

The AMP of the LAMP Stack

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LAMP?

- Linux
- Apache
- MySQL
- PHP

Variations

- Operating System
 - BSD
 - Solaris
 - OSX
- Web Server
 - lighttpd
 - thttpd
 - Cherokee
- Database
 - PostgreSQL
 - SQLite
 - Firebird
- Scripting Language
 - Perl
 - Python
 - Ruby on Rails

Catchy Acronyms

- WIMP (Windows, IIS, MySQL, PHP)
- PUMA (PHP, Unix, MySQL, Apache)
- OPAL (Oracle, PHP, Apache, Linux)
- BAPS (BSD, Apache, PHP, SQLite)
- LIMP (Lighttpd, Informix, MacOS, PHP)

Apache

- 58% Market Penetration (March, 2007)
- Cross Platform
- Apache Portable Runtime layer
- 2.0 introduced MPM
- 2.2 improved Auth, Proxy and Cache
- Lots of Modules

Lighttpd

- 1.2% Market Penetration
 - 200% growth in last year
- Asynchronous connection handling
- Cache Meta Language
- CGI, SCGI and FCGI support
- COMET support

MySQL

- Kind of Free (Community + Enterprise)
- Lacks some fundamental features (ACID properties and foreign keys)
- Wide variety of database engines
- Cross Platform
- Large install base (Flickr + Wikipedia)

SQLite

- No server
- Public Domain (no License)
- Limited Data Types
- Extremely speedy

PostgreSQL

- Over 20 years old
- Features
 - Stored Procedures
 - Triggers
 - Rules
 - User Defined Objects
- Big Users (Skype & IMDB)

PHP

- Easy to use
- Lots of libraries
- Good performance
- Easy to exploit ☹️
- No Unicode / 64bit integer type
- Version 4 released May 2000
- Version 5 released July 2004

Perl

- Released 1987
- Version 5 1994
- Early CGI on WWW
- Loosely typed
- 500+ Modules
- CGI performance is poor

Ruby on Rails

- Web Application Framework
- Model View Controller architecture
- Scaffolding
- Easy Ajax

Sample Site

- Film List
- External CSS
- Image
- Form to add films

Test Boxes

- Server

- Dell Poweredge 850
- Dual Core Pentium D (3.0GHz)
- Ubuntu Server 7.04 (Feisty)
- Kernel 2.6.20-15-server

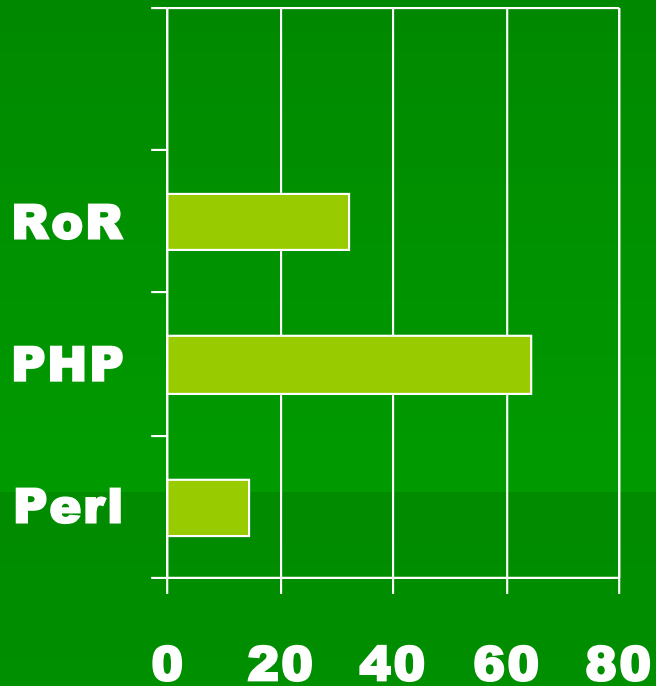
- Client

- Dell Poweredge 2850
- Quad Xeon (3.2GHz)
- Fedora Core 6

Benchmarking

- httpperf (Apache Bench is useless)
- 1000 mbit via switch
- Warm up and restart per run

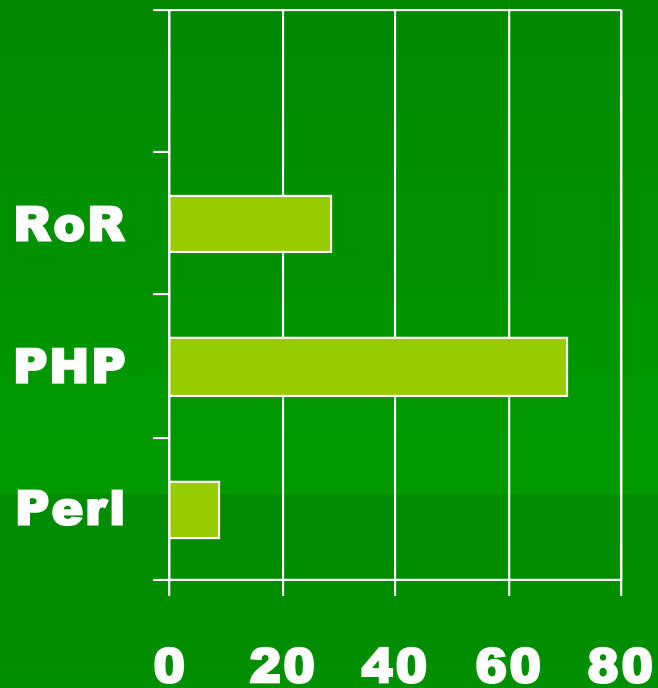
SQLite Results



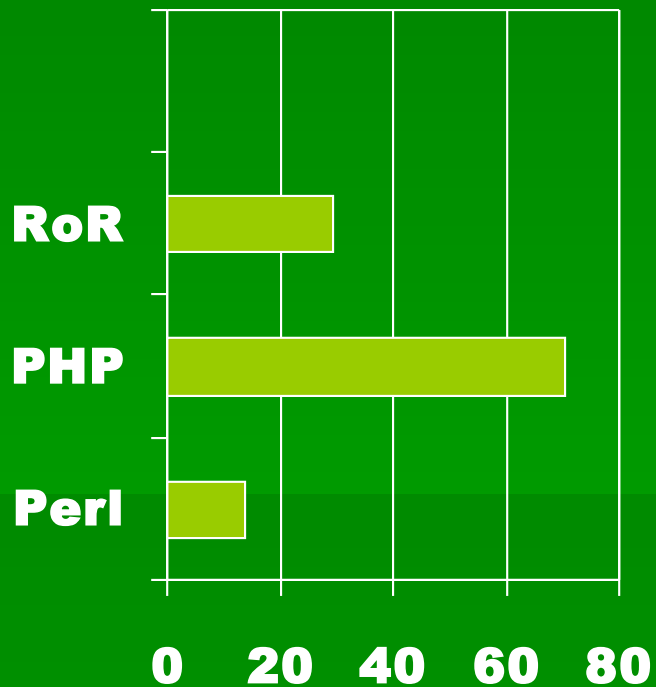
- SQLite 3.3.13
- Simple data types

PostgreSQL Results

- PostgreSQL 8.1.8

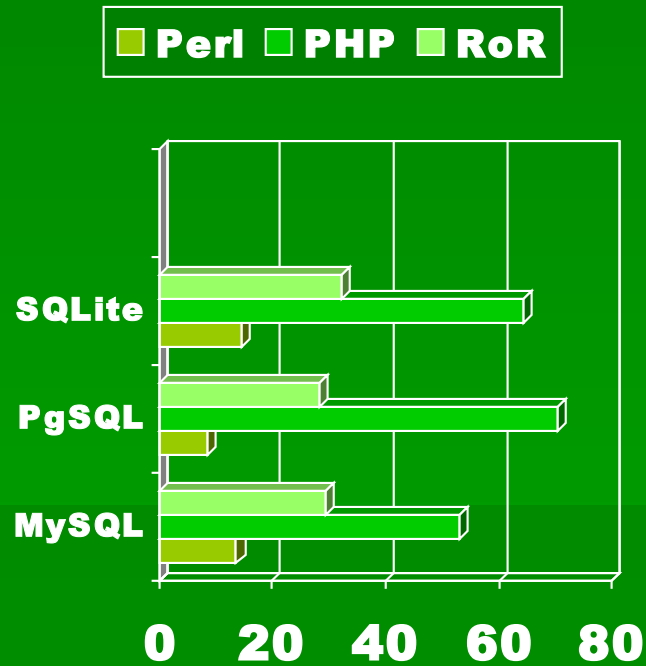


MySQL Results



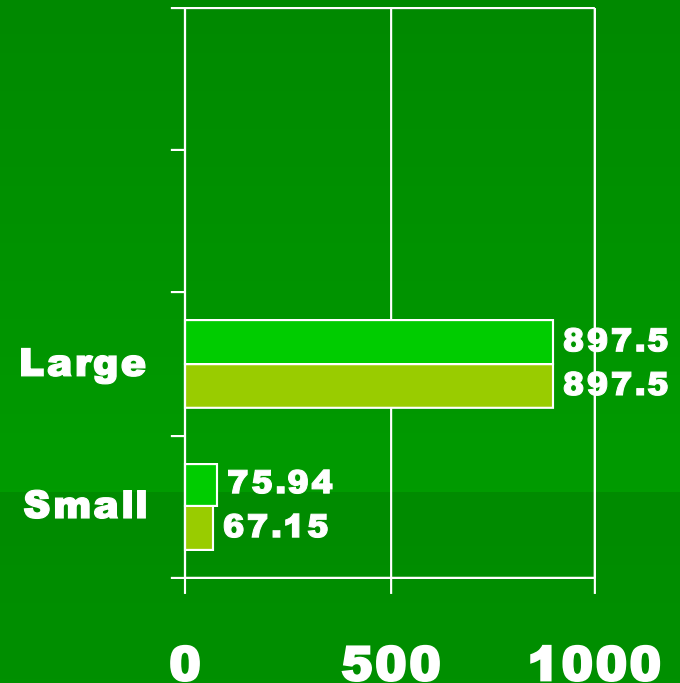
- MySQL 5.0.38
- InnoDB Engine
- Autocommit disabled

Overview



Lighttpd vs Apache

- Lighttpd 1.4.13
- Apache 2.2.3
- Files
 - 958 byte PNG
 - 1mb random file
- Bottlenecks
 - Filestats



Conclusions

- Speed of Lighttpd / Apache is comparable
- PHP appears to be fastest without caching
- SQLite is good for static reads
- PostgreSQL is good for writes
- Ruby on Rails has low barrier to entry

Questions?

- Ask some Questions
- Slides + Code available at <http://server.macvicar.net/talks/>

Paisley Beer Festival

- Paisley Town Hall
- Friday 27th April (Tomorrow)
- Meet inside from 4pm onwards