lighttpd

Using lighttpd for faster WebApps
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Agenda

- Architecture
- FastCGI
- Load-Balancing, Fail-Over
- X-Sendfile
- mod_secdownload
- mod_flv_streaming
- mod_uploadprogress

About Schm^Wme

- Jan Kneschke
  - MySQL AB, Software Dev
- Projects
  - lighttpd, localizer, modlogan
  - currently hot: mysql-proxy
  - mysql storage engines

About lighttpd

- open-source, BSD

- #5 in http://netcraft.com/

- used by wikipedia, youtube, meebo, reddit, ...

- developed since 2003 as PoC of http://kegel.com/c10k.html

Architecture

- one process (not like Apache)
- one thread (not like IIS)
- using event-based dispatching (like zeus, thttpd, boa, ...)
  - select(), poll(), epoll, kqueue, ...
- sendfile() and friends

FastCGI

- CGI is a **Interface**

  - HTTP_HOST, REQUEST_URI, ...

- FastCGI keeps the process alive

- communicates via TCP or Unix sockets

- a separate process

  - user-id change

  - remote connections

  - chroot

PHP, Python, Ruby, Java, ...

- PHP wants FastCGI
- Python prefers SCGI
- Ruby likes HTTP
- Java APJ13
- lighttpd 1.5.0 has mod_proxy_core
  - balancing, failover
  - different backends

Load Balancing, Fail Over

- Different Load Balancers
  - Round Robin
  - Shortest Queue First
  - Static for Fail Over
- Fail Over
  - Hosts are disabled at overload
  - hosts down, network down, …
  - different disable-time

X-Sendfile

- PHP checks auth and wants to send a file
  - readfile("/path/to/file");
  - slooooow
- let the web-server send the file
  - header("X-sendfile: /path/to/file");

mod_secdownload

- App generates links temporary links
- web-server handles the file transfer
  - http://example.org/files/ <md5>/<timestamp>/<filename>
- allows Partial Requests (Range: ...)
- protects against Deep/Hot Linking

mod_flv_streaming

- build your own YouTube
- flash-video uses HTTP to get a flv-file
- doesn't support seeks in to a stream (no Range support)
- mod_flv_streaming using cue-points to build flv-files on the fly

mod_uploadprogress

- track the progress of file-uploads
- upload doesn't block a backend (like in Apache)
- progress tracking doesn't block a backend (like PHP 5.2.x)
- uses JSON/AJAX/add-your-buzzword
- http://upload.lighttpd.net:1025/upload.htm

Turbo Boost

- http://www.lighttpd.net/benchmark
- threaded io-backends
- boosting PHP
- compressing, bundling JS-files on the fly