Open Source Case Study:
The ACLU of Eastern Missouri Moves to Open Source

R. Scott Granneman
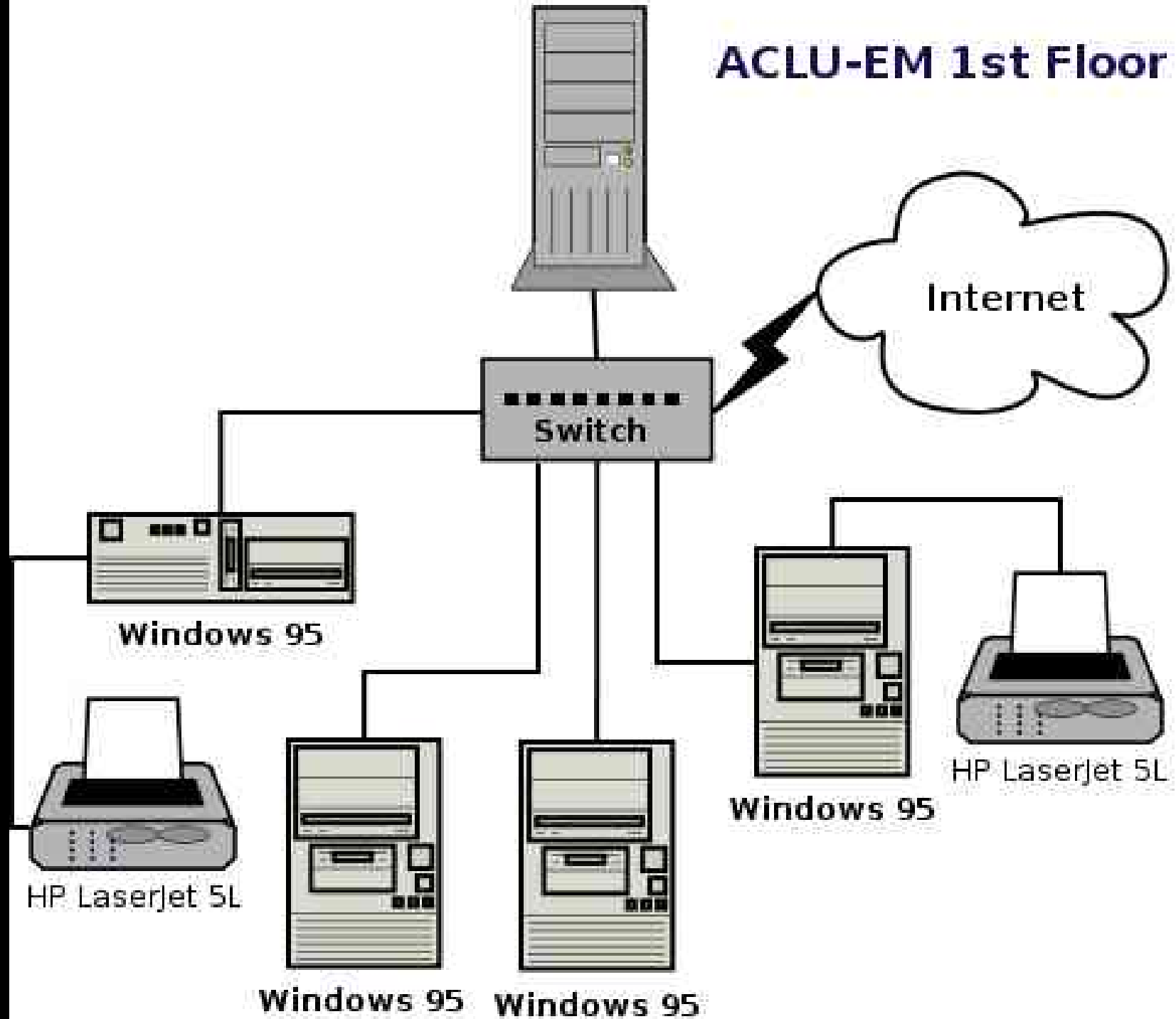
scott@granneman.com

www.granneman.com

Open source is working
for the ACLU of Eastern Missouri.

In 1998, the ACLU's LAN looked like this:

Windows NT 4 Server
(File server, SBS, esp. Exchange)

ACLU-EM 1st Floor

Internet

Switch

Windows 95

Windows 95

Windows 95

Windows 95

HP LaserJet 5L

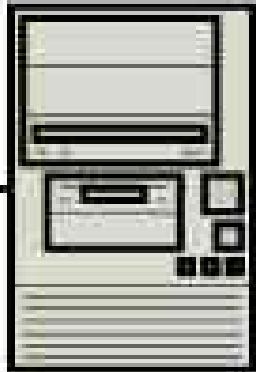HP LaserJet 5L
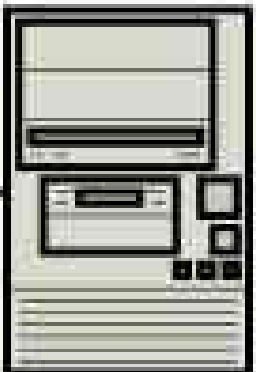
Windows 95

Switch

ACLU-EM 2nd Floor

Windows 95

HP LaserJet 5L

Windows 95

HP LaserJet 5L
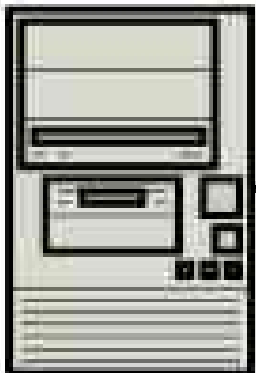
Windows 95

Windows 95

Besides Windows 95,
the ACLU was running typical office software:

Office 97 (mostly Word & Access)
QuickBooks

Who worked at the ACLU?

Executive Director
Legal Director
Office Manager
Interns & students & volunteers

Over time,
more interns began to work at the ACLU.

More computers were purchased,
running Windows 98 or Windows 2000.

Existing client machines & software were
upgraded.

In 2000,
I began to get heavily into Linux
as a desktop.

Red Hat,
to be precise.

I'd been using Linux as a server
since the mid-90s,
and I'd tried out desktop Linux several times,
but it was never ready.

Then, in late 2000,
Red Hat 7.0 came out,
and I found that Linux was ready for the desktop.

Beginning in early 2001,
I began to talk to Matt,
the Executive Director,
about Open Source & Linux.

Needless to say,
sometimes I talked a bit much.

I finally said something that got Matt's attention:

"Why
is the ACLU supporting
a convicted repeat monopolist
that still engages in anti-competitive behavior?"

That got Matt thinking.

The Windows NT Server
had been a real pain
for a long time.

Matt had to reboot it constantly.

It would hang,
or computers couldn't connect to it,
or it would crash.

(Not to mention,
we were sick of the constant patches and reboots.)

Anger & frustration were mounting.

Matt was ready to go medieval on that server.

Then one day,
the Windows Server just ... broke.

The Windows 2000 clients could no longer log in.

The Windows 95 & 98 could, however, still log in.

Wha?!?

Very, very weird.

I spent a full day looking at the server,
at the clients,
at the network.

Nothin'.

The boyfriend of one of the interns
was an MCSE
(he's an unusual MCSE – he knows what's he doing)
and he spent 4 hours looking at everything.

His verdict?

"I have no idea what's going on."

At this point, I was getting a little scared ...

... and angry, and frustrated.

I could see what was coming.

So I laid it out to Matt as best I could:

"Matt, we're going to have to
back all your data up,
and reinstall the OS on that server.

We've got a choice.

I can either reinstall Windows NT 4,
or I can install Windows 2000,
or I can install Linux."

Matt's response:

"I've heard you talk about Linux,
and it sounds pretty good.
But I have a couple of questions.

"How much is it going to cost?

Will it work with the Windows machines?

Tell me again why it's better than Windows."

The cost for Red Hat 7?

Free to acquire.

We used the CDs that I made
after downloading the necessary 3 ISO images
from one of Red Hat's mirror sites.

We could have paid for Red Hat.

What would we get for our money?

Manuals.
(didn't need 'em)

Technical support.
(got that locally or online)

Faster access to downloads.
(not an issue)

Samba allows the ACLU to seamlessly connect
the Linux server
and the existing Windows clients on the network.

The old Windows NT box was mostly used
for serving the ACLU's files.

Samba is a superb file server.

Free. Easy. Stable.
And 100% as fast
as the same machine
running Windows 2000!

www.itweek.co.uk/News/1131114

The old Windows NT server
was also used as a PDC.

Samba would allow us
to duplicate that functionality
on the new Linux server.

But we decided to dispense with it altogether.

Why is Linux a great choice for the ACLU?

The open source nature of Linux
explains Linux's strengths.

Flexibility.

Since Linux is open,
& it's legal (heck, encouraged!) to change the
code,
you or your company can alter Linux
to fit your exact needs.

Quality.

Since Linux is open,
there tend to be fewer bugs,
& those that are found get squashed quickly.

In the words
of Eric S. Raymond,
"With many eyes, all bugs are shallow."

Security.

Since Linux is open,
there tend to be fewer vulnerabilities,
& those holes that are found get patched quickly.

Stability.

Since Linux is open,
& since Linux is a Unix-based O/S,
& since Linux tends to have fewer bugs,
Linux is very, very, very stable.

We're talking uptimes of several years.

Here's one reason for that uptime:

unless you're updating the Linux kernel,
you don't need to reboot Linux.

Install new software?
No reboot necessary.

Install new patches?
No reboot necessary.

Change configurations?
No reboot necessary.

Matt chose to go with Linux on the server.

We installed Red Hat on the server,
& it performed beautifully.

In fact, about 6 months after
the ACLU had started using Linux,
Matt told me one day,

"You know, we never have any problems
with that server any more.
Never.
If I've got a network problem,
it's always the router!"

A few months later,
the ACLU changed over to a wireless router.

The ACLU purchased a new Dell for the interns,
and decided to put Linux on it.

We used Red Hat 7,
but it had problems with the wireless connection.
It never did work as perfectly as we'd like.

At the same time,
Matt bought a used Dell
& decided to put Linux on it
so he could learn more about it
& so he could help the interns if they needed it.

One of the things that gave Matt comfort?
Win4Lin.

Win4Lin
enables you to actually install
Windows 95/98/ME
directly inside Linux.

In other words,
you open Windows
just like you would open
any other Linux program.

Virtually any Windows program
will run using Win4Lin ...

with one exception.

Win4Lin doesn't support DirectX 3D yet,
so no games requiring that.

That's OK at the ACLU.

Win4Lin costs $80,
but it's worth it to the ACLU.

(Although, to be honest,
they use it less and less
as they get more and more used to Linux.)

Another thing that reassured Matt
was CodeWeavers' CrossOver Office.

CrossOver Office is based on
an open source project named WINE.

WINE stands for
"WINE Is Not an Emulator".

www.codeweavers.com

The WINE Project
has been reverse engineering
all the Windows APIs.

It's taken a long time.

(Microsoft hasn't exactly been helpful)

Not all Windows apps work,
but you can run a lot of Windows apps
directly inside Linux.

The Windows apps
think they're on Windows.

They have no idea
they're really running in Linux.

You can run any of the following using WINE:

Word, Excel, PowerPoint, Outlook, Access
Visio
Internet Explorer
Quicken
Lotus Notes
Adobe Photoshop
QuickTime, Windows Media Player, Shockwave
& more ...

CrossOver Office costs only $40,
and the ACLU definitely thinks it's worth it.

KNOPPIX

In addition to server and desktop use of Linux,
the ACLU also uses Knoppix.

Based on Debian, it is actually a bootable CD.

It makes an excellent recovery tool.

www.knopper.net/knoppix/index-en.html

A few years ago,
the ACLU decided to support Open Source
in another way.

The Central West End Linux Users Group
meets on the 3nd Sunday of every month,
at the ACLU.

It's an unstructured meeting
– bring your computers, software, & enthusiasm!
Anything can happen.

You can find more info at
www.sluug.org/~cwelug

It wasn't just Linux
that the ACLU began to support.

Open Source is about a lot more than just Linux.

In fact, Open Source is
increasingly cross-platform.

Mozilla is the best Web browser available today.

It runs on Linux, Windows, & Mac OS X.

www.mozilla.org

Mozilla is
standards-compliant,
fast,
powerful,
& secure.

Mozilla is a very secure browser.

Thanks to Mozilla,
the ACLU doesn't have to worry about
as many of the bad stuff rampant on Windows:
spyware, adware, and other beasties.

In addition to better security,
Mozilla has two features
that Internet Explorer lacks.

First of all,
there's tabs.

In one browser window,
you can have tabs for different Web sites.

You can't imagine how useful tabs are
until you've tried them.

In addition to tabs,
Mozilla has built-in pop-up window blockers.

That's right.

No more pop-up ads.

Every office needs an office suite –
word processor, spreadsheet, presentations.

OpenOffice.org is an open source office suite
that runs on Windows & Linux.

www.openoffice.org

OpenOffice.org is powerful,
easy to use,
& feature-complete.

You can create PDFs from any document.

And, OOo has one particularly killer feature:

it can read *and* write
Microsoft Office file formats!

Open and read,
or create and save,
files in these formats:

Microsoft Word 6.0, 95, or 97/2000/XP
Microsoft Excel 5.0, 95, or 97/2000/XP
Microsoft PowerPoint 97/2000/XP

Of course,
many at the ACLU prefer using OpenOffice.org's
default file formats.

They're based on XML,
they're open,
& they're well-documented.

Here's a statistic that may interest you.

One of my presentations contains over 200 slides, with 25 embedded images.

When saved as an OpenOffice.org file, it's 400 kb.

When saved as a PowerPoint file, it's 800 kb.

The ACLU has changed in the last couple of years.

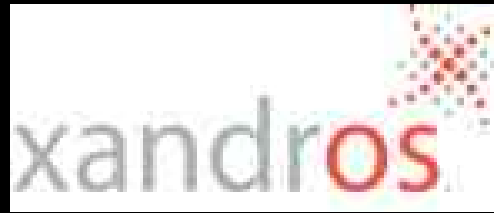2 new employees:
Scott, the Project Coordinator
Morris, the Ira Glasser Racial Justice Fellow

An expanded intern & student program:
40 interns & students
work at the ACLU
every year.

Xandros
is a new distro
tightly focused on the desktop.

It's simple to use, very friendly on the network,
and its file manager is superb.

It's perfect for the interns' computers.

The ACLU has some future plans in mind
when it comes to Open Source.

The server will soon be converted
from Red Hat 9 to Libranet,
a Debian-based Linux distribution.

Why?

Red Hat no longer supports 9,
and there isn't gonna be a 10.

Red Hat no longer provides a free distro,
and the ACLU doesn't require
the company's commercial version.

There is a free distro sponsored by Red Hat
- Fedora -
but it's still working the kinks out.

Debian is a great server distro.

It's a bit hard to install
(although that is changing rapidly),
but it's powerful & incredibly stable,
and it's very easy to maintain.

Once the server is running Debian,
the ACLU plans to install Kolab server,
a free, open replacement for Exchange
(email, shared address books, assignable to-do's,
all viewable with a Web interface).

Kolab works with the Linux Kontact client
& with Outlook for the Windows users.

On the client side,
most of the employees will be moving to SUSE.

Matt, the Executive Director,
was running SUSE 9 on his desktop and laptop,
and just upgraded to 9.1.

Denise, the Legal Director,
is getting a new ThinkPad in a week or so.
It will dual-boot Windows 2000 and SUSE 9.1.

Scott, the Projects Coordinator,
will move from Red Hat 9 to SUSE 9.1.

The interns will probably upgrade
from Xandros 1 to Xandros 2.

The simplified Xandros is perfect for the interns,
since they focus on word processing
(OpenOffice.org & sometimes Word)
& Internet research
(Mozilla is perfect).

Xandros' excellent support for networking
makes things really easy as well.

Open Source isn't for everyone at the ACLU,
however.

It's just like anything else:
you need the right tool for the job.

Sometimes,
Windows is the right tool.

Morris, the Ira Glasser Racial Justice Fellow,
will continue to run Windows 2000
on his desktop.

He just started at the ACLU,
and they're giving him time to acclimate himself.

Eventually,
he will probably end up using SUSE.

The Office Manager uses Windows 2000,
and will continue to do so
for the conceivable future.

She does most of her work in Access,
which is what the national ACLU uses
for data it sends to affiliates,
and QuickBooks 2002,
so it's easier for her to stick to Windows.

(Plus, retraining her would be ... difficult)

Denise, the Legal Director,
has been using Windows 2000 on her desktop.

She will dual-boot Windows 2000 and SUSE
on her new laptop.

She will use SUSE most of the time
(Matt says she's "joining team Linux!")
but she needs to have Windows available.
More accurately, she needs Word.

Denise needs Word because she often files
documents with the courts.

Courts are verrrrrry picky
about the documents they receive.

It's just safer to use OpenOffice, but
keep Word – running in Windows – as a backup.

Better that than an angry court.

In a similar vein,
even when all the intern computers
are moved over
to Xandros and/or SUSE,
the ACLU will keep at least one machine
running Windows available.

Again, it's for that
"maximum compatibility" thing.

The ACLU's long-term plan,
however, is to to transition over to Open Source
on the server & the desktop.

Even if they're using Windows,
Open Source programs like
OpenOffice.org & Mozilla will be emphasized.

Open source is providing the ACLU
with fantastic benefits:

Lower cost of acquisition
Security
Stability
Ease of use
Interoperability

Open source is working
for the ACLU of Eastern Missouri.

Thank you!

Email me: scott@granneman.com

Visit my Web site: www.granneman.com

Check out the ACLU: www.aclu-em.org

Licensing of this work

This work is licensed under the Creative Commons Attribution-ShareAlike License. To view a copy of this license, visit http://creativecommons.org/licenses/by-sa/1.0 or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA.

In addition to the rights and restrictions common to all Creative Commons licenses, the Attribution-ShareAlike License features the following key conditions:

Attribution. The licensor permits others to copy, distribute, display, and perform the work. In return, licensees must give the original author credit.

Share Alike. The licensor permits others to distribute derivative works under a license identical to the one that governs the licensor's work.

Questions? Email scott@granneman.com