

W3Perl

A free logfile analyzer



Features

- **Works on Unix / Windows / Mac**
 - based on Perl scripts
- **Web / FTP / Squid / Email servers**
 - Others log format can be added easily
- **Web Admin Interface**
 - Allow to monitor your reports remotely
- **PDF / Email / CSV /RSS reports**
 - Get reports in your mailbox each morning
- **Logfile parsing or page tagging**
 - Read server log or log created from a javascript code
- **Real time stats**
 - View last entries
- **Session tracking**
 - Follow each user's path
- **Detailed daily / weekly ... reports**
 - Full reports available on a different scale
- **AJAX tools**
 - Allow to sort table, to search for data ...
- **Can be run on a remote host**
 - Log files can be retrieved, avoiding the need to compute on the server.

Monitoring technologies

Page tagging

- Cons :
 - Third party trust
 - No traffic data
 - Rely on javascript
- Pros :
 - No scripts to run or install
 - No caching problem
 - Can add extra data as screensize
 - Can log on javascript events
 - Doesn't require logfile

Logfile analysis

- Cons :
 - CPU / Memory hungry
 - Need to install a package
- Pros :
 - No change in your website
 - Archive your logfile to retrieve data later
 - Spider activities
 - Fine tuning

W3Perl can be used with both methods

Logfile

- Choose carefully your logfile format
 - Combined to get browsers/OS/referer stats
 - Reverse DNS to get country stats (w3perl can do it also)
- Hits vs Accesses
- Rotation / Compression
- Recommendation :
 - Apache : move to combined ECLF
 - IIS : use W3C or add extra fields to IIS format
- Create your own logfile if not available
 - Install the Page Tagging package first
- CLF logfile format :

%host %null %login %date %hourshift %method %page %protocol %status
%requetesize



Logfile format

- **Web** : CLF, ECLF, W3C, IIS ...
- **Squid** : Native, CLF
- **FTP** : ProFTP, xferlog
- **Mail** : Exim / Postfix / Sendmail

Your can define your own format using predefined fields

=> %host, %date, %page, %protocol, %status, %requetesize ...



Data mining

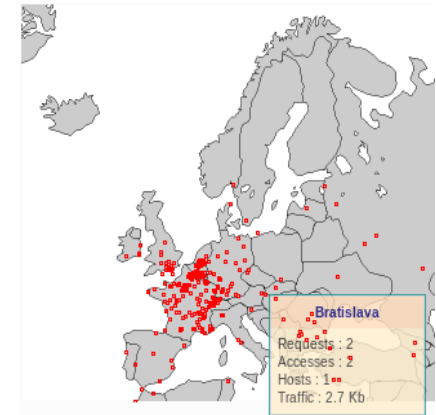
- Main stats

- Page, Hosts, Directories, File, Traffic, Country, City, Scripts



- Time stats

- Real time, hours, days, weeks, months and years



- Additional stats

- Referrer, Browsers, OS, Errors, Sessions, RSS, URL mapping ...



Using W3Perl

- **Installation**
 - Check requirements (Perl and Fly/Flydraw)
 - Choose Windows Binaries / Linux Packages or Tarball
- **Configuration**
 - Customize your stats : one configuration per report
 - Build your config from a Web administration interface
- **Running the scripts**
 - Master script : cron-w3perl.pl
 - -a to initialize
 - -e to update
 - -d <days> to compute the last days
 - Remotely via the Web administration interface or
 - Daily via a crontab
 - Load configuration via the -c flag
- **Watch the results !**

Installation

- **Unix**
 - RPM / Debian package
 - Tarball
 - Scripts -> /cgi-bin/w3perl/
 - Resources -> /htdocs/w3perl/
- **Windows binaries** (include predefined configuration files)
 - Apache
 - IIS
 - Abyss
 - No server
- **Logfile access is not mandatory**
 - A javascript tag to be inserted in your web pages can create logfiles for you
- **Plug-in**
 - PDF, Email, GeoIP ...

Avoid installing the package on a running server

Installation - Unix

- **RPM / Debian package**
 - Fly or Flydraw package needed
- **Tarball**
 - Install the fly or flydraw package
 - Extract w3perl package in your www document root
 - Edit the install.pl script
 - Change paths according to your system :
 - Perl path
 - CGI path
 - W3Perl package path
 - Run the install.pl
 - Use the web administration interface to build a config file
- **Plug-in**
 - Install optional third-party software : PDF, Email, GeoIP ...

Installation - Windows

- **ActivePerl**
 - Install Perl first
- **Binaries**
 - IIS / Apache / Abyss server with default values
 - No server
- **Configuration file**
 - Apache / IIS / Abyss are ready to go
 - No server => give log files information
 - Customize values using a web interface
- **Plug-in**
 - Install optional third-party software : PDF, Email, GeoIP ...

Configuration

- Create a configuration file
 - Path, threshold, display, log format ...
- If a web server is running :
 - Use the web administration interface
- If not :
 - You can use the online tool on w3perl website
 - Or edit manually the config.pl file
- Predefined config files :
 - Mandriva / Ubuntu / Debian
 - IIS / Apache / Abyss
 - FTP / Squid / Postfix / Exim
 - No logfile

Web Administration Interface

- **Manage configuration files**
 - Create / Modify / Clone / Delete
- **Run remotely your stats**
 - Show status with a progress bar
- **View stats reports**
 - All your reports on one page
- **Update package**



Build a configuration file

- **Customize display**
 - Threshold, Graphs, URL / Hostname mapping, language ...
- **Logfiles**
 - Paths, format, compression, split, filename
- **Filtering rules**
 - Hosts, URL, Countries, Directories, Robots to exclude
- **Processing options**
 - Reverse DNS, GeoIPCity, Domain stats, Scripts to run
- **Automatic update**
- **Online tool available**

The screenshot shows the 'Configuration - Step 3 - Logfile' page of the W3Perl Forms application. The page is displayed in a Mozilla Firefox browser window. The configuration is organized into several sections, each with a title and a description:

- Logfile format:** Choose the logfile format. Select the one your server produces. If you are using your own format, describe the values you are using in your logfile. Each value is a "%string". If not found in the list, use %null instead. Use a space to separate value.
 - ☒ Standard logfile : Common Log File (CLF) [Help]
 - ☐ Your own logfile : [text input] [Help]
- Virtual servers:** If you are using virtual servers inside your logfile format, two format are supported, first one being the standard.
 - ☒ Virtual servers in NECLF logfile format [Help]
 - ☐ Virtual servers in CLF or ECLF logfile format
- Split logfiles:** If you are using split logfiles, you should specify the log filename structure.
 - Fields available: %prefixlog (Constant string) [Help]
 - Logfilename: [text input: %prefixlog] [text input: Click here for example]
 - If you are using compressed logfiles, don't add suffix in this string.
- Remote log:** If your logfiles are stored on another server, you can retrieve them before running the stats.
 - Remote log files: ☐ Yes ☒ No [Help]
 - Wget binary: [text input] [Click here for examples]
 - Login account: [text input]
 - Password account: [text input]
 - Remote host: [text input] [Click here for examples]
 - Remote host port: 80
 - Remote directory: [text input] [Click here for examples]
- Compression:** If you compress your logfiles, give the following informations :
 - Compressed log files: ☐ Yes ☒ No [Help]
 - Compression tool binary: [text input] [Click here for examples]
 - Compression suffix: .gz
 - Use the compression binary tool ... NOT the uncompression binary.

The page has a 'Done' button at the bottom left. The browser's status bar at the bottom shows the current time and weather: 'Now: Mostly Cloudy, 11° C', 'Fri: 7° C', 'Sat: 10° C'.

Avoid to build configuration file manually

Filtering

- Robots detection
 - To reject spider visits
- Referrer spam
- Countries
 - You can match your country
- URL
 - Selecting a specific web area
 - User's report
- Directories
 - Avoid scanning private area
- Server's status code
- Hosts
 - Exclude list of hosts

Statistics - Robots excluded - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://10.0.0.50/demo/uk/list/robot.html

Go Yahoo

Robots excluded

- The Top 10 robots (Full list)

(Only hosts with at least 10 requests will be printed)

Robot name	Occurrence	Percentage	Number of visits	Last occurrence
Yahoo	96075	30 %	3187	14 Nov 2007
Msn	64790	20 %	93	14 Nov 2007
Voila	59416	18 %	9	14 Nov 2007
Googlebot	34259	10 %	102	14 Nov 2007
WebVac	12406	3 %	5	16 Jul 2007
Jeeves	6772	2 %	40	14 Nov 2007
Fast Search	4872	1 %	2	25 Sep 2007
Internet Research Lab	3562	1 %	1	30 Jul 2007
Heritrix	3464	1 %	20	10 Nov 2007
Baidu	3422	1 %	21	14 Nov 2007

- The Top 10 hosts (Full list)

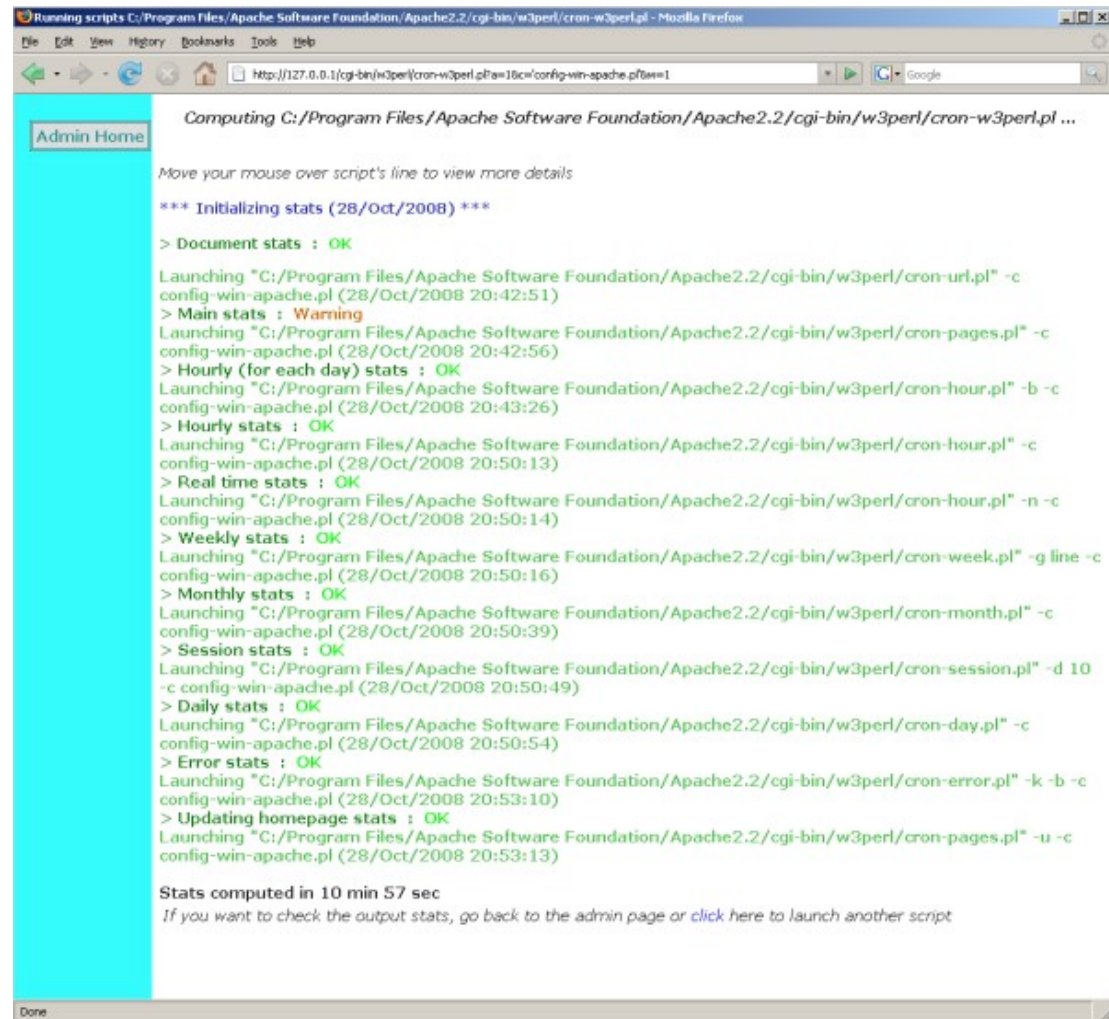
(Only hosts with at least 10 requests will be printed)

Hosts	Occurrence	Last occurrence	Robot name	String
natcrawblloc01.net.m1.fl.net	27351	14 Nov 2007	Voila	Mozilla/5.0 (Windows; U; Windows NT 5.1; fr; rv:1.8.1) VoilaBot BETA 1.2 (http://www.voila.com/)
natcrawblloc03.net.m1.fl.net	26820	05 Nov 2007	Voila	Mozilla/5.0 (Windows; U; Windows NT 5.1; fr; rv:1.8.1) VoilaBot BETA 1.2 (http://www.voila.com/)
livebot-65-55-213-87.search.live.com	9775	14 Nov 2007	Msn	msnbot-media/1.0 (+http://search.msn.com/msnbot.htm)
crawl-66-249-73-23.googlebot.com	8819	26 Jun 2007	Googlebot	Mozilla/5.0 (compatible; Googlebot/2.1; +http://www.google.com/bot.html)
crawl-66-249-70-242.googlebot.com	6938	04 Jun 2007	Googlebot	Mozilla/5.0 (compatible; Googlebot/2.1; +http://www.google.com/bot.html)
livebot-207-46-96-136.search.live.com	6005	12 Oct 2007	Msn	msnbot/1.0 (+http://search.msn.com/msnbot.htm)
natcrawblloc02.net.s1.fl.net	5147	13 Nov 2007	Voila	Mozilla/5.0 (Windows; U; Windows NT 5.1; fr; rv:1.8.1) VoilaBot BETA 1.2 (http://www.voila.com/)
livebot-207-46-96-137.search.live.com	4567	12 Oct 2007	Msn	msnbot/1.0 (+http://search.msn.com/msnbot.htm)
crawl-66-249-65-144.googlebot.com	4536	20 Mar 2007	Googlebot	Mozilla/5.0 (compatible; Googlebot/2.1; +http://www.google.com/bot.html)
crawl-66-249-65-193.googlebot.com	4531	29 Aug 2007	Googlebot	Mozilla/5.0 (compatible; Googlebot/2.1; +http://www.google.com/bot.html)

Done

Running

- From a web admin
 - Remotely
 - Get report in one click
 - Click on 'Init' to start
- From command lines
 - Use -h for help
 - Master script : cron-w3perl
 - Flag -c to load a config
 - Flag -a to init
 - Flag -e to update
- Windows menu
 - Init / Update
 - Install / Uninstall
- Options
 - Date selection
 - Graph type
 - ... and many more



```
Running scripts C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-w3perl.pl - Mozilla Firefox
http://127.0.0.1/cgi-bin/w3perl/cron-w3perl.pl?c=1&config-win-apache.pl=1

Admin Home

Computing C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-w3perl.pl ...

Move your mouse over script's line to view more details

*** Initializing stats (28/Oct/2008) ***

> Document stats : OK

Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-url.pl" -c
config-win-apache.pl (28/Oct/2008 20:42:51)
> Main stats : Warning
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-pages.pl" -c
config-win-apache.pl (28/Oct/2008 20:42:56)
> Hourly (for each day) stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-hour.pl" -b -c
config-win-apache.pl (28/Oct/2008 20:43:26)
> Hourly stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-hour.pl" -c
config-win-apache.pl (28/Oct/2008 20:50:13)
> Real time stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-hour.pl" -n -c
config-win-apache.pl (28/Oct/2008 20:50:14)
> Weekly stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-week.pl" -g line -c
config-win-apache.pl (28/Oct/2008 20:50:16)
> Monthly stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-month.pl" -c
config-win-apache.pl (28/Oct/2008 20:50:39)
> Session stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-session.pl" -d 10
-c config-win-apache.pl (28/Oct/2008 20:50:49)
> Daily stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-day.pl" -c
config-win-apache.pl (28/Oct/2008 20:50:54)
> Error stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-error.pl" -k -b -c
config-win-apache.pl (28/Oct/2008 20:53:10)
> Updating homepage stats : OK
Launching "C:/Program Files/Apache Software Foundation/Apache2.2/cgi-bin/w3perl/cron-pages.pl" -u -c
config-win-apache.pl (28/Oct/2008 20:53:13)

Stats computed in 10 min 57 sec
If you want to check the output stats, go back to the admin page or click here to launch another script
```

Don't mix web admin and command line run

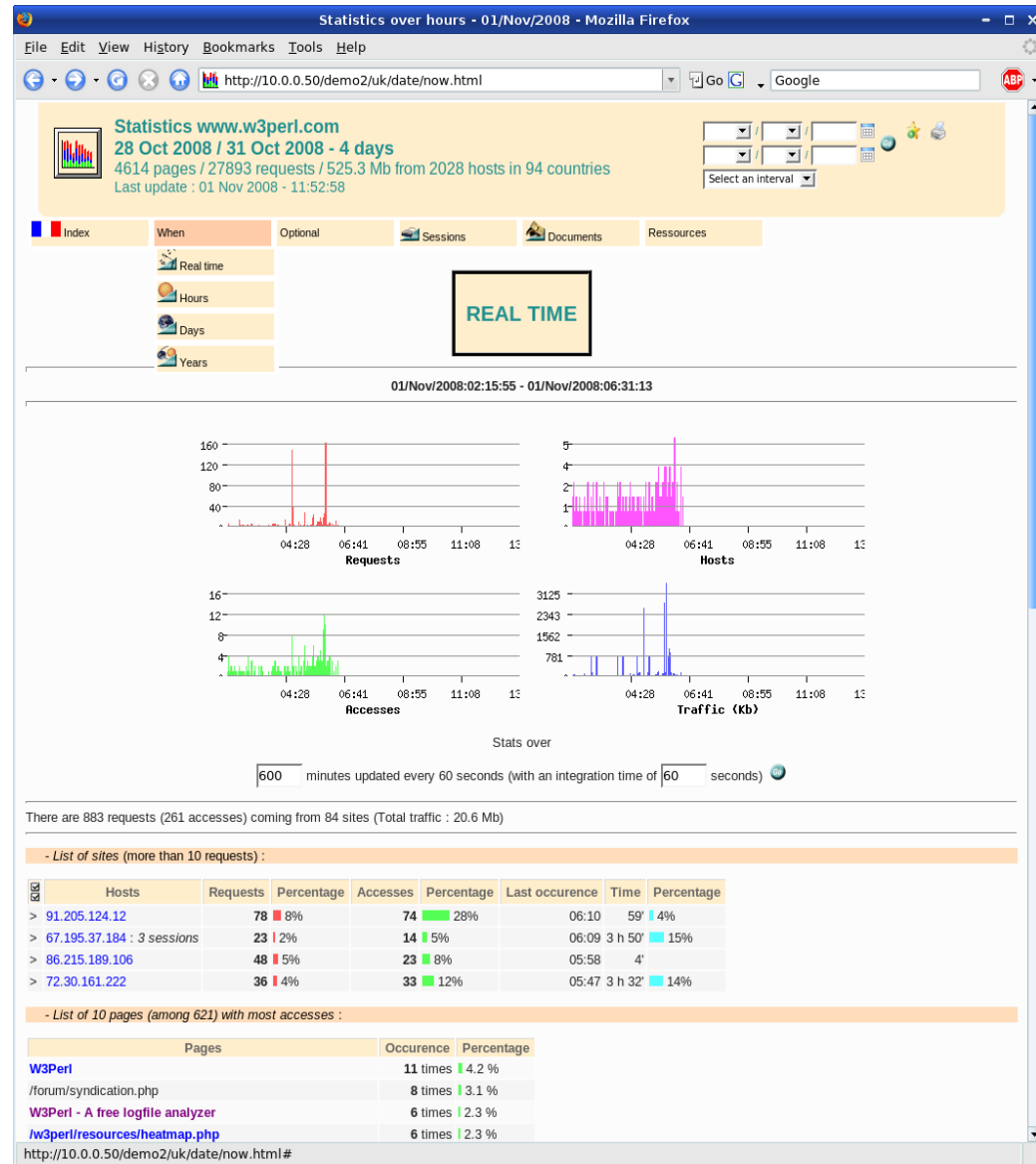
Reports

- **Top menu**
 - Summary
 - Tools : date selection, pdf exportation, language ...
- **Pure CSS menu**
 - Navigate through reports
 - Main/When/Optional/Sessions/Documents/Resources
- **Global summary**
 - Hosts / Pages / Files / Traffic / Users / Exclude
- **Icons field**
 - Select reports
 - Updated when new reports are available



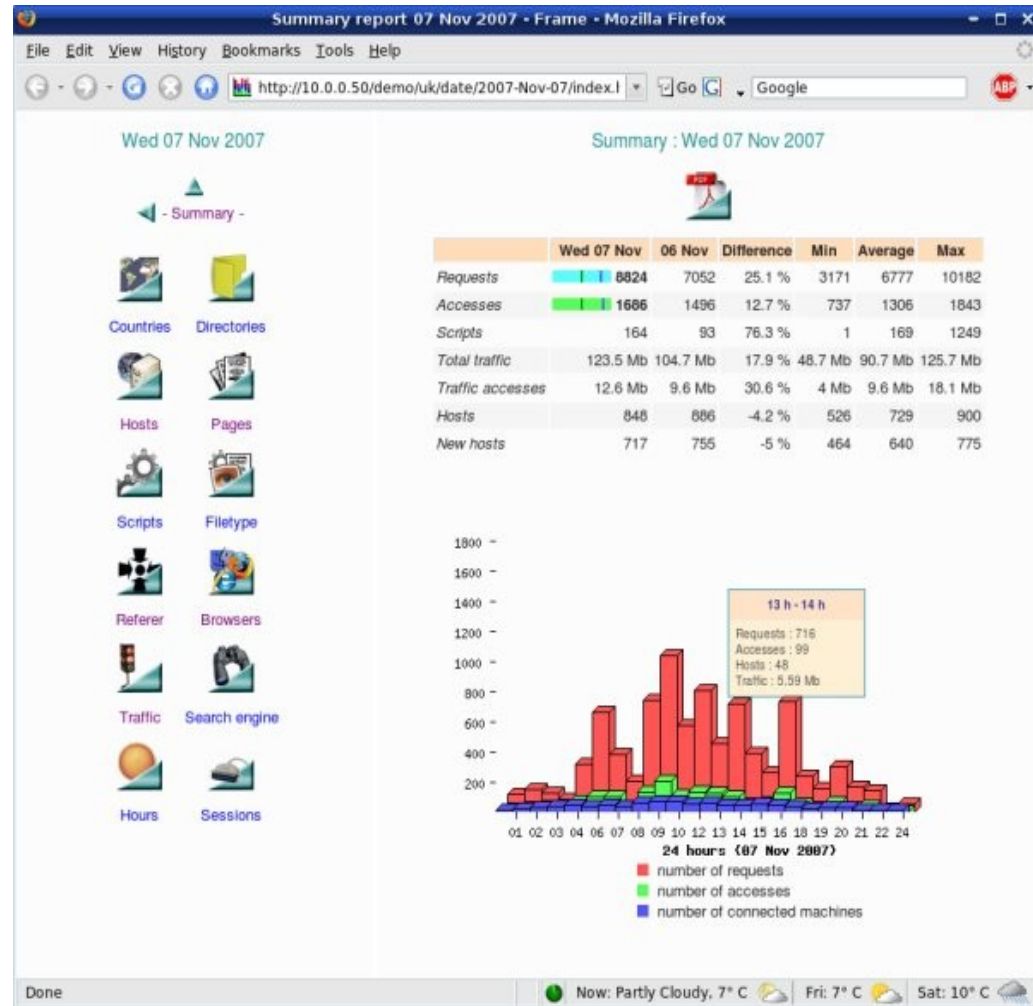
Real time

- **Events monitoring**
 - Updated every minute
 - Hits, Accesses, Traffic, Hosts...
- **Graphics**
 - Activity over the last hours
 - Length and integration can be changed in real time
- **Show latest :**
 - hosts / pages / scripts / files / traffic
- **AJAX**
 - Click on tables to sort them
 - Click on hosts to view page read



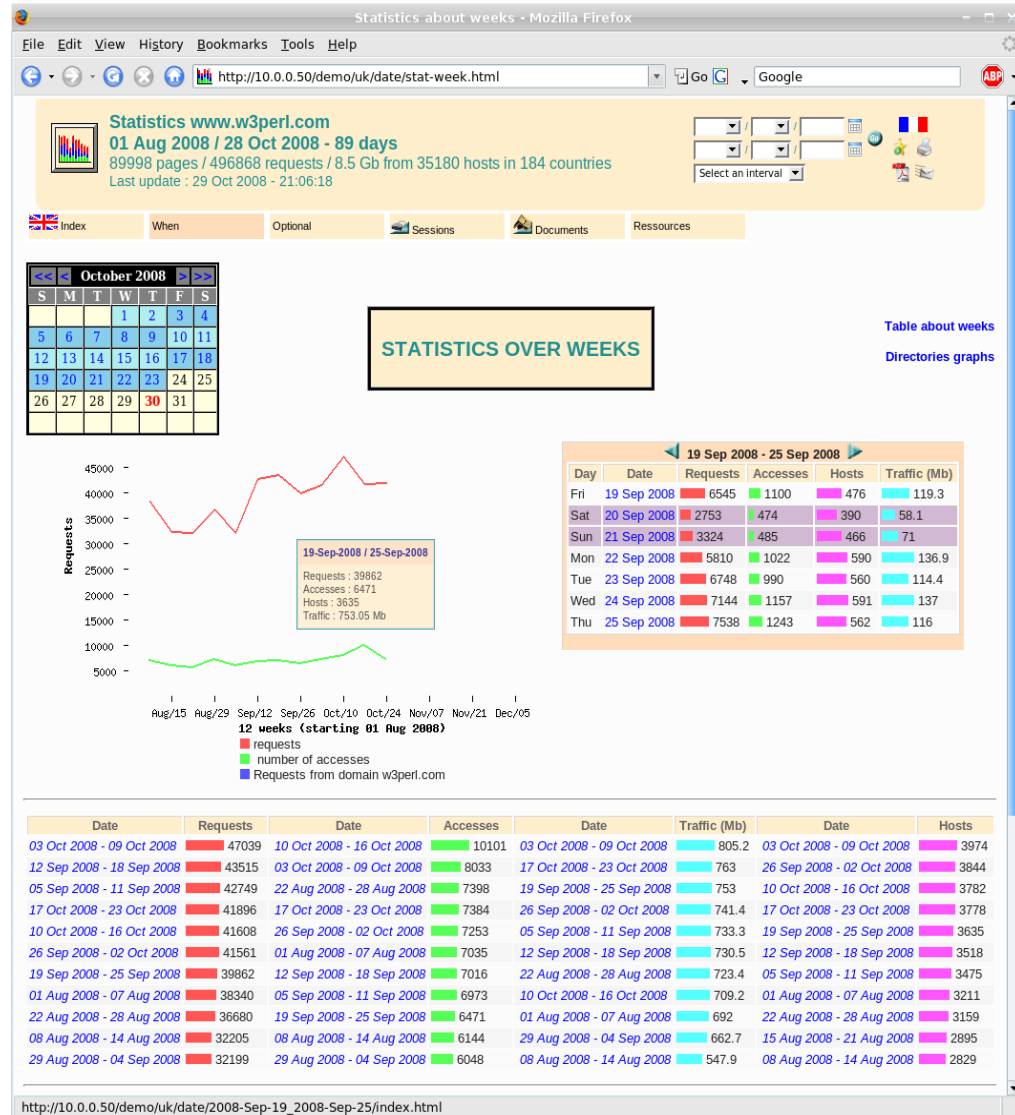
For each day

- **Summary**
 - Hits, Accesses, Traffic, Hosts...
- **Graphic**
 - Activity over 24 hours
 - Show peaks
- **Complete reports**
 - Countries / Directories / Hosts / Pages / Filetype / Traffic / Session / Referrer / Browsers / Scripts / ...
- **Can be send via email**
 - Html report
 - PDF as an attachment



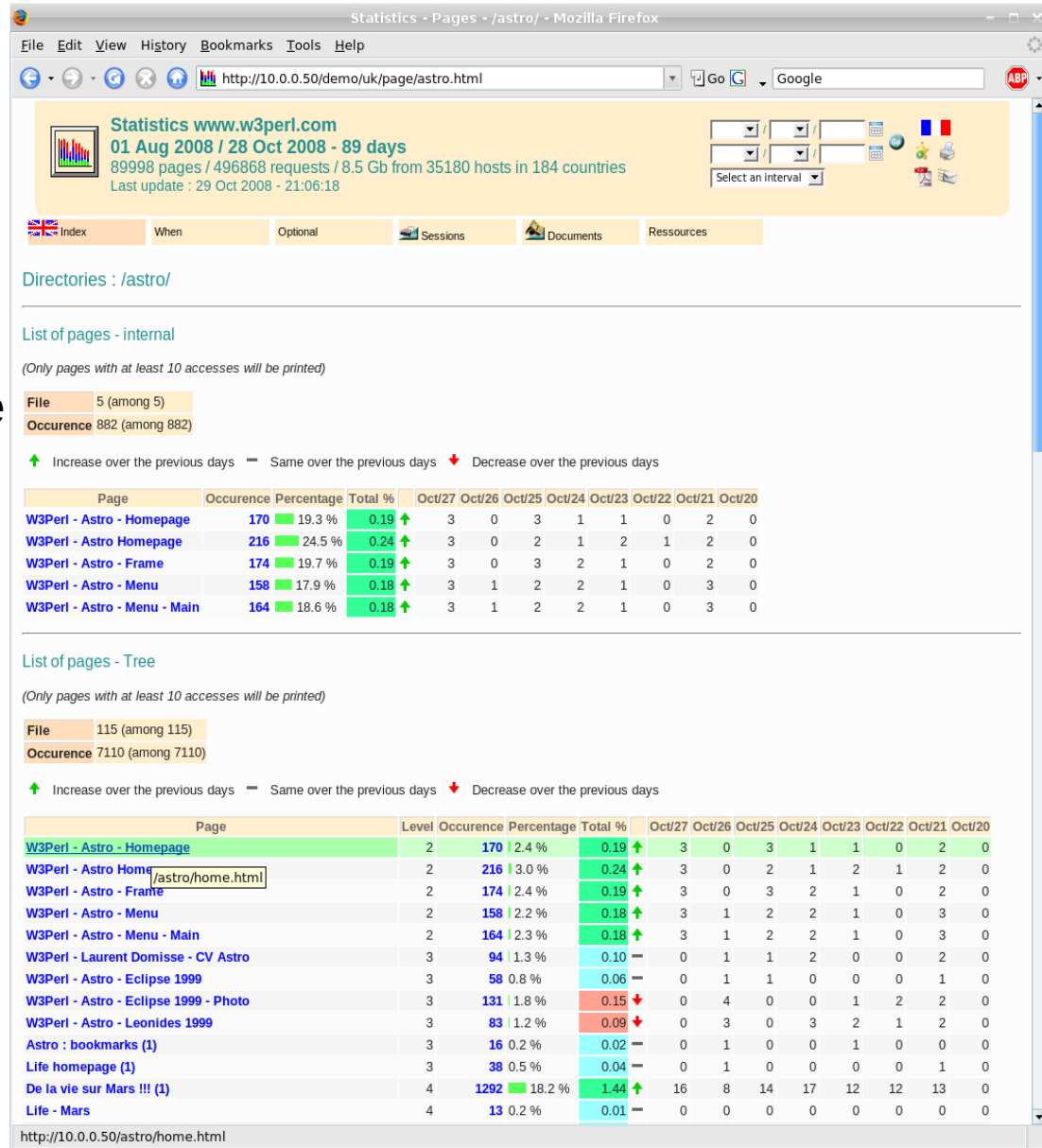
Weekly / Monthly / Yearly

- Same template as daily reports
 - Hits, Accesses, Traffic, Hosts...
- Graphics
 - Hits / Accesses versus time
 - Hosts versus time
- Full list
 - Not restricted to the top ten
- External / Domain split
- Interactive graphics
 - Link to others time stats
 - Display popup
- Can be send via email
 - Html report
 - PDF as an attachment



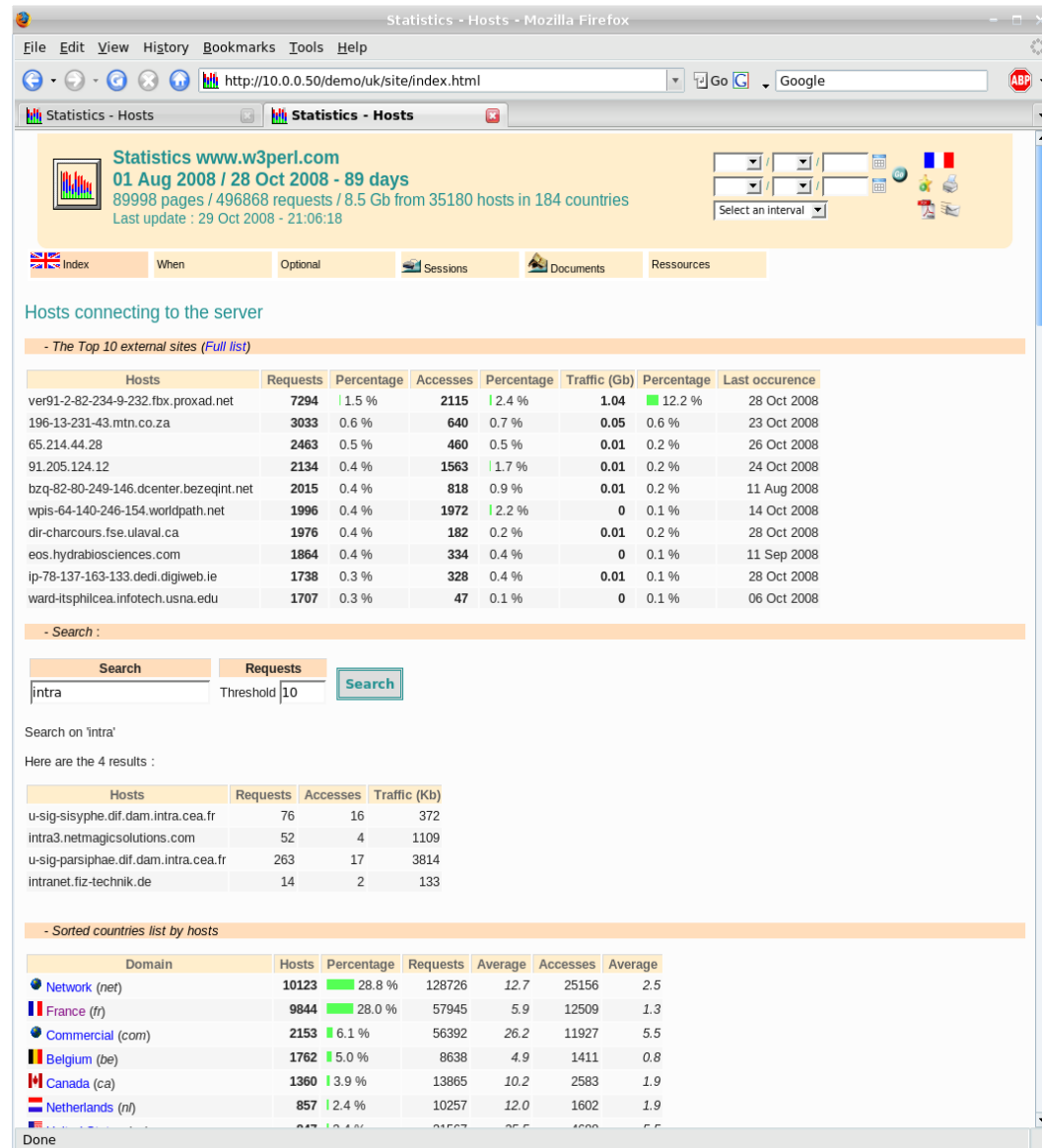
Pages stats

- Based on file extension
 - Html, php ...
- Most popular pages
 - Full list available
- Detailed pages
 - View hosts/date/occurrence
- Search
 - To find easily a target
 - To compare a group
 - Match URL or page's title
- Link to hosts
 - View hosts for each page
- Over the last few days
 - Graphic activity
 - Increase / Decrease
- Sorted by directory

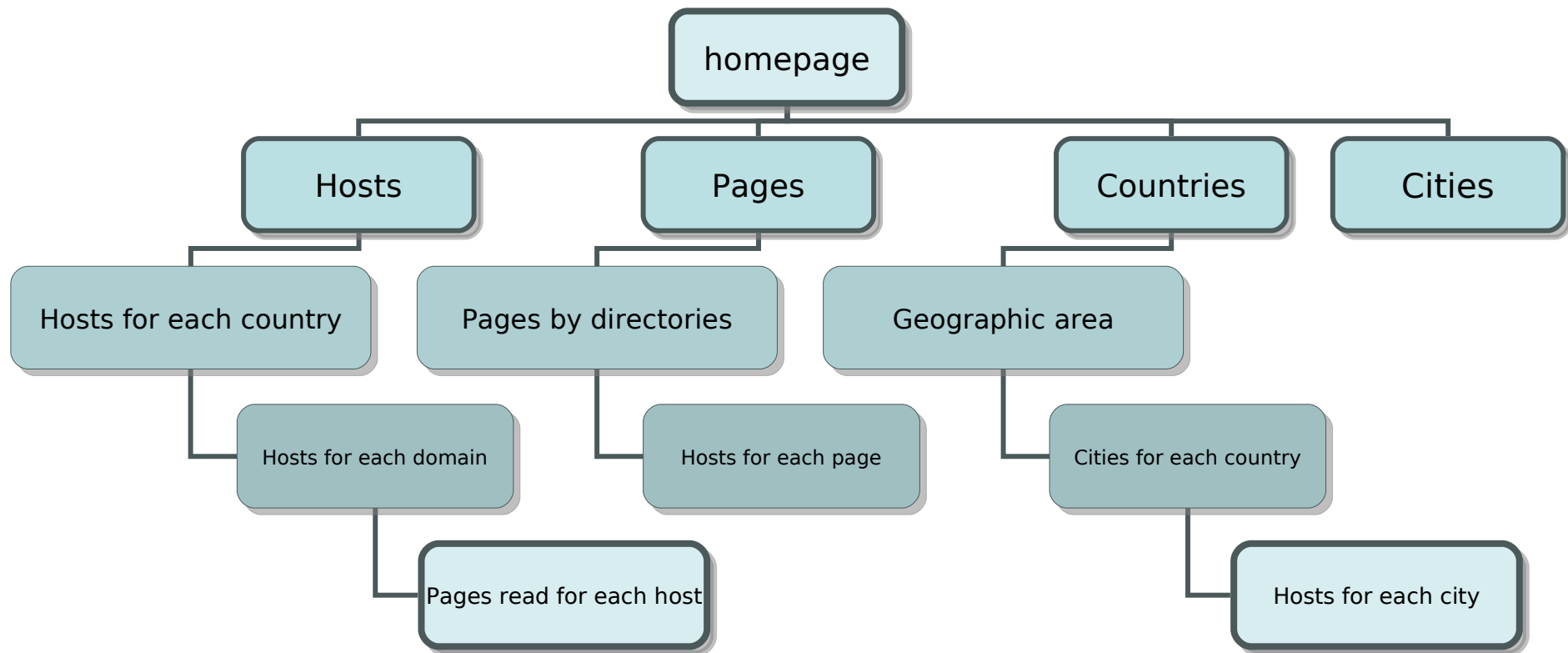


Hosts stats

- Can exclude robots
 - Based on a file
- Most popular hosts
 - Full list available
- For each host
 - List of pages red and when
 - Hits / Accesses / Traffic
- Search
 - To find easily a target
 - To compare a group
- Explore by country domain
 - Country => Domain => Hosts
=> Host's pages

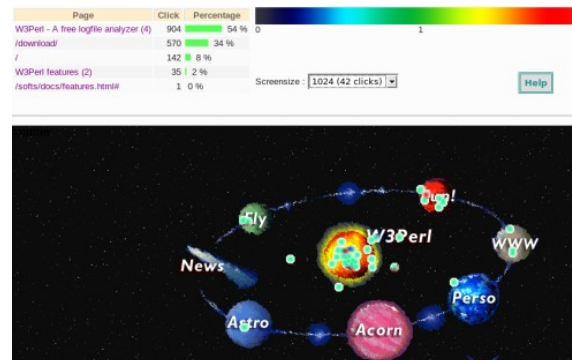
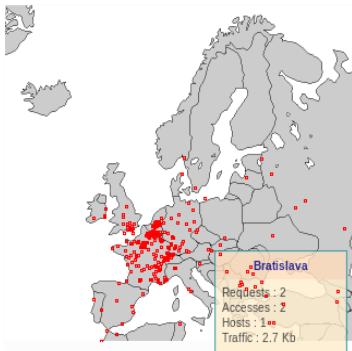


Navigation



Others

- Using plug-in
 - GeoIP to get country stats from IP logfile
 - GeoLiteCity to get cities stats
 - When adding a javascript :
 - Heat map
 - Screen resolution / Color depth / Java support
- Directories
 - Hits / Accesses / Traffic for each path level
- Filetype
 - Check traffic by file extension (find easily unsolicited files)
- RSS
 - Who is reading your flux
- Status code
 - Check client / server errors
- Search engine
 - Which keyword has been used to reach your website ?
- Referer
 - Where does people come from ?



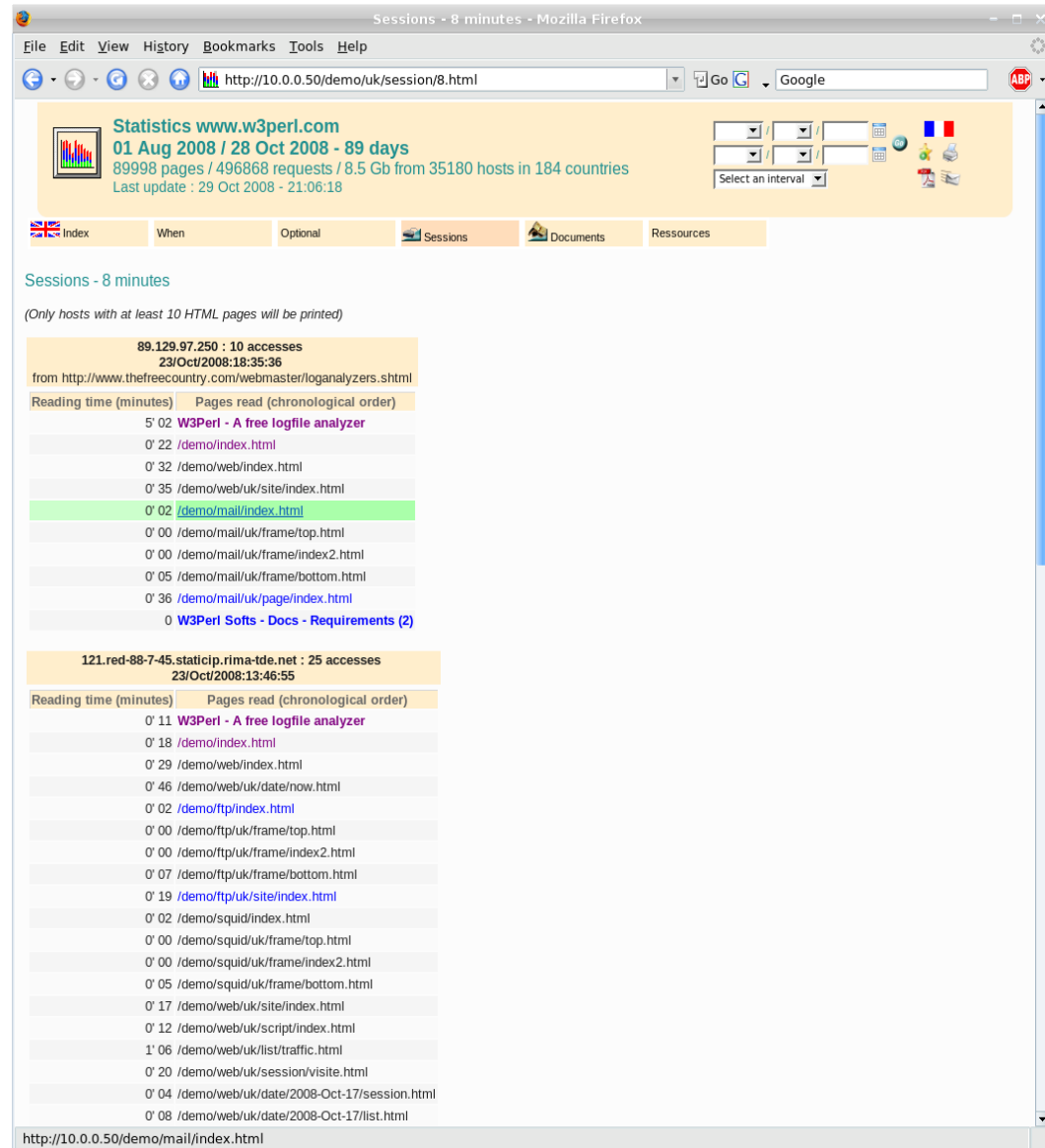
Session problem

- Internet is an endless protocol
 - No delimiter
- Host = Visits ?
 - Same IP shared by different people
 - Proxy
 - NAT
 - Computer room
 - Same person with different IP
 - DHCP lease
 - Use different computer (home/work)
- Setting a Timeout
 - Usually 20 minutes without requests
- Session stats
 - Track user's path



Follow user's path

- For each session
 - Host / Date / Referrer / Accesses
 - View pages / Time spent
 - First / Ending page
- Fidelity
 - How many session for each host
 - How long they stay
- Session length
 - Histogram
- Page reading time
 - Most popular page (avoid page jump)
- Session hourly and daily histogram



Squid / FTP / Mail

Add some extra reports

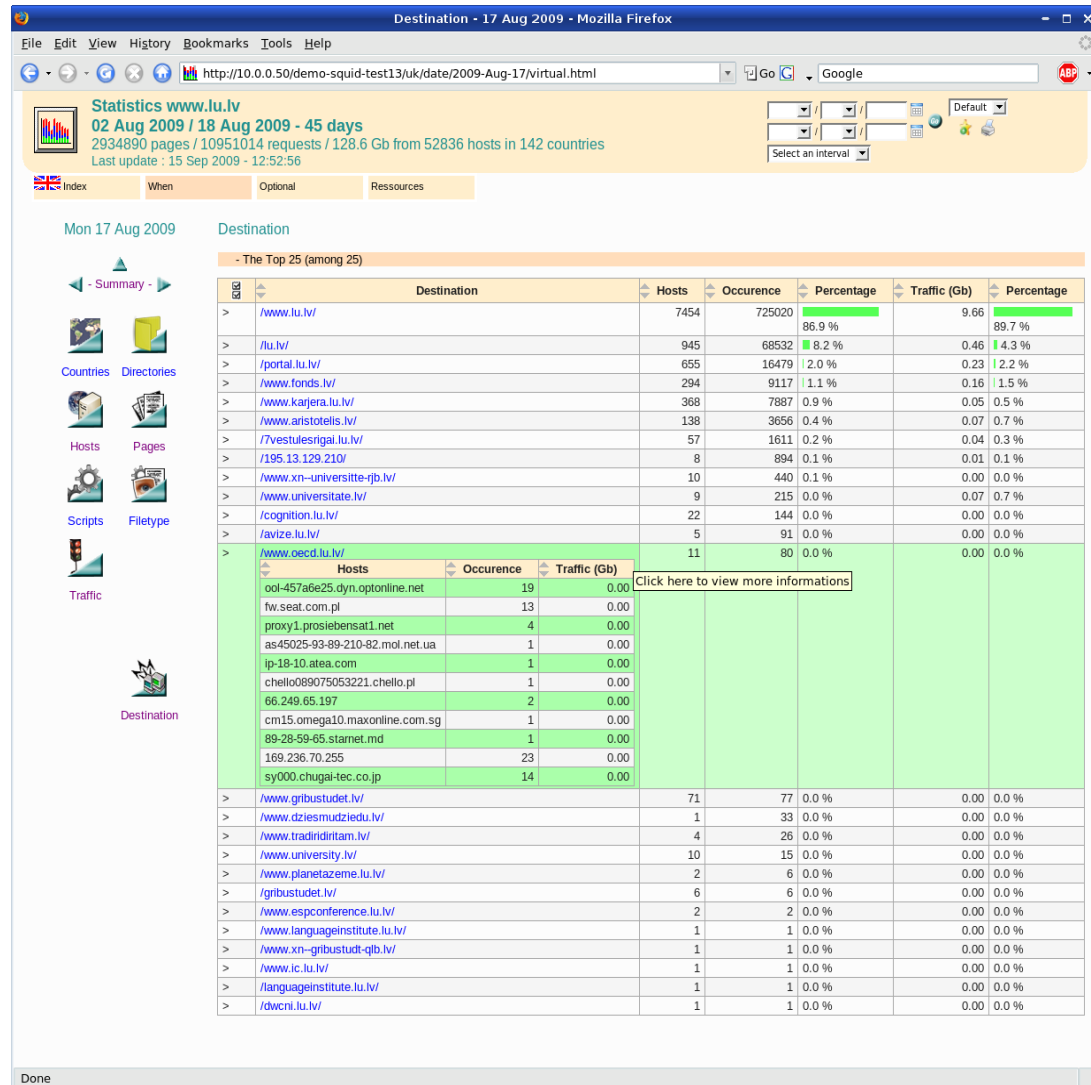
- **Squid**
 - Native and CLF format
 - Basic proxy stats (TCP status code, Traffic, elapsed time)
 - Destination sorted by countries
 - Users stats if authenticated users found
- **FTP**
 - ProFTP, xferlog format
 - Users stats (files downloaded, traffic, from, date)
 - External / Local Top ten users
 - Incoming or Outgoing reports
- **Mail**
 - Can read Exim / Sendmail / Postfix
 - Emails list per users / domain / countries
 - Local / External server

Intranet

- Can map users to IP
 - Fill the resolv_users.csv
- Local domain
 - Regular expression to map domain IP
 - Parameter to exclude external hosts
- Works with secure server

Squid report showing :

- Daily destination : which websites have been seen
- List of hosts for each destination : occurrence and traffic



Futur developments

- More logfile format support
 - PureFTP, Domino, Firewall ...
- Web service
- More AJAX tools
 - Dynamic graphs
- More administration tools
 - Referer spammer management
- More tools for data-mining
- More mail reports
 - spam detection, bounced emails, delay
- Improve Windows installer
- Increase processing speed

Others packages

Logfile analysis

- **AWStats**
 - Widely used
 - No user's path track
- **Analog**
 - Fastest in the world
 - Lack of features
- **Webalizer**
 - Only small updates from 2002
 - Fast
- **AWFFull**
 - Webalizer fork
- **Visitors**
 - Fast
 - Command line based

Page tagging

- **Piwik**
 - Require a database
 - Javascript code to include
- **BBClone**
 - PHP tag to include
- **CrawTrack**
 - Crawler stats
 - Require a database
- **Google Analytics**
 - No access to data
 - Popular

That's all

- W3Perl homepage
 - <http://www.w3perl.com>
- New release every 3 months
- Demo : <http://www.w3perl.com/demo/>
 - Watch by yourself
- Feedbacks welcome
- Help available
 - FAQ
 - Forum
- Mailing list
 - Only new release update
- Comments ?
 - Send them to domisse@w3perl.com