



Open Source Alternatives

Options to Commercial Software



www.collaborative.org

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Today's Topics – Two Goals

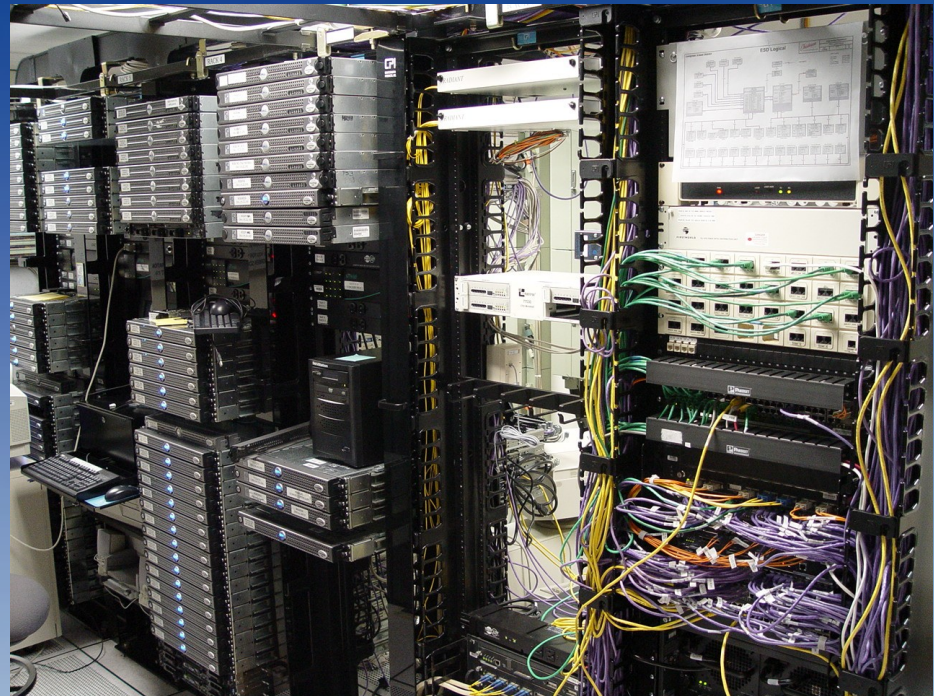
1. Discussion of possible alternative software solutions for building infrastructure without using commercial software.
2. Show the maturity of free Open Source Software

- Project Background (Then vs Now)
- Open Source Concepts
- TCO Information
- Specific Application Comparisons
 - Network Operating Systems
 - Website/Content Management
 - Email - Groupware w/Calendaring
 - Course Management
- Future Projects
- Q/A



Project Background – Pre HEC

- Manager of Network Services – Evergreen
- 25,000 Students and 3000 Staff
- 36 Urban Sites
- Completely Commercial Infrastructure
 - 100 + Windows Servers
 - DEC Alpha & AIX
- IT Department Staff of 40



Project Background – HEC Pre 2005

- Technology Director 2005
- Regional ESA
- Many Rural Sites
- Single Novell Server
- ISP Provided Email and Web Services
- 430+ Email Accounts
- 13 – Databases
- IT Department Staff of 1



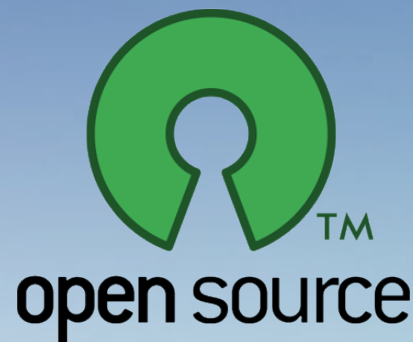
Project Background – HEC Today

- All of the Collaborative's infrastructure is based in Free Open Source software.
- Email and Web are Internal
- Employing Content Management System
- Providing Hosting for Email, Web, Etc.
- Established MassDLN.net
- Converting Databases to Common Format

The logo for HEC Tek, with 'HEC' in a large, teal, sans-serif font and 'Tek' in a smaller, black, sans-serif font.

The Open Source Concept

- “Open Source” describes practices in production and development that promote access to the end product's source materials—typically, their source code.
- The open source model is typically decentralized in contrast with models often used in commercial software companies.
- Open Source Software* is the most recognizable term.
- The concept is not limited to computer technology.
 - Agriculture
 - Manufacturing
 - Health and Science
 - Music



More on Open Source

- GNU Licensing Agreement (GPL)
 - FSF Major Supporter
 - 60-75% OS Falls under this Agreement
 - Freedom to copy, distribute, study, change and improve the software
- Commercial Open Source
 - Enhanced Value Packages
 - Commercial Support Agreements
 - Operating Systems
 - Novell Suse Enterprise
 - Redhat LINUX
- Possible revenue streams for ESAs?



TCO Information - Technology

- Total Cost of Ownership
 - Controversial topic - Requires analysis.
- Linux as an Example
 - Approx 36% savings using Linux over Windows/Novell
 - Especially notable in web services.
- In moving more services to the web, savings may be substantial.
- Numbers are scaled by size of the organization.
- Does not account for migration, only new builds.
- Presentation Costs = Street Pricing



Network Operating Systems

File and Print Services

● **Windows 2003**

- Active Directory
 - MS DNS
 - MS CALs
 - Backup Software
 - Management Software ?
- Cost for 30 Clients : \$2799

● **Ubuntu Linux**


























- LDAP
 - DNS
 - Samba for Windows
 - Amanda (Backup)
 - Webmin for Management
- Cost for 30 Clients: \$0



Webmin Screenshot

[Webmin](#) [System](#) [Servers](#) [Networking](#) [Hardware](#) [Cluster](#) [Others](#) [Webmin Home](#) [Logout](#)

Webmin 1.300 on localhost (Ubuntu Linux 6.06.1)

 Apache Webserver	 BIND DNS Server	 CVS Server	 DHCP Server
 Dovecot IMAP/POP3 Server	 Fetchmail Mail Retrieval	 Frox FTP Proxy	 Jabber IM Server
 Majordomo List Manager	 MySQL Database Server	 OpenSLP Server	 Postfix Configuration
 PostgreSQL Database Server	 ProFTPD Server	 Procmail Mail Filter	 QMail Configuration
 Read User Mail	 SSH Server	 Samba Windows File Sharing	 Sendmail Configuration
 SpamAssassin Mail Filter	 Squid Analysis Report Generator	 Squid Proxy Server	 WU-FTP Server
 Webalizer Logfile Analysis			

Web Services

For web pages and content.

- **Windows 2003**

- IIS Services
 - MS Frontpage Extensions
- ISA Server?

- Cost \$630

- **Ubuntu LAMP Server**

- Apache Web Server
 - MySQL Database
- SQUID Proxy/Cache?

- Cost \$0



Web Server Screenshot 1 - Joomla



Navigation

- [about hec](#)
- [after school programs](#)
- [dys program](#)
- [early childhood](#)
- [licensure @ hec](#)
- [learning support & professional development](#)
- [special education](#)
- [student services](#)
- [technology @ hec](#)

Latest News

- ♦ [Resources](#)
- ♦ [Service Learning](#)
- ♦ [Special Education Consulting and Training Services](#)
- ♦ [Center for English Language Education](#)
- ♦ [Programs and Services](#)
- ♦ [Celebrity Softball Game](#)

Hampshire Educational Collaborative

empowering teachers, inspiring learners

About the Hampshire Educational Collaborative

Empowering Teachers. Inspiring Learners.

The Hampshire Educational Collaborative (HEC) is a catalyst for innovation and excellence in education. A nonprofit, multi-service agency, HEC offers leading-edge, high-quality programs and services to ensure that learning is accessible and engaging for our community's most vulnerable and at-risk youth. We promote lifelong learning by educating and supporting students, teachers, and administrators through programs in early childhood, after school, special education, and adult education, as well as offering comprehensive professional development for educators. HEC is governed by school committee representatives from our 17 local member school districts.



search

Upcoming Events

Fri, Dec 1st, @8:30am- 10:00AM
[Principals Network Group](#)

Wed, Dec 6th, @1:00pm- 03:00PM
[Conversations About English Language Learners](#)

Mon, Dec 11th, @9:30am- 11:30AM
[Conversations about School Outreach](#)


Mon, Dec 11th, @3:15pm- 05:00PM
[Information Session Reading Specialist Program](#)

Tue, Jan 9th, @4:00pm- 05:30PM
[Licensure@HEC Open House](#)

Sat, Jan 13th, @9:00am- 03:00PM
[Assessing English Language Learners for Instruction](#)


Events Calendar

Web Server Screenshot 2 – Joomla Admin



Home Site Menu Content Components Modules Mambots Installers Messages System Help

Hampshire Educational Collaborative / com_admin

Control Panel

Add New Content

Content Items Manager

Static Content Manager

Frontpage Manager

Section Manager

Category Manager

Media Manager

Trash Manager

Menu Manager

Language Manager

User Manager

Global Configuration

Logged Components Popular Latest Items Menu Stats

Currently Logged in Users

1	adnim1	Super Administrator	X
---	--------	---------------------	---

<< Start < Previous 1 Next > End >>

Display # 50 Results 1 - 1 of 1

Joomla! is Free Software released under the GNU/GPL License.

Joomla! 1.0.10 Stable [Sundown] 26 June 2006 00:00 UTC

[Check for latest Version](#)

Email and Groupware

For Electronic Collaboration

● **Novell**

- Open Enterprise Server
- Groupwise 7
- Annual License Costs?

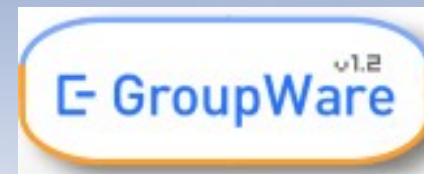
● 100 Seats: \$3274



● **Ubuntu Linux**

- Postfix Mail
- LAMP Server
- Clam A/V & SpamAssassin
- E-Groupware

● 100 Seats: \$0



E-Groupware Screenshot 1 -Email

[phartley] Patrick Hartley - Thursday 11/30/2006

General Menu

- Home
- Preferences
- About FelaMiMail
- Logout

FelaMiMail Menu

- Compose
- Empty trash

Preferences

- Preferences
- Manage EMailaccounts
- Manage Signatures
- Manage Folders

IMAP Server

- INBOX (56)**
 - Archive Mail
 - Drafts
 - Groups
 - HEC Personel
 - Junk
 - Junkmail
 - My Source (8)**
 - Personal (1)**
 - Projects
 - Purchase Request
 - Sent
 - Teacher Groups**
 - To Do
 - To Read from Jo
 - Trash (10)
 - Travel (1)
 - helpdesk
- shared

FelaMiMail


Status

Viewing messages 1 - 15 (5565 Total)

	Subject	Date	From	Size
	RE: Leadership Team Guide from Susa	12:04:52	Anne Farrington	2.4 M
	Opportunity to save significantly on S	11:41:10	McKenzie, Walter	10 k
	Fw: FLU SHOT CLINIC REMINDER	11:08:18	HEC Receptionist	174 k
	Fw: HEC Holiday Party	11:05:32	HEC Receptionist	5.8 k
	Leadership Team Guide from Susan Le	11:00:27	Anne Farrington	17 k
	Re: GRINS	10:53:52	Gail Pfingsten	3.6 k
	Agency Video	10:34:39	mciesla@collabora	1.6 k
	Re: Smith Curriculum Database	10:23:38	HEC Helpdesk	3.6 k
	Check Out This Page On MassLive.com	10:06:21	mciesla@collaborativ	2.6 k
	Moodle?	09:26:21	Marie McCourt	2.3 k
	Re: Wednesday night in Noho	11/29/2006	Pat Hartley	2.6 k
	Wednesday night in Noho	11/29/2006	Christopher Mattognc	3.7 k
	notes from marketing platform	11/29/2006	Margaret Collins	36 k
	Class categorization on Moodle	11/29/2006	Bill Peters	2.1 k
	Your Hotspot WiFi Usage Statement #	11/29/2006	Boingo Support	3.2 k

E-Groupware Screenshot 2 – Calendar

E-GroupWare




[phartley] Patrick Hartley - Thursday 11/30/2006

General Menu

[Home](#)
[Preferences](#)
[About Calendar](#)
[Logout](#)

Calendar Menu


[Weekview without weekend](#)

November 2006

<< Today >>

wk	Mon	Tue	Wed	Thu	Fri	Sat	Sun
44	30	31	1	2	3	4	5
45	6	7	8	9	10	11	12
46	13	14	15	16	17	18	19
47	20	21	22	23	24	25	26
48	27	28	29	30	1	2	3
49	4	5	6	7	8	9	10

Select date

[All categories](#)
[No filter](#)
[\[phartley\] Patrick Hartley](#)
[Export: iCal](#)
[Import: iCal & CSV](#)

Calendar - Weekview: [phartley] Patrick Hartley: Week 48: November 27 - December 1, 2006

	Monday 27.	Tuesday 28.	Wednesday 29.	Thursday 30.	Friday 01.
			all day Pat at AESA	all day Pat at AESA	all day Pat at AESA
7:00 am	7:00 am 1h Morning Note Review				
8:00 am					
9:00 am					
10:00 am		10:00 am 1h Moodle Meeting			
11:00 am					
12:00 pm					
1:00 pm					
2:00 pm					
3:00 pm					
4:00 pm					
5:00 pm					
6:00 pm					

12/2/06

Pat Hartley - HEC

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Course Management Software

For Extending Classrooms to the Internet

- **Blackboard/WebCT**

- 2- Windows 2003 Servers
 - App Server
 - MS SQL Server

- Cost

- \$3,000 to \$30,000



- **Moodle CMS**


- Linux
 - Apache
 - MySQL

- Cost

- \$0



Moodle Screenshot 1 - MassDLN.net



Massachusetts Distance Learning Network


You are not logged in. ([Login](#))
English (en) ▾

Welcome to MassDLN.net!

This site is the home of Massachusetts Distance Learning Network hosted by the Hampshire Educational Collaborative (HEC).

This site is based on the [Moodle](#) Open Source Class Management System.

MassDLN.net is best experienced with the [Firefox](#) web browser.




Don't Panic!

You've come to the right place! This is the site formerly known as *WMDLN:Online Plus*. It has now been renamed to be the **Massachusetts Distance Learning Network**.

The old URL will still work in your browser but you may want to bookmark the new one in order to make future logons easier:

www.massdln.net

 [About the Distance Learning Network](#)

Course categories

Schools and Districts

Central Berkshire Regional School District	3
Frontier Regional School District	5
Quaboag Regional School District	3
Smith Vocational High School	1
Gleason Lake Elementary	3





Login

Username:

Password:

[Create new account](#)
[Lost password?](#)

Main Menu

-  [MassDLN.net - Technical Support FAQ](#)
-  [The Moodle Teacher's Guide](#)
-  [Hampshire Educational Collaborative](#)
-  [MassOne](#)

Free Moodle Hosting!

Interested extending your classroom to the web?

The Hampshire Educational Collaborative will host your Moodle site for free.

Calendar

< December 2006 >

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3

Moodle Screenshot 2 – MassDLN.net Class

People

Participants

Activities

Assignments

Forums

Glossaries

Lessons

Quizzes

Resources

Wikis

Search Forums

Advanced search ?

Administration

Turn editing on

Settings

Edit profile

Facilitators

Learners

Groups

Backup

Restore

Weekly outline

Virtual Tools for Online Instruction

Course Syllabus: Summary
Welcome to Virtual Tools for Online Instruction! In this hands-on orientation course, we provide you with effective strategies, instructional techniques and technology tools to create, implement, and teach the online course(s) you offer through HEC. We also introduce several classroom-ready resources available through Moodle, the online course management system that HEC has put in place to host your Web-based classes and help you direct and manage student outcomes.

With estimates that nearly 300,000 high schoolers attended online classes in 2002-03 (Eduventures Inc.) and current numbers for online courses even larger, you are no longer sailing in uncharted waters. You are, however, offering your students a unique technology-rich learning experience that will enable them to assume responsibility for their own instruction and share what they have learned through electronic communication.

The character of online (virtual) teaching and learning differs substantially from teaching and learning in a face-to-face environment. It requires qualitatively different kinds of expectations, assignments, assessments, and supports. Research shows that course facilitators, classroom teachers, learners and students are both affected by the demands of this virtual environment. Students attribute a positive learning experience to strong and consistent interaction with the instructor (course facilitator), a tightly knit and supportive interpersonal community, and timely response by course facilitators to questions they send via email. In this ten (10) week training, we explore the nature of online pedagogy, the demands of online communication and technology tools available to enhance and sustain a computer-mediated CourseRoom.

Target Audience
The course is directed at in-service classroom teachers in grades 9-12, professionals who provide curriculum support services in grades 9-12 settings (e.g., math specialists, reading specialists, language arts coordinators, special education providers and Title 1 specialists), pre-service teachers expecting to teach in grades K-12, and educational administrators who supervise, coordinate and assist in the delivery of K-12 instructional services and programs.

Course Description:
In conventional K-12 face-to-face technology professional development classes, instruction typically follows two paths. We teach the tools that you want: 1) your students to use for learning, self-assessment, research, and more, and 2) to use for instruction or your own work, i.e. digital and electronic resources that help you teach the content or information you need to teach, and resources to make you more efficient and productive.

Tech tools for learning and tech tools for teaching may be identical. For example, you may want your students to share what they have learned and the best way for them to do that is by using Microsoft PowerPoint for presentation. Or, you in your role as instructor may find PowerPoint to be your tool of choice for introducing a difficult concept or summarizing a report.

Future Projects

- The Collaborative will continue to explore and implement Open Source alternatives under the Commonwealth's "Open Data initiative".
- Deployment of Open Source Doc Management (2006)
- Standardization on Open Office (2006/07)
- Full Deployment of Groupware Solution (2006/07)
- Evaluating Linux on the Desktop (2007)
- IP Telephony using Asterisk (2007)
- Deployment of Open Source CRM (2007/08)

Open Source Adoption Considerations

- Are you doing a new build or are you migrating?
- Why would you want to switch?
- Have you analyzed the 'hidden' costs?
- What are you running on your desktop?
- How much time do you have for education?
- What is your organizational culture like?
- What is your technology philosophy?
- Who funded your report/analysis/whitepaper?

Remember - TINSTAAFL!



Questions and (Hopefully..) Answers

- Slide Presentation and Resource List at:
 - www.collaborative.org or
 - www.teknoviking.com
- Contact Pat Hartley at:
 - phartley@collaborative.org or
 - pat@teknoviking.com



This presentation was produced on the Ubuntu Linux operating system using OpenOffice *Impress*, Open Clipart, and the *Gimp* Graphics Program

"Oh, yeah... 'Ooooooh, ahhhhhh !' , that's how it always starts. Then later there's running and screaming."

Dr. Ian Malcolm - Jurassic Park

