

How not to get burned with Filedrawers and AFS

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Introduction

- Demonstration
- Architecture Overview
- Step by step installation guide
- Further considerations

Filedrawers Background

- Web based interface to AFS
- Developed at the University of Michigan
- See presentation from the BPW 2 years ago for the technical details

Demonstration (hopefully ...)

iFile: afs file management

Leopard Apache

Index of /...penafs-logs Blogs (397) Enlightenment Times CDSA/CSSM Amazon eBay Yahoo! News (1862) Apple

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home logout

ifile: afs file management

Location: /afs/inf.ed.ac.uk/user/s/sxw/ Change Go Up ↑ Refresh

Folder Properties

Actions

- Upload File(s)
- Cut Selected Item(s)
- Copy Selected Item(s)
- Paste to This Folder
- Delete Selected Item(s)
- Create a New Folder
- Rename Selected Item
- Set Permissions for Folder
- Favorite Locations

View Options

Show Hidden Files

filedrawers version: 0.4.0

<input checked="" type="checkbox"/>	Type	Title ^		Size	Last Modified
<input type="checkbox"/>	PDF	AFS Workshop.pdf	↓	55.1 KB	6/23/2005
<input type="checkbox"/>	Folder	Builds		2 KB	4/14/2008
<input type="checkbox"/>	Folder	Built		2 KB	1/14/2008
<input type="checkbox"/>	Folder	Catalyst		4 KB	3/27/2008
<input type="checkbox"/>	Folder	Desktop		2 KB	3/7/2008
<input type="checkbox"/>	Folder	Development		2 KB	2/5/2008
<input type="checkbox"/>	Folder	Documents		2 KB	3/7/2008
<input type="checkbox"/>	Folder	Download		2 KB	3/7/2008
<input type="checkbox"/>	Folder	Favorites		2 KB	6/16/2007
<input type="checkbox"/>	Folder	Junk		2 KB	3/7/2007
<input type="checkbox"/>	Folder	Music		2 KB	3/7/2008
<input type="checkbox"/>	Folder	OpenAFS		2 KB	5/1/2008
<input type="checkbox"/>	File	PHP-server-1.1.tar.gz	↓	290 KB	3/23/2007
<input type="checkbox"/>	Folder	Pictures		2 KB	3/7/2008
<input type="checkbox"/>	Folder	Public		8 KB	4/26/2008
<input type="checkbox"/>	Folder	Talks		2 KB	3/31/2008
<input type="checkbox"/>	Folder	Templates		2 KB	3/7/2008
<input type="checkbox"/>	File	UMICH-authz-ldap.txt	↓	4.4 KB	11/2/2005
<input type="checkbox"/>	Folder	Videos		2 KB	3/7/2008
<input type="checkbox"/>	Folder	WeeklyNotes		2 KB	1/24/2008
<input type="checkbox"/>	Folder	WorkshopSlides		2 KB	3/10/2008

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filedrawers version: 0.4.0

Upload Files to AFS

Choose File no file selected Add Another File

Overwrite files during upload? ☐ Upload File(s)

Type	Title ^	Size	Last Modified
PDF	AFS Workshop.pdf	55.1 KB	6/23/2005
Folder	Builds	2 KB	4/14/2008
Folder	Built	2 KB	1/14/2008
Folder	Catalyst	4 KB	3/27/2008
Folder	Desktop	2 KB	3/7/2008
Folder	Development	2 KB	2/5/2008
Folder	Documents	2 KB	3/7/2008
Folder	Download	2 KB	3/7/2008
Folder	Favorites	2 KB	6/16/2007
Folder	Junk	2 KB	3/7/2007
Folder	Music	2 KB	3/7/2008
Folder	OpenAFS	2 KB	5/1/2008
Folder	Pictures	2 KB	3/7/2008
Folder	Public	8 KB	4/26/2008
Folder	Talks	2 KB	3/31/2008
Folder	Templates	2 KB	3/7/2008
File	UMICH-authz-ldap.txt	4.4 KB	11/2/2005
Folder	Videos	2 KB	3/7/2008
Folder	WeeklyNotes	2 KB	1/24/2008
Folder	WorkshopSlides	2 KB	3/10/2008

iFile: afs file management

Leopard Apache

Index of /...penafs-logs Blogs (404) Enlightenment Times CDSA/CSSM Amazon eBay Yahoo! News (1901)

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home logout

ifile: afs file management

Location: /afs/inf.ed.ac.uk/user/s/sxw/ Change Go Up ↑ Refresh

Selected Items Properties

Actions

- Upload File(s)
- Cut Selected Item(s)
- Copy Selected Item(s)
- Paste to This Folder
- Delete Selected Item(s)
- Create a New Folder
- Rename Selected Item
- Set Permissions for Folder
- Favorite Locations

View Options

Show Hidden Files

filedrawers version: 0.4.0

Permissions Manager

Normal Rights for sxw

	lookup	read	write	insert	delete	lock	adm
system:administrators	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
system:anyuser	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
sxw	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
sxw@ed.ac.uk	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
sxw@ease.ed.ac.uk	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
simon%sxw.org.uk@friend.inf.ed.ac.uk	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

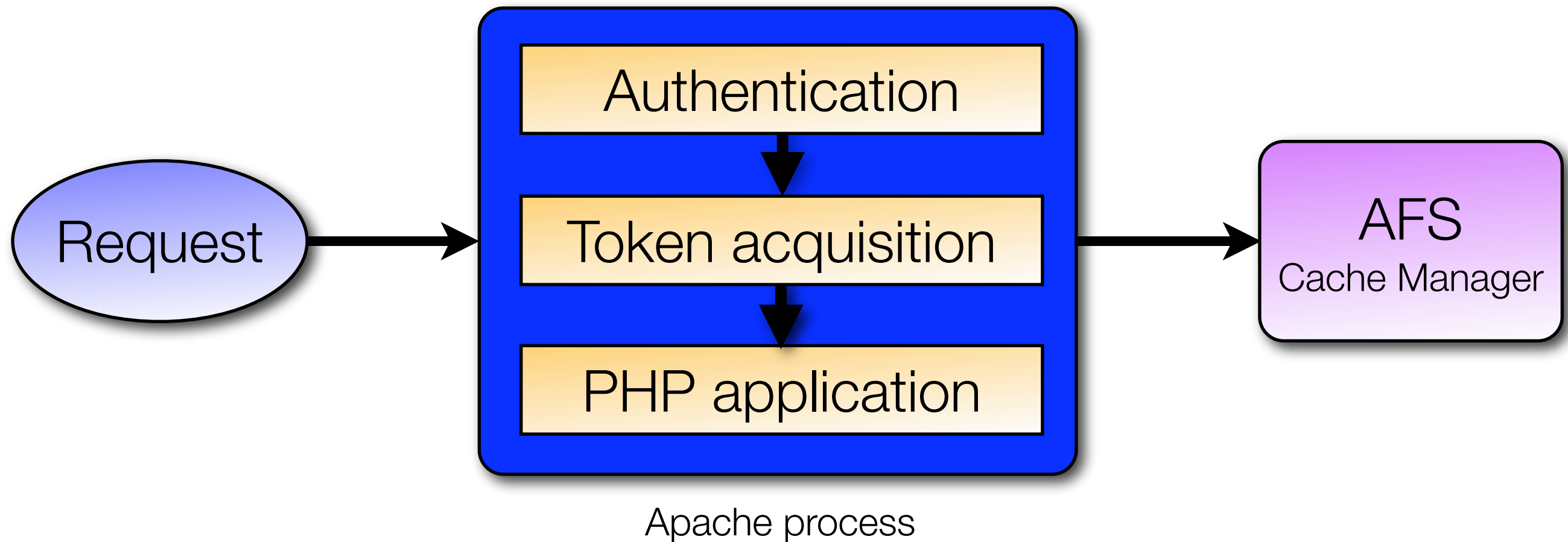
Negative Rights for sxw

	lookup	read	write	insert	delete	lock	adm
sqinney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sramamoo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
srenals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
stephenp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sterratt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
stuart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
svljayak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sxw	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

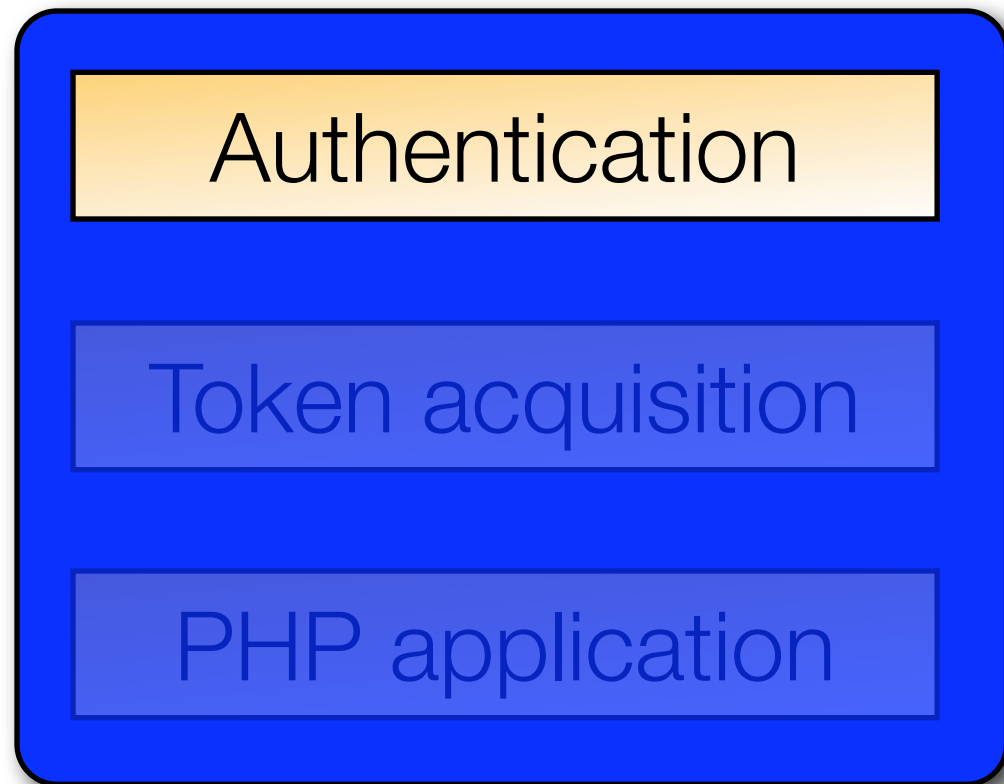
Save Permissions

Type	Title ^	Size	Last Modified
Folder	Builds	2 KB	4/14/2008
Folder	Built	2 KB	1/14/2008
Folder	Catalyst	4 KB	3/27/2008
Folder	Desktop	2 KB	3/7/2008
Folder	Development	2 KB	2/5/2008
Folder	Documents	2 KB	3/7/2008
Folder	Download	2 KB	3/7/2008
Folder	Favorites	2 KB	6/16/2007
Folder	Junk	2 KB	3/7/2007
Folder	Music	2 KB	3/7/2008
Folder	OpenAFS	2 KB	5/1/2008
Folder	Pictures	2 KB	3/7/2008
Folder	Public	8 KB	4/26/2008
Folder	Talks	2 KB	3/31/2008
Folder	Templates	2 KB	3/7/2008
File	UMICH-authz-ldap.txt	4.4 KB	11/2/2005
Folder	Videos	2 KB	3/7/2008
Folder	WeeklyNotes	2 KB	1/24/2008
Folder	WorkshopSlides	2 KB	3/10/2008

Architecture

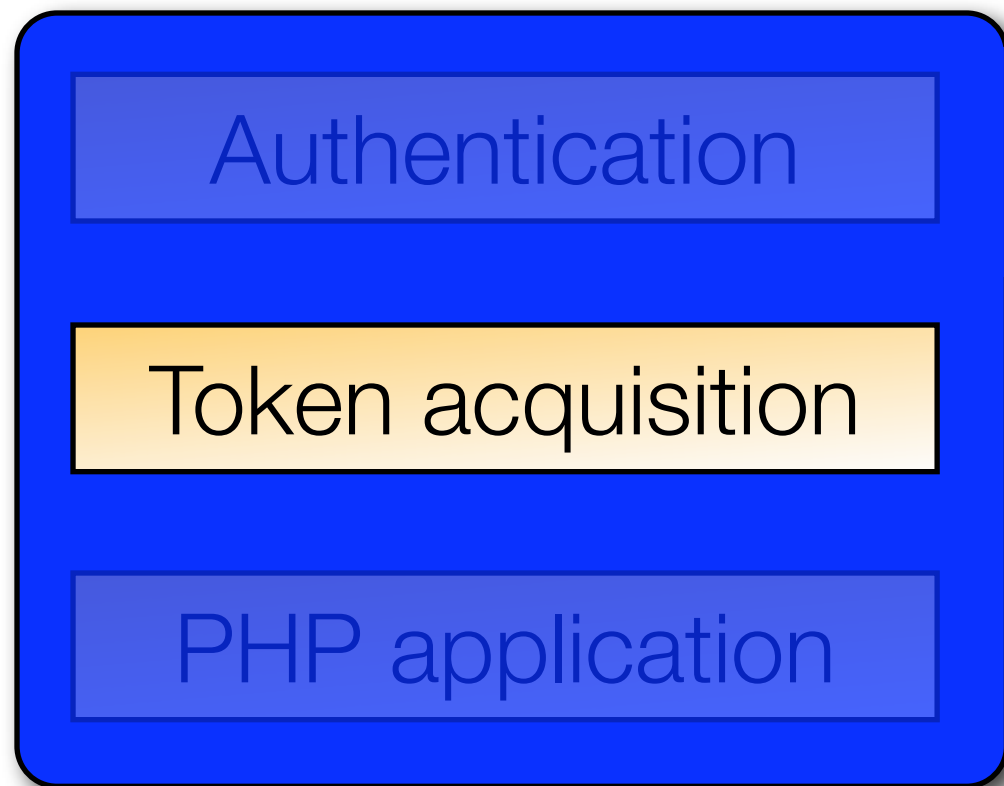


Architecture - Authentication



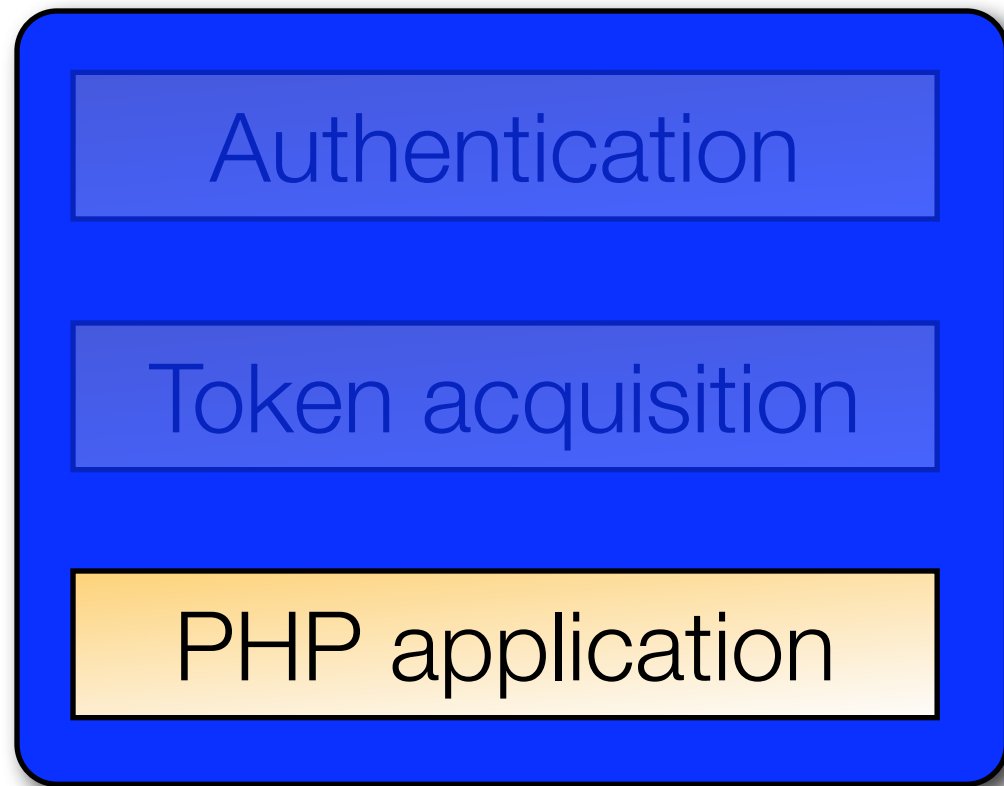
- Any web authentication system
- ... as long as it provides delegated Kerberos credentials
- Similar to 'kinit' on the command line

Architecture - Token Acquisition



- Custom Apache Module **mod_waklog**
- Equivalent to 'aklog' on the command line
- Each Apache process runs in its own PAG

Architecture - PHP application



- **Filedrawers** itself
- PHP5 application
- Provides access to files in AFS through the local cache manager

Step by Step

- Going to look at installation, component by component
 - Authentication module
 - Token acquisition module
 - PHP and filedrawers itself
- Take a few shortcuts

Web server configuration

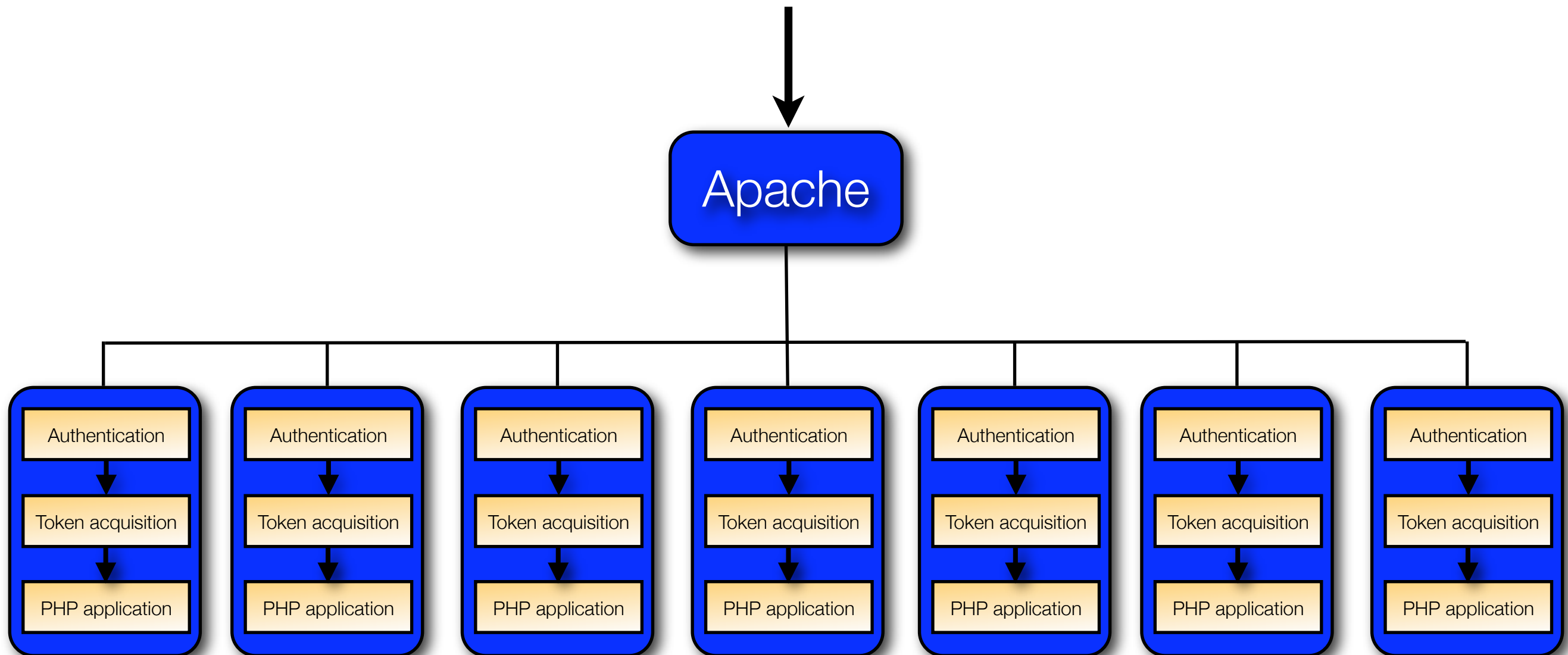
- **Strongly** recommend using Apache 2.2
(Apache 1.3 does work, but is likely to be less supported and tested)
- When using Apache 2.x, use the preforking mpm
(Other MPMs may work, but preforking is better tested, and probably more secure)
- SSL is probably required for a production service
- Install Apache, and get it working
(You're on your own here!)

Operating System Considerations

- We use Linux in production
- Obviously need a working AFS cache manager
- PAGs are required
 - A multiple UID must be able to have many separate tokens
 - However, PAGs don't have to persist between UID changes

No PAG will make you sad

Incoming requests



Authentication module setup

- If your site has a web double signon solution, use it
- Known to work are
 - Cosign
 - Webauth
- Otherwise, use mod_auth_kerb, with SPNEGO or passwords
- Today, we'll concentrate on mod_auth_kerb
- If it's not already in your OS, you can get it from <http://modauthkerb.sourceforge.net/>

mod_auth_kerb configuration

- mod_auth_kerb accepts either SPNEGO from browsers, or username/password
- To be secure, it must be run over an SSL connection
- Need a keytab entry for `HTTP/fqdn.of.server@REALM`
(Some browsers don't canonicalise, and will need HTTP/name.of.server. More later)

```
kadmin -q 'ank -randkey HTTP/fqdn.of.server'  
kadmin -q 'ktadd -k /etc/httpd.keytab HTTP/fqdn.of.server'
```

- Keytab must be readable by the web server user!

mod_auth_kerb configuration example

```
LoadModule auth_kerb_module      /usr/lib/httpd/modules/mod_auth_kerb.so
```

```
...
```

```
<VirtualHost filedrawers.my.site:443>
```

```
...
```

```
ScriptAlias /cgi-bin/ /var/filedrawers/cgi-ssl/
```

```
<Location />
```

```
AuthName "Filedrawers"
```

```
AuthType Kerberos
```

```
KrbMethodNegotiate off
```

```
KrbMethodK5Passwd on
```

```
KrbSaveCredentials on
```

```
Krb5Keytab /etc/httpd.keytab
```

```
require valid-user
```

```
</Location>
```

```
</VirtualHost>
```

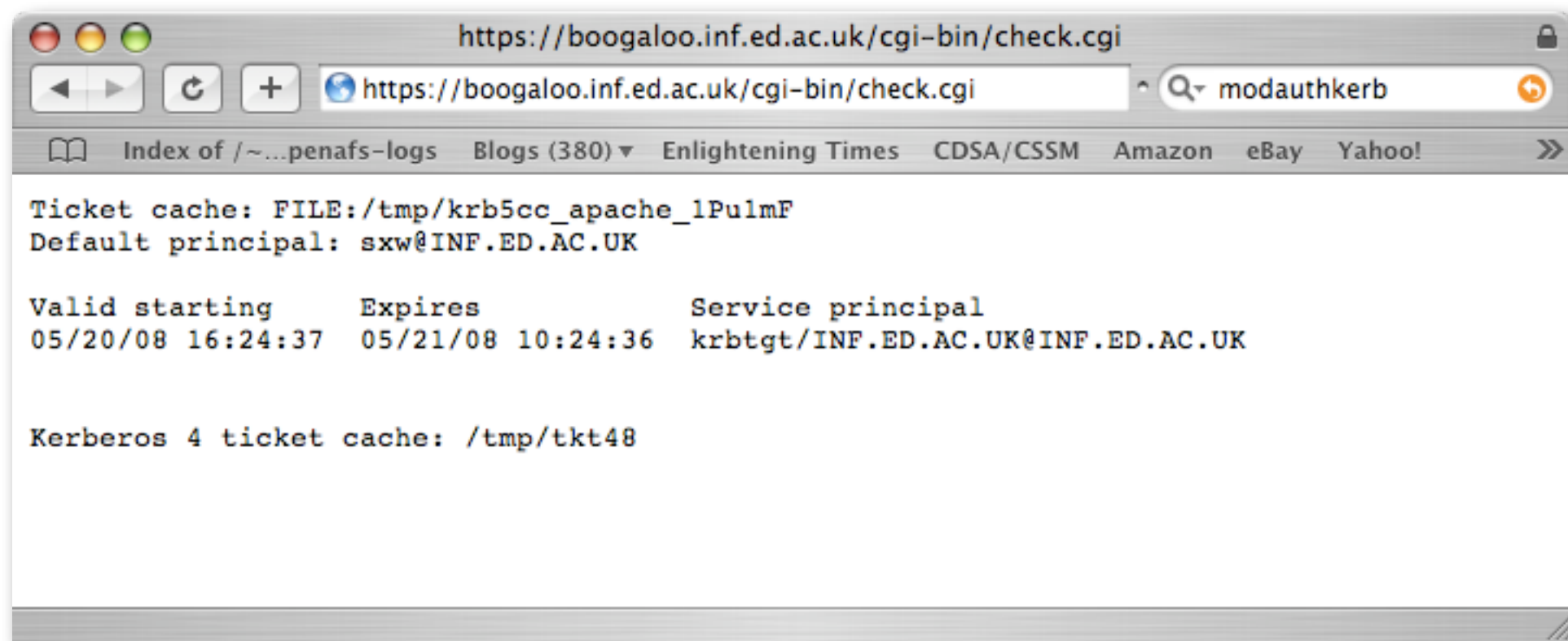
Test CGI script

- At this stage, let's check everything has worked
- Create the following script and place it in `/var/filedrawers/cgi-ssl/check.cgi`

```
#!/bin/sh
echo Content-Type: text/plain
echo
/usr/kerberos/bin/klist
```


Test Output

- Visit <https://filedrawers.my.site/cgi-bin/check.cgi>



The screenshot shows a web browser window with the address bar displaying `https://boogaloo.inf.ed.ac.uk/cgi-bin/check.cgi`. The browser's search bar contains the text `modauthkerb`. Below the address bar, there is a navigation bar with links: `Index of /~...penafs-logs`, `Blogs (380)`, `Enlightening Times`, `CDSA/CSSM`, `Amazon`, `eBay`, and `Yahoo!`. The main content area displays the output of the CGI script, which includes the following text:

```
Ticket cache: FILE:/tmp/krb5cc_apache_1PulmF
Default principal: sxw@INF.ED.AC.UK

Valid starting      Expires            Service principal
05/20/08 16:24:37  05/21/08 10:24:36  krbtgt/INF.ED.AC.UK@INF.ED.AC.UK

Kerberos 4 ticket cache: /tmp/tkt48
```

Common Problems : Replay

- In some installations, KDC verification produces replay errors. You can disable this by setting



```
KrbVerifyKDC    off
```

in your Apache configuration

- This is safe in this case, as mod_waklog will fail to get tokens if the KDC is being impersonated

Getting flashier - doing SPNEGO

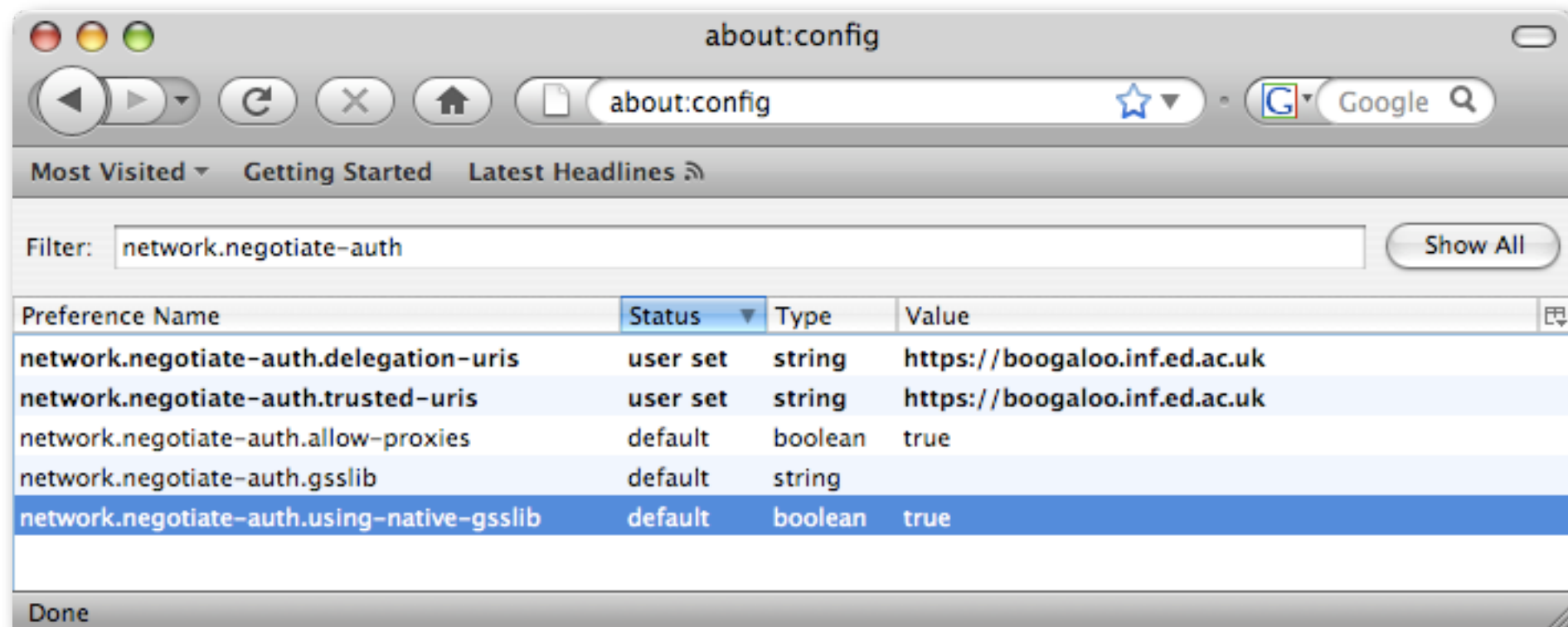
- **Must** delegate, as well as authenticating
 - Safari doesn't support this
 - Can be hard to distinguish between clients that do and don't
- Enable in your web server configuration by setting

```
KrbMethodNegotiate    on
```

(the sample config contains this already, make sure you modify that value, rather than adding a new line!)

SPNEGO in Firefox ...

- Have to enable in the browser configuration
 - Go to `about:config` and enter `network.negotiate-auth` into the Filter box
 - Modify `network.negotiate-auth.delegation-uris` and `network.negotiate-auth.trusted-uris` to contain the URL of your filedrawers service



Common problems : Canonicalisation

- Browser behaviour varies in situations where hostname of server doesn't match name of web site
- Add all `HTTP/server.name` keys to Apache's keytab
- Apply my permit-any-acceptor patch from http://sf.net/tracker/index.php?func=detail&aid=1809998&group_id=51775&atid=464526
- Add the following to your Apache configuration

KrbServiceName	Any
----------------	-----

Token acquisition configuration

- mod_waklog was developed at the University Michigan - it's the enabler for all of filedrawers
- Two different versions are available with radically different functionality, and configuration directives
 - Older version from Sourceforge CVS
 - New version from Sourceforge SVN
- At the time of writing no packaged release of latest code
- Recommend using SVN version
(rest of talk won't make much sense if you don't !)

Installing mod_waklog

- Download code from SVN

```
svn co \  
https://modwaklog.svn.sourceforge.net/svnroot/modwaklog/trunk/modwaklog \  
modwaklog
```

- Build the autoconf files

```
cd modwaklog  
sh regen.sh
```

- Configure the package

```
./configure --with-afs-libs=/usr/lib/afs \  
            --with-afs-headers=/usr/include/afs \  
            --with-apache-headers=/usr/include/apr-1
```

Installing mod_waklog (II)

- Build it

```
make
```

- Install it

```
install -m 755 .libs/mod_waklog.so /usr/lib/httpd/modules/mod_waklog.so
```


mod_waklog configuration

```
LoadModule auth_kerb_module    /usr/lib/httpd/modules/mod_auth_kerb.so
LoadModule waklog_module       /usr/lib/httpd/modules/mod_waklog.so
...
WaklogAfsCell                   cell.my.site

<VirtualHost filedrawers.my.site:443>

ScriptAlias /cgi-bin/ /var/filedrawers/cgi-ssl/

<Location />
AuthName "Filedrawers"
AuthType Kerberos
KrbMethodNegotiate off
KrbMethodK5Passwd on
KrbSaveCredentials on
Krb5Keytab /etc/httpd.keytab
require valid-user
WaklogEnabled                   On
WaklogUseUserTokens             On
</Location>

</VirtualHost>
```

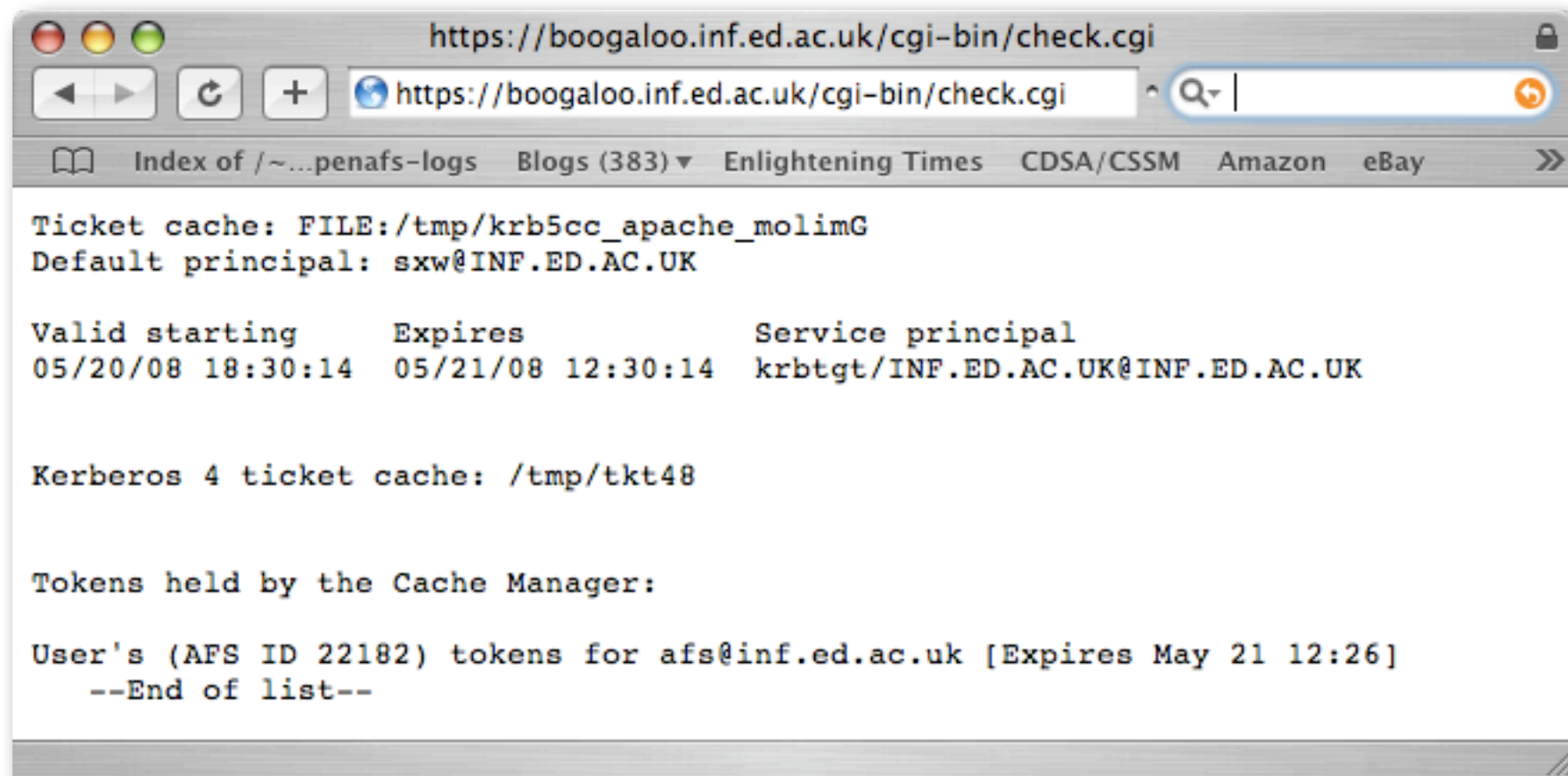
Testing again

- Remember the test CGI we wrote earlier?
- Amend it so that it displays the output from **tokens**

```
#!/bin/sh
echo Content-Type: text/plain
echo
klist
echo
tokens
```

- Visit the script with your web browser, and check it!

Test output



A screenshot of a web browser window displaying the output of a CGI script. The browser's address bar shows the URL `https://boogaloo.inf.ed.ac.uk/cgi-bin/check.cgi`. The page content is as follows:

```
Ticket cache: FILE:/tmp/krb5cc_apache_molimG
Default principal: sxw@INF.ED.AC.UK

Valid starting      Expires           Service principal
05/20/08 18:30:14   05/21/08 12:30:14   krbtgt/INF.ED.AC.UK@INF.ED.AC.UK

Kerberos 4 ticket cache: /tmp/tkt48

Tokens held by the Cache Manager:

User's (AFS ID 22182) tokens for afs@inf.ed.ac.uk [Expires May 21 12:26]
--End of list--
```

Common issues

- PAG problems
 - If PAGs don't work on your platform, give up already!

Filedrawers Prerequisites

- PHP 5
(hopefully comes with your OS)
- fileinfo PECL module
<http://pecl.php.net/package/Fileinfo>
- Smarty PHP templating library
<http://www.smarty.net/>
- Install all of these (packages may be available for your OS)

Filedrawers Installation

- No packaged release
- Get latest release tag from sourceforge CVS (password is the empty string)

```
cvcs \  
-d:pserver:anonymous@filedrawers.cvs.sourceforge.net:/cvsroot/filedrawers \  
login  
cvcs -z3 \  
-d:pserver:anonymous@filedrawers.cvs.sourceforge.net:/cvsroot/filedrawers \  
co -P filedrawers
```

Filedrawers Installation (II)

- Build the PECL module

```
cd filedrawers/pecl  
phpize  
./configure  
make
```

- Configure the main filedrawers module

```
./configure --prefix=/var \  
            --with-project_name=filedrawers \  
            --with-service_name=filedrawers.my.site \  
            --with-service_url=http://filedrawers.my.site/ \  
            --with-secure_service_url=https://filedrawers.inf.ed.ac.uk \  
            --with-error-url=https://filedrawers.inf.ed.ac.uk?error=true
```

Filedrawers Installation (III)

- Build it

```
make
```

- Install it

```
cd pecl  
make install  
cd ..  
make install
```

- Let webserver write to the upload session directory

```
chmod apache:apache /var/filedrawers/upload-session
```


Configuring Apache for filedrawers

```
LoadModule auth_kerb_module    /usr/lib/httpd/modules/mod_auth_kerb.so
LoadModule waklog_module       /usr/lib/httpd/modules/mod_waklog.so
WaklogAfsCell                   cell.my.site

<VirtualHost filedrawers.my.site:443>

DocumentRoot                   /var/filedrawers/html-ssl/

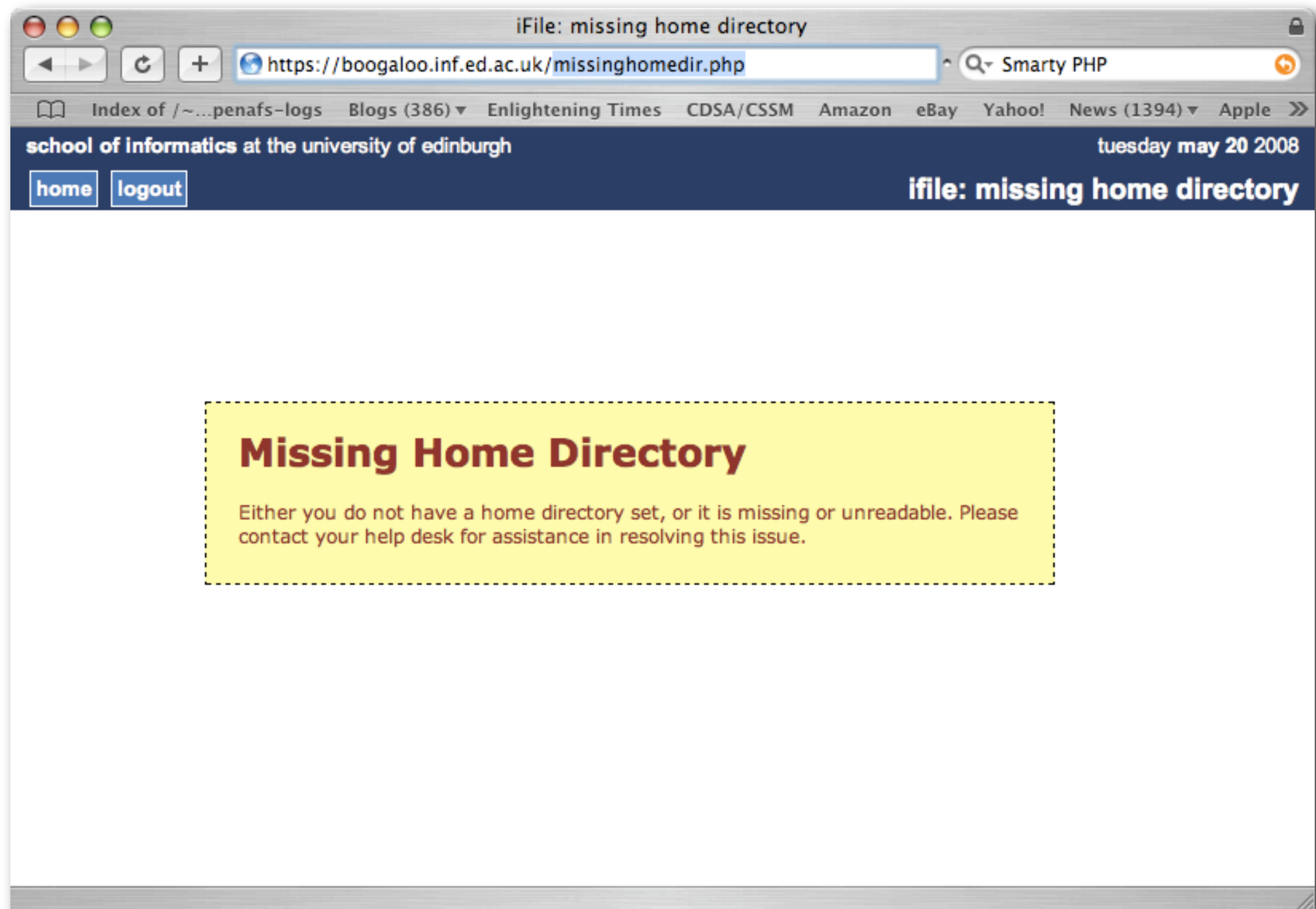
Alias                          /images/    /var/filedrawers/images/
Alias                          /js/         /var/filedrawers/js/
Alias                          /css/        /var/filedrawers/css/
ScriptAlias                    /cgi-bin/    /var/filedrawers/cgi-ssl/
ScriptAlias                    /mfile-bin/  /var/filedrawers/cgi-ssl/

DirectoryIndex index.php

php_flag                       engine on
php_value                       include_path .:/usr/lib/php:/var/filedrawers/lib:/var/filedrawers/objects:/var/
filedrawers/smarty:/usr/share

<Location />
AuthName "Filedrawers"
AuthType Kerberos
KrbMethodNegotiate off
KrbMethodK5Passwd on
KrbSaveCredentials on
Krb5Keytab /etc/httpd.keytab
require valid-user
WaklogEnabled                   On
WaklogUseUserTokens             On
</Location>
</VirtualHost>
```

Try it out!



Common problems

- Smarty location
 - Some vendors install smarty into interesting locations, or with differently capitalised names. Edit `/var/filedrawers/smarty/smarty.custom.php` to point at the correct name
- Smarty paths
 - Some installations need absolute paths to smarty directories. Edit `/var/filedrawers/smarty/smarty.custom.php` to provide them.

Smarty fixes ...

- Our production smarty.custom.php looks like

```
?php
include('Smarty/Smarty.class.php');

class Smarty_Template extends Smarty {

    function Smarty_Template() {
        $this->Smarty();

        $this->template_dir = "/var/filedrawers/smarty/templates/";
        $this->compile_dir  = "/var/filedrawers/smarty/templates_c/";
        $this->config_dir   = "/var/filedrawers/smarty/configs/";
        $this->cache_dir    = "/var/filedrawers/smarty/cache/";
    }
}

?>
```

The missing homedir problem

- Filedrawers uses the username from the webauth module
- mod_auth_kerb returns *user@REALM*, which confuses it
- Solution: edit `GetHomeDir()` in `libdrawers.php`

```
function GetHomeDir( $name, &$amp;dir, &$amp;error_msg )
{
    $dir = "";

    $name=preg_replace("/@MY-REALM/", "", $name);

    if ( empty( $name ) ) {
        $error_msg .= 'No username supplied';
        return false;
    }
}
```

More homedir problems

- Won't work if users aren't in server's password map
- Edit libdrawers.php and fix the value of \$afsBase

```
// AFS homedir default location.  
$afsBase          = '/afs/umich.edu/user/';
```

- And the way that it works out a path from the username

```
function getBasePath( $user )  
{  
    global $afsBase;  
    if ( !$user ) {  
        return false;  
    }  
    # does the username contain illegal characters?  
    if ( preg_match( "/^[^a-zA-Z]/", $user ) ) {  
        return false;  
    }  
    return $afsBase . $user[0] . "/" . $user[1] . "/" . $user;  
}
```

Hopefully working!

mfile: afs file management

https://boogaloo.inf.ed.ac.uk/ Smarty PHP


Index of /~...penafs-logs Blogs (386) Enlightenment Times CDSA/CSSM Amazon eBay Yahoo! News (1397) Apple Apple (110)

information technology central services at the university of michigan tuesday may 20 2008

[home](#) [web sites](#) [help](#) [logout](#) **mfile: afs file management**

Location: /afs/inf.ed.ac.uk/user/s/sxw [Change](#) [Go Up ↑](#) [Refresh](#)

Folder Properties

 **sxw**

















Actions

- [Upload File\(s\)](#)
- [Cut Selected Item\(s\)](#)
- [Copy Selected Item\(s\)](#)
- [Paste to This Folder](#)
- [Delete Selected Item\(s\)](#)
- [Create a New Folder](#)
- [Rename Selected Item](#)
- [Set Permissions for Folder](#)
- [Favorite Locations](#)

View Options

- [Show Hidden Files](#)

filedrawers version: 0.4.1

<input checked="" type="checkbox"/>	Type	Title ^		Size	Last Modified
<input type="checkbox"/>		AFS Workshop.pdf		55.1 KB	6/23/2005
<input type="checkbox"/>		Builds		2 KB	4/14/2008
<input type="checkbox"/>		Built		2 KB	1/14/2008
<input type="checkbox"/>		Catalyst		4 KB	3/27/2008
<input type="checkbox"/>		Desktop		2 KB	3/7/2008
<input type="checkbox"/>		Development		2 KB	2/5/2008
<input type="checkbox"/>		Documents		2 KB	3/7/2008
<input type="checkbox"/>		Download		2 KB	3/7/2008
<input type="checkbox"/>		Favorites		2 KB	6/16/2007
<input type="checkbox"/>		Junk		2 KB	3/7/2007
<input type="checkbox"/>		Music		2 KB	3/7/2008
<input type="checkbox"/>		OpenAFS		2 KB	5/1/2008
<input type="checkbox"/>		PHP-server-1.1.tar.gz		290 KB	3/23/2007
<input type="checkbox"/>		Pictures		2 KB	3/7/2008

Branding

- Probably don't want all of the Michigan specific text
- Edit `banner.tpl` and `header.tpl` to add site specific branding
- Probably want to remove the 'web sites' button entirely

Common problems

- Uploads from Safari hang
 - Safari uploads seem to have a problem when keepalives are enabled - disable this with the following Apache configuration

```
BrowserMatch Safari nokeepalive
```

Extending filedrawers: Guest accounts

- Filedrawers can be used to give guest accounts access to AFS
- You need a guest account system which is backed by a KDC
- And to create pts entries for new guest accounts
- Guests can access portions of your AFS space by going to `http://filedrawers.my.site/?path=/afs/my.cell/path/`

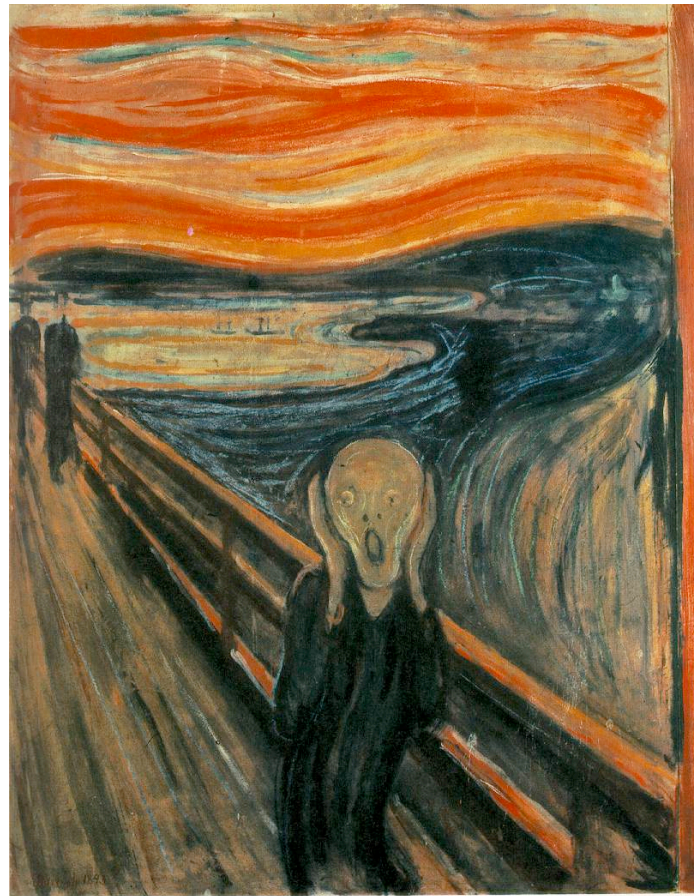
Security Considerations

- Filedrawers is a vulnerable service
 - A busy filedrawers service has a **significant** quantity of TGTs at any one time.
- Make sure you run the latest release
 - Previous releases were vulnerable to a number of security issues

Scaling Issues

- Filedrawers is a little unusual in the way it talks to your file servers. You *may* find that you need to reduce the session timeout in your file servers
- CSRF protection code in filedrawers 1.4.1 doesn't generalise across multiple servers
- Filedrawers uses the local AFS cache. Tune that cache the way you would a heavily used multi-user machine

Questions?



The Scream Edvard Munch

This talk: <http://www.dice.inf.ed.ac.uk/publications/>

Filedrawers: <http://www.filedrawers.org/>

modwaklog: <http://www.modwaklog.org/>

Me: simon@sxw.org.uk