

# Open Source in K12

Where is the tipping point?

United States Open  
**e-Learning**  
Consortium



What % of the total global web-server market is open source (Apache)?

A.10%

B.25%

C.50%

D.75%

What % of the total global server OS market is open source (Linux)?

A.1%

B.10%

C.20%

D.40%

What % of the total global database market is open source (MySQL)?

A.1%

B.10%

C.20%

D.40%

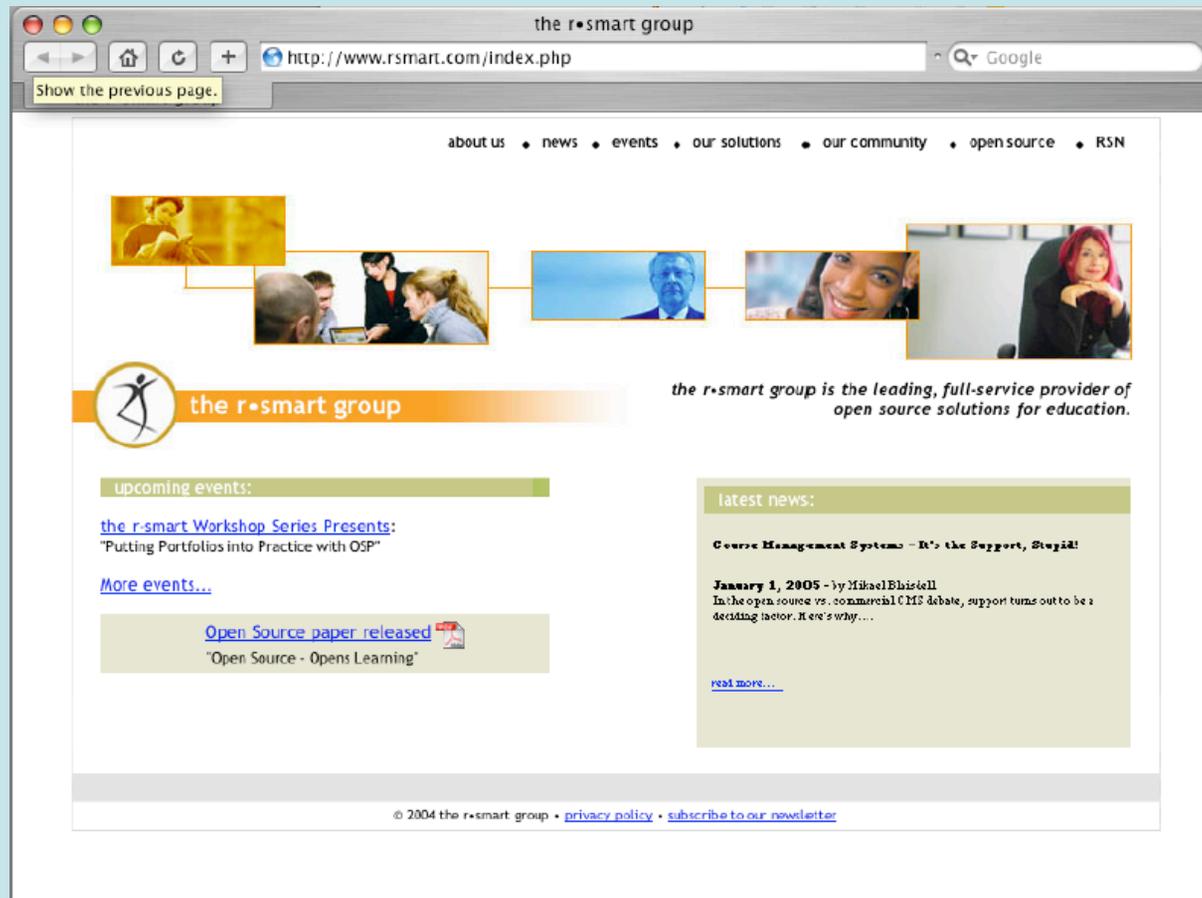
What % of the total global e-mail server market is open source (SendMail)?

A.1%

B.10%

C.20%

D.30%



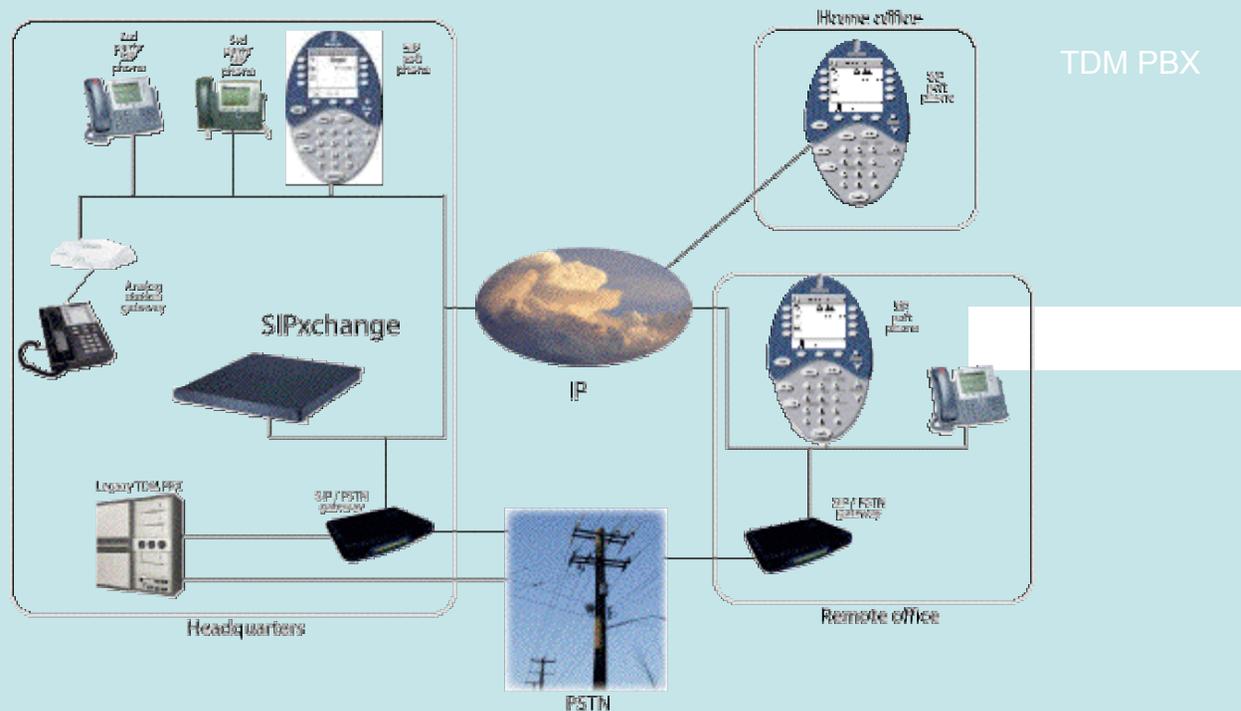
# Greg Nadeau and Alex Jackl

## Open Source in K12

### Where is the tipping point?

“Open Source + Open Standards are transforming the \$25b telephony market.”

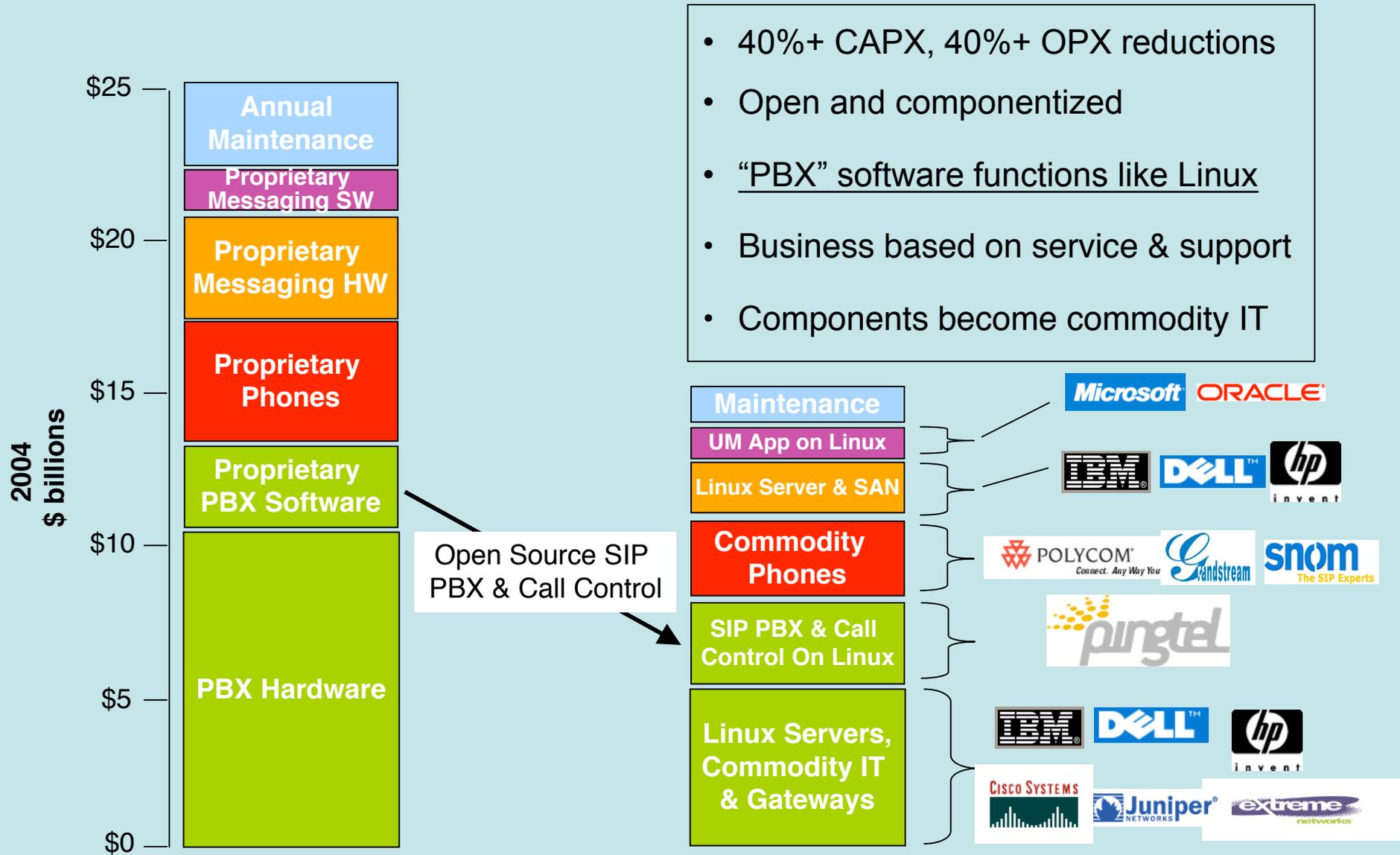
SIPxchange  
Software



Neil Segall, Pingtel

A Case Study: Open Source and Telephony

# Open Source SIP Software Transforms Voice Into a Commoditized IT Application



**Educational Content**

**Education Applications**

**Directory & Security**

**Hardware & Network Infrastructure**

**Optimized US k12  
Enterprise Architecture**

navigation

- [Home](#)
- [Documents](#)
- [Member Entities](#)
- [Software](#)

log in

Name

Password

[Forgot your password?](#)

## Welcome to the Government Open Code Collaborative Repository



The Government Open Code Collaborative is a voluntary collaboration between public sector entities and non-profit academic institutions created for the purpose of encouraging the sharing, at no cost, of computer code developed for and by government entities where the redistribution of this code is allowed. Please consult [the documentation](#) for more information.

news

[News Items From Our Members](#)  
2004-07-07

[June 30, 2004 - The Government Open Code Collaborative is Launched](#)  
2004-06-30

[More...](#)

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# Pat McCormack, GOCC

# The Government Open Code Collaborative

- What is it?
- Why do we need it?
- Who are the the members?

# Who is the GOCC?

The current members of the GOCC include 10 state entities, 4 local government entities and 1 academic entity:

## State:

- The Commonwealth of **Massachusetts** Information Technology Division (Peter Quinn, CIO)
- The **Rhode Island** Office of the Secretary of State (Jim Willis, Director of e-Government and Information Technology)
- The **Pennsylvania** Office of Information Technology (Jem Pagan, CIO)
- The **Utah** Governor's Office, CIO Section (Val Oveson, CIO)
- The **Kansas** Secretary of State Office (Kathy Sachs, Deputy Assistant Secretary of State)
- The **Kansas** Treasurer's Office (Curtis Bears, Senior Applications Developer/Webmaster)
- The **Missouri** Secretary of State Office (Trish Vincent, Deputy Secretary of State for Business Services)

# Who is the GOCC? (con)

## State (con):

- The **West Virginia** Auditor's Office (Glen Gainer, State Auditor)
- The **West Virginia** Treasurer's Office (John Perdue, Treasurer)
- The **Wisconsin** Department of Administration (William Nash, Deputy Director)

## Local:

- The City of **Gloucester, MA** (Mike Wells, CIO)
- The City of **Worcester, MA** (Eileen Cazaropoul, Deputy CIO)
- The City of **Newport News, VA** (Andy Stein, Director IT)
- The **Albany County** Airport Authority, **NY** (J. Dwight Hadley, CFO)

## Academic:

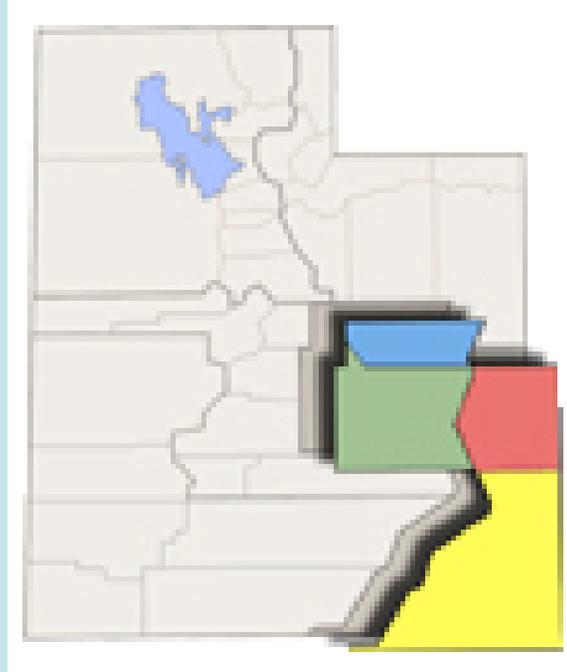
The **School of Government at the University of North Carolina**, Chapel Hill, NC  
(Thomas Thornburg, Senior Associate Dean)

# Who is the GOCC? (con)

## **Leadership Team:**

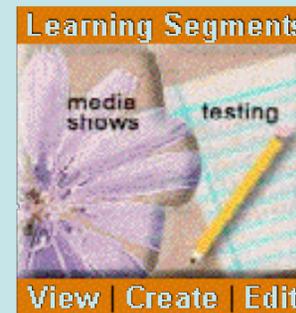
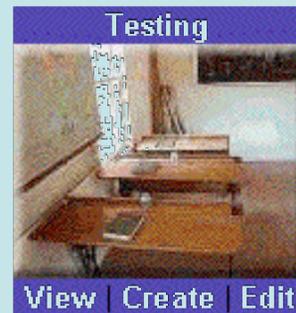
- Chair – Peter Quinn, MA
- Municipality Representative – Mike Wells, Gloucester, MA
- Technical Lead – Jim Willis, RI
- Policy Lead – Patrick McCormick, Harvard University

In addition, there are 84 individuals participating as Observers. Observers are people belonging to a government entity or private non-profit academic institution that has not yet signed the Operating Agreement, or a representative of a non-profit association of public entities.



Southeast Educational Service Center  
MyEDesk and UTIPS

Cody Spendlove & Coy Ison



iMatrix Member

Media Server

SURWEB allows people to create multimedia presentations in minutes using images, sounds & movies provided by SURWEB or other digital sources.

SURWEB was established in 1995 in Utah by the Southeastern Education Service Center (SESC) with a Technology Innovation Challenge Grant from the U.S. Department of Education (USDoED).

- **Collection:**  
[Winter and Skiing](#)
- **Media Show:**  
[Migratory Birds of the Wetlands](#)
- **Testing:**  
[Computer Games](#)
- **Learning Segment:**  
[September 11th, 2001 - United States of America](#)
- **Screen Savers and Wallpaper**  
[Created using SURWEB images](#)
- **Utah Trivia**  
[Play Utah Trivia](#)

[www.surweb.org](http://www.surweb.org)

(1995-2000)

# [www.iMatrix.org](http://www.iMatrix.org)

(1998-2002)

**MATRIX** welcome to **iMatrix.org**

[Member List](#) [Key-Docs](#) [Software Download](#) [Register](#) [Contact Us](#)

### MATRIX Mission Statement

The ongoing mission of the Internet MATRIX Consortium is to encourage localized collections of imagery and text depicting regionally focused resources, which can be used to develop media presentations which teach concepts relevant to a standards based curriculum.

[View Full Members List](#)

**MATRIX** **iMatrix Media Server**

[Searches](#) [Tutorials](#) [Outside Resources](#) [Contact Us](#) [Key-Docs](#)

**Collections** **Media Shows** **Testing** **Learning Segments**

[View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#)

**iMatrix Member**

The **iMatrix** M.E.D.I.A. Server allows you to create cool multimedia presentations right on the web, by using our archive of images, sounds & movies.

*This site made possible through technology developed by the [Southeastern Education Service Center \(SESC\)](#) with a Technology Innovation Challenge Grant from the [U.S. Department of Education \(USDoED\)](#).*

This M.E.D.I.A. Server was developed in collaboration with [SURWEB](#) and other [iMatrix](#) consortium members.

**POLARIS CAREER CENTER** **SOARWEB**

[Searches](#) [Tutorials](#) [Outside Resources](#) [Contact Us](#) [Key-Docs](#)

More Than 37,000 Educational Images

**Collections** **Media Shows** **Testing** **Learning Segments**

[View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#) [View](#) [Create](#) [Edit](#)

**iMatrix Member** Building Educational Tools Through Technology

**SOARWEB** (State of Ohio Alliance Resource Web) is a place where you can create multimedia presentations in minutes using images, sounds, and movies available in **SOARWEB** and from other digital sources.

**What's New**

- **Collection:**
- **Media Show:**
- **Testing:**
- **Learning Segment:**

SOARWEB multimedia software was originally developed by SURWEB in Utah by the [Southeastern Education Service Center \(SESC\)](#) with a Technology Innovation Challenge Grant from the [U.S. Department of Education \(USDoED\)](#).

# [www.myedesk.org](http://www.myedesk.org)

(2001-2003)

The screenshot displays the MyEDesk.org web interface. At the top right, the site logo 'MyEDesk.org' is visible, along with links for 'Contact Us' and 'Tutorial'. The main content area features a large 'Welcome to MyEDesk.org' graphic and a login section with the text 'Welcome to MyEDesk.org. The Future of Educational Technology!'. Below this are input fields for 'Username:' and 'Password:', and a 'Login' button. On the left side, a file explorer shows a tree structure under 'Utah GIS 's Files', including folders for 'GIS Web Resources', 'Handouts and Materials', 'Lessons', and 'My Buddies'. The 'Handouts and Materials' folder is expanded, showing sub-folders like 'PDF's', 'PowerPoints (PPT's)', 'Publisher Docs', 'Word Docs', and 'WordPerfect Docs'. A red arrow points from the 'Word Docs' folder in the explorer to a detailed view of that folder's contents. This view shows a list of files with checkboxes, a 'Select All' button, and options for 'View' (List) and 'Sort By' (Type). The files listed are:

File Name	Date	Size
Agenda_2day_UEN.doc	11/12/2003	42 kb
arcview_install_steps.doc	11/12/2003	137 kb
checklist.doc	11/12/2003	20.5 kb
gis_kwl.doc	1/11/2005	25 kb
Lesson_plan.doc	11/12/2003	99 kb
Skull_Valley_Issue.doc	11/12/2003	125.5 kb
Teacher_Credit_Request_Form.doc	11/12/2003	32 kb
UEN_Workshop_GIS_credit_app.doc	11/12/2003	68.5 kb

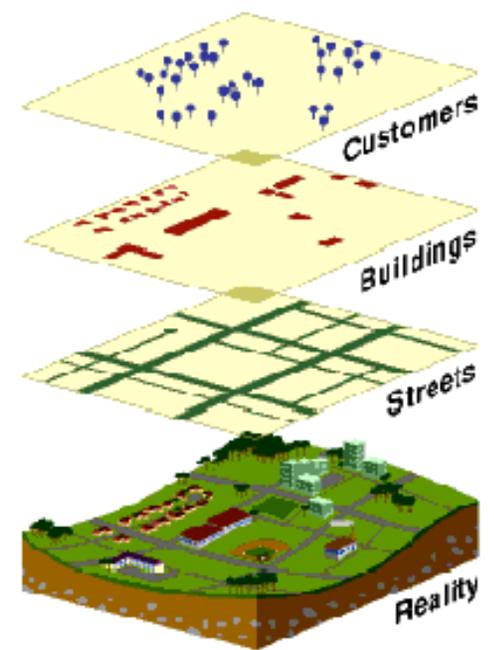
# EDesk Teacher Portals

The screenshot shows the MyEDesk.org UCGISE teacher portal. At the top right is the logo "MyEDesk.org UCGISE". On the left is a navigation menu for "Utah GIS 's Page" with folders for "GIS Web Resources", "Handouts and Materials" (containing PDF's, PowerPoints (PPT's), Publisher Docs, Word Docs, and WordPerfect Docs), and "Lessons". The main content area features a "Utah GIS" section with the text "Utah GIS Resources" and "January 18, 2005", and a link to the "Utah GIS Coalition Education Data Center.". To the right is a 3D visualization of GIS layers: "Customers" (blue pins), "Buildings" (red rectangles), "Streets" (green grid), and "Reality" (3D terrain with buildings). At the bottom are two sections: "My Quick Links" with links to AGRC Automated Geographic Reference Center, ARC Lessons from ESRI, NASA's J-Track 3-D, National Atlas, National Geographic - Map Machine, TerraFly, and TerraServer; and "My Discussion Thre" (partially visible).

- Utah GIS 's Page
  - GIS Web Resources
  - Handouts and Materials
    - PDF's
    - PowerPoints (PPT's)
    - Publisher Docs
    - Word Docs
    - WordPerfect Docs
  - Lessons

**Utah GIS**  
Utah GIS Resources  
January 18, 2005

[Utah GIS Coalition Education Data Center.](#)



**My Quick Links**

- AGRC Automated Geographic Reference Center
- ARC Lessons from ESRI
- NASA's J-Track 3-D
- National Atlas
- National Geographic - Map Machine
- TerraFly
- TerraServer

**My Discussion Thre**

# [www.utips.org](http://www.utips.org)

(2003-2005)



## Cody's Files

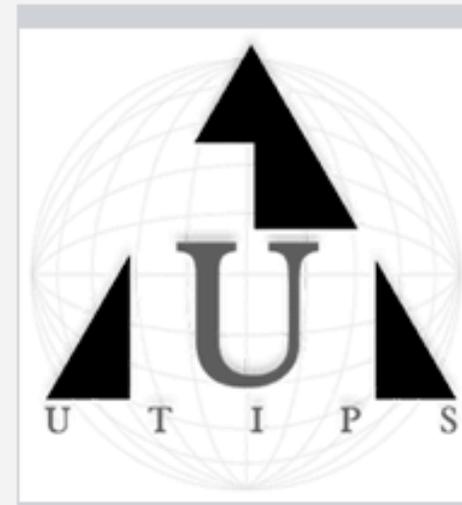
- math
- UDOT
  - Power Point
  - Tests
    - UDOT Safty test
    - UDOT Motor Carrier
  - Study Manuals
- biology

## Cody Spendlove

SESC

Price, Utah

[cody@surweb.org](mailto:cody@surweb.org)



### My Tests

- UDOT Motor Carrier
- UDOT Safty test
- Demo for Clair
- Demo\_II

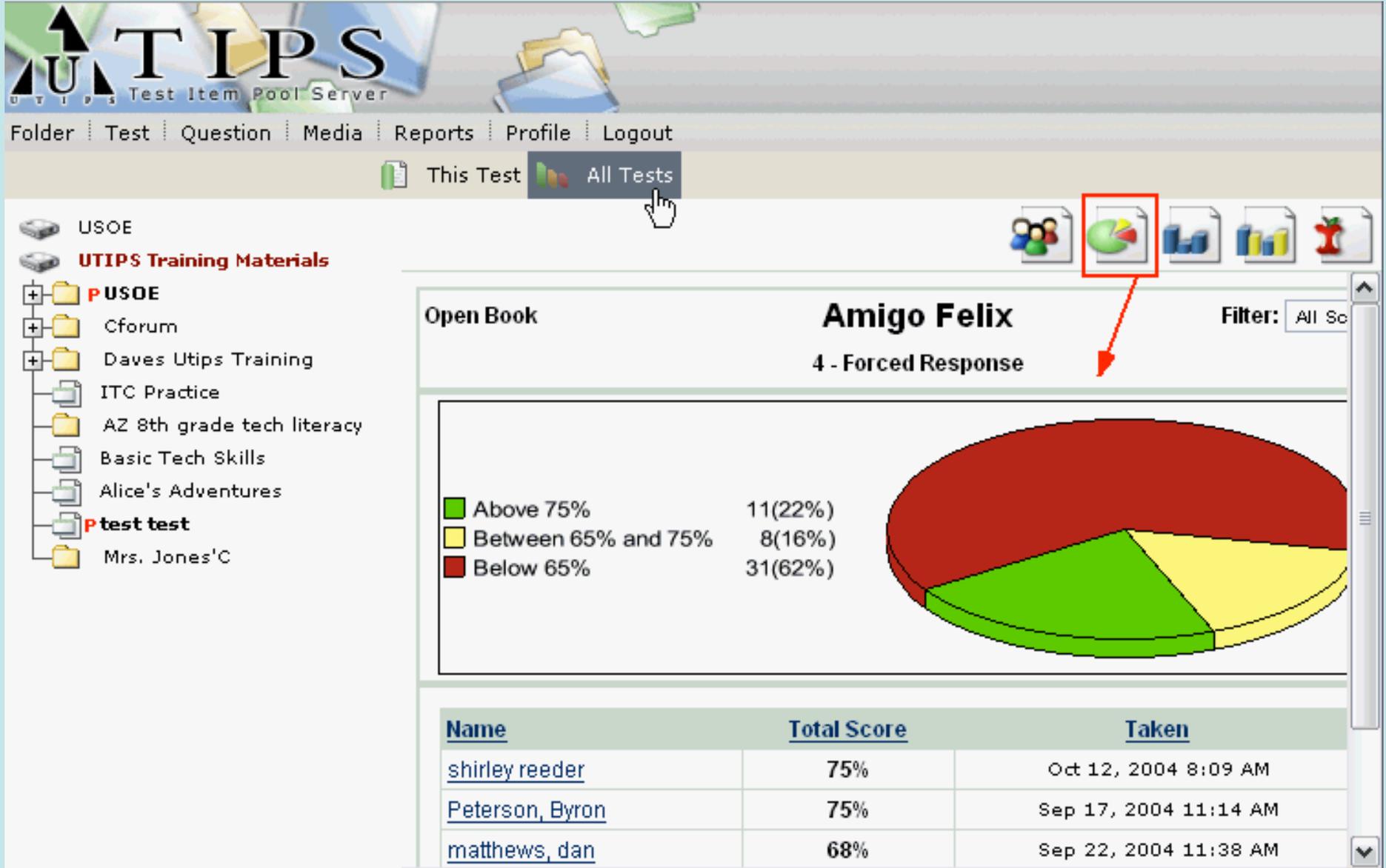
### My Links

# Individuals

The screenshot shows the UTIPS Test Item Pool Server interface. At the top, there is a navigation menu with options: Folder, Test, Question, Media, Reports, Profile, and Logout. Below this, there are two buttons: 'This Test' and 'All Tests', with a mouse cursor hovering over 'All Tests'. On the left side, there is a tree view of folders and files, including 'USOE', 'UTIPS Training Materials', 'P USOE', 'Cforum', 'Daves Utips Training', 'ITC Practice', 'AZ 8th grade tech literacy', 'Basic Tech Skills', 'Alice's Adventures', 'P test test', and 'Mrs. Jones'C'. The main content area displays 'Open Book' and 'Amigo Felix' with a 'Filter: All Sc' dropdown. Below this, there are buttons for 'Delete' and 'Select All', and an 'Export' link. A table lists individuals with their performance metrics. A red box highlights a group of icons in the top right, and a red arrow points from this box to the 'Name' column header of the table.

Name	Forced Response	Total Score	Taken
<input type="checkbox"/> <a href="#">kristine.lambert</a>	100% (40/40)	100%	Oct 11, 2004 2:59 PM
<input type="checkbox"/> <a href="#">Balderas, Juan</a>	100% (40/40)	100%	Oct 7, 2004 11:46 AM
<input type="checkbox"/> <a href="#">McFarlane, Doug</a>	100% (40/40)	100%	Oct 7, 2004 11:46 AM
<input type="checkbox"/> <a href="#">[Name Not Given]</a>	92% (37/40)	93%	Oct 13, 2004 9:39 AM
<input type="checkbox"/> <a href="#">amigo</a>	87% (35/40)	88%	Sep 21, 2004 11:11 AM
<input type="checkbox"/> <a href="#">jan.givens</a>	87% (35/40)	88%	Oct 11, 2004 2:58 PM
<input type="checkbox"/> <a href="#">[Name Not Given]</a>	87% (35/40)	88%	Oct 11, 2004 12:59 PM

# Cut Score



# Standard : Objective

UTIPS Test Item Pool Server

Folder | Test | Question | Media | Reports | Profile | Logout

This Test | All Tests

USOE  
**UTIPS Training Materials**  
 + P USOE  
 + Cforum  
 + Daves Utips Training  
 ITC Practice  
 AZ 8th grade tech literacy  
 Basic Tech Skills  
 Alice's Adventures  
 P test test  
 Mrs. Jones'C

Open Book **New Question Types sample** Filter: All Sc

6 - Forced Response | 1 - Short Answer | 1 - Matching | 1 - Essay | 1 - Performance B

Legend

100% - 80%	79% - 60%	59% - 40%	39% - 20%	19% - 0%
------------	-----------	-----------	-----------	----------

Name	S1	S2	S3	S4	S5	S6	S7	Attempts
<a href="#">Waite, Paul</a>								25
<a href="#">victoria</a>								7
<a href="#">Tom Ackerson</a>								9
<a href="#">Thacker, Brandon</a>								22
<a href="#">Spendlove, Cody</a>								24
<a href="#">Smith, Dianne</a>								14



Add | Move | Delete    ▶ Standard I

ID:	663
Title:	Standard I
Description:	Students will understand that living organisms interact with one another and their environment.
Status:	Development
Code:	SC: BIO: 1

Allow A

**CORE**

**Fourth Grade Science**  
The theme for the fourth grade Science Core curriculum is Utah natural history. Students will learn about Utah environments including: weather, water cycle, rocks, fossils, soils, plants and animals. Understanding the concepts of cycles is an essential component of science literacy and is introduced at this grade level. Emphasis should be placed on skills to classify many things. Students should come to value and use science as a process of obtaining knowledge based on observable evidence, and their curiosity should be encouraged and sustained as they develop the abilities associated with inquiry in science.

**Standard I**

Students will understand that water changes state as it moves through the water cycle.

**Objective 1**

Describe the relationship between heat energy, evaporation and condensation of water on Earth.

- Identify the relative amount and kind of water found in various locations on Earth (e.g., oceans have most of the water, glaciers and snowfields contain most fresh water).
- Identify the sun as the source of energy that evaporates water from the surface of Earth.
- Compare the processes of evaporation and condensation of water.
- Investigate and record temperature data to show the effects of heat energy on changing the states of water.

**Objective 2**

Describe the water cycle.

- Locate examples of evaporation and condensation in the water cycle (e.g., water

## UTIPS

- **Stand Alone Account System**
- *Backend Standards : Objectives engine*
- Uses “Open Source code” – *Phoenix code, SESC code, etc...*
- **Postgress SQL / Cold Fusion**
- **Scantron agreement...**

### OPEN Source Collaboration

Increasingly more attractive solution to lower costs of K-12 entities as they strive to meet the Federal requirements of No Child Left Behind (NCLB)

# What is .LRN?

- An Open Source Learning Management System used at 200 universities worldwide, including MIT Sloan
- A development platform for custom educational and collaborative module
- A configuration of a set of packages of OpenACS, including content management and ecommerce
- A Consortium of universities and organizations dedicated to working together to improve educational technology
- An OpenSource community of developers and users

Tracy Adams

.LRN

# Poll

- How many of you have experienced lock in from a technology vendor?
  - A. Yes -
  - B. No -
- In other words – how many of you have been 100% reliant on a vendor and vendor whims.

# Quick Demo

- <http://sloanspace.mit.edu>
- You can see a list of features at <http://dotlrn.org/features/>

# Why .LRN is selected

MIT Sloan School of Management

When Sloan management was initially looking for collaborative education technology, their primary concern was the breadth of their requirements and the speed with which these requirements would evolve. Going with a commercial vendor or undertaking 100% custom development seemed prohibitively risky, especially given the universal reality of limited resources. According to Sloan CIO Alfred Essa, choosing a well-supported, open source solution mitigated these risks. "Open source provides not only the source code, but visibility into the development process and path," says Essa. ".LRN's global community of developers offers support for existing .LRN users, as well as a proven, secure system for delivering enhancements back into the code base."

Al Essa – CIO Sloan

# Why .LRN (CoachVille)

We are a virtual company with 60,000 users, so our web technology is the backbone of our business. Before we switched to .LRN, we were at the whim of our vendors. The needs of our site outgrew the needs of our first vendor – they simply couldn't provide the scalability and functionality we needed. Our second vendor had staffing problems which led to low reliability. In both of these situations, our company was left helpless in finding a solution, as we were extremely reliant on the other company..Even if these vendors could provide the technology we needed, we were still at the mercy of their fees. We were charged \$50 simply to change an email forwarding address. We knew this was unreasonable, but had no other choice as we were 100% reliant.

With .LRN and the .LRN consortium, we have a technology that has been used at institutions that are bigger than we are. With so many participants and partners, we regularly benefit from the work and experience from others in the community. Our vendor, Solution Grove, is the leader in the community.They have educated us on the best packages for our needs and have developed the new functionality we've needed very efficiently and economically. It is also reassuring that there are dozens of other companies and consultants that could also be of service, should the need arrive. We have a great solution and no longer feel vulnerable and helpless to a specific vendor.

Dave Buck - CEO CoachVille (<http://www.coachville.com>)

# .LRN Management

- Board of Directors
- Consortium
- OCT Technical Team (voted)
  
- eLane – 3 million Euro investment by the European Union into dissemination in Latin America

# .LRN Community

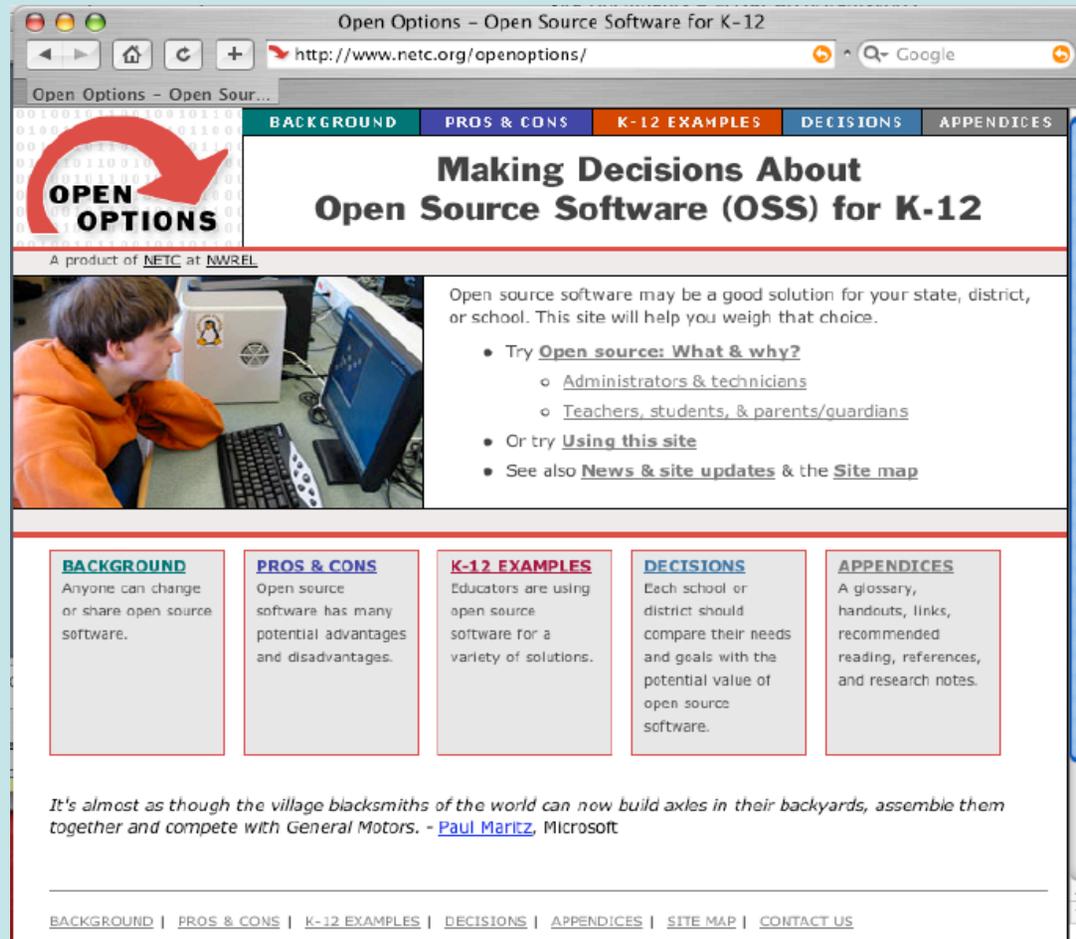
- OpenACS ([openacs.org](http://openacs.org)) is the base technology
- Like a cottage industry
  - Dozens of companies (hosting, development)
  - Interesting combination of sharing and competition

# Other participants

- Greenpeace
- Harvard Kennedy School of Government
- University of Galileo
- Berkeley School of Music
- Brandeis University
- Creative Commons
- AIESEC
- Birzeit University
- University of Delhi
- University of Sydney
- American University of Bulgaria
- Fachhochschule Heilbronn
- Freie Universität Berlin
- Freie Universität Berlin
- Københavns Universitets
- Universidad Nacional de Educación a Distancia
- Universität Mannheim
- Universitat de Valencia
- St. Mary's College of Maryland
- University of Massachusetts Donahue Institute
- FLACSO (Faculdade Latino-americana de Ciências Sociais)
- ITESM (Tecnológico de Monterrey)
- Universidad Agraria de la Habana
- More at <http://www.dotlrn.org/partners/>

# More Information

- Dotlrn.org
- Openacs.org
- Feel free to email or call me, Tracy Adams,  
at [teadams@alum.mit.edu](mailto:teadams@alum.mit.edu) (617 283 1798)



# Seymour Hanfling

## NWREL k12 Open Source Site

# Panelists

**Samuel DiGangi**, Arizona State University

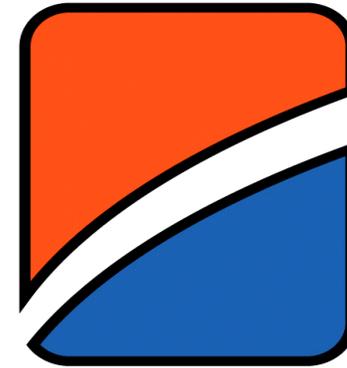
**Mark Gura**, former NYC

**Bernard Percy**, Converge

**Larry Fruth**, SIF

**Ethan O'Rafferty**, MySQL

United States Open  
**e-Learning**  
Consortium



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Chief Technologist  
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781-370-1043