoft Research
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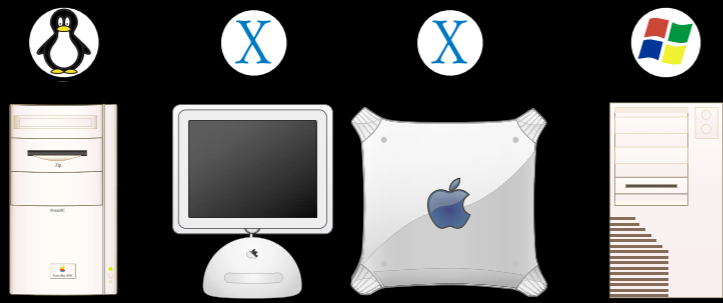
Yi Qiang

Goal

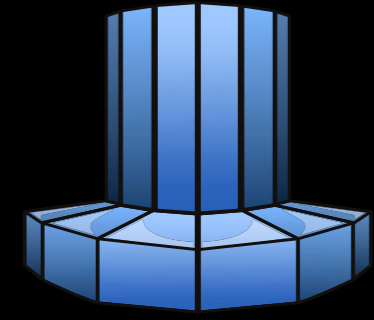
- Make it easy to distribute computationally expensive jobs
- Highly flexible, should be able to tackle many different kinds of problems

Design

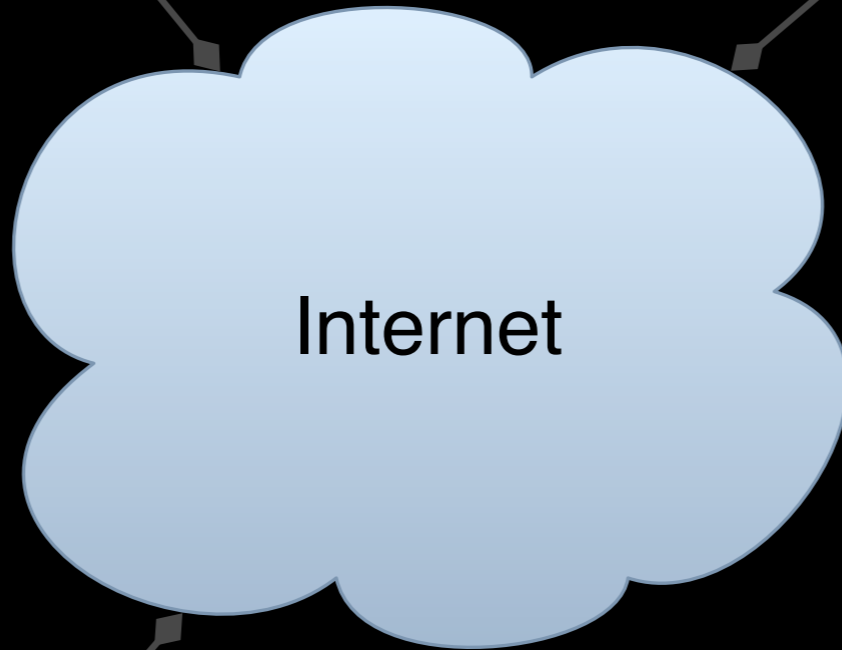
- Robust
- Easy to use
- Semi-interactive
 - Unlike SETI@Home, Folding@Home, distributed.net, etc.



Workers



SERVER



Clients



Implementation

- Twisted
 - Asynchronous Networking
- ZODB
 - Efficient back-end database

Applications

- Factorization
 - ECM
 - SAGE's build in factor()
- Calculating Mandelbrot sets
- Graphics Rendering
- Anything else!

Demo

Future

- Inclusion in SAGE 2.0
- Much, much better documentation
- Improve usability. Currently sucks.

Problems

- Security
 - Verification of answers
 - Authentication
 - Rogue users
- Reliability
- Scalability

Get the source

- You can grab the source here:
- <http://www.yiqiang.net/dsage>

Contact

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