

# *Technology and Education:*

Assistance and Advancement for K-12 Schools

Submitted in Accordance with C.G.S. 4d-83

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# Introduction

C.G.S. 4d-83 requires the Department of Information Technology (DOIT) to report annually on assistance to *“local and regional boards of education and regional vocational-technical schools to expand their educational technology capabilities, including, but not limited to, wiring, Internet connectivity and technical support, and (2) opportunities for such boards of education and schools to purchase under state-wide contracts.”*

DOIT’s assistance to K-12 educational institutions include:

- Deployment and support of the Connecticut Education Network (CEN)
- Working with the Commission for Educational Technology to further statewide educational technology goals; and
- Negotiating and offering contracts off of which K-12 and other educational institutions can purchase.

This report summarizes 2006 achievements and progress in these vital areas.



# Highlights - 2006

## Deployment and Support of the Connecticut Education Network (CEN)

- CEN deployment to libraries was completed in the fall of 2006. CEN connections now exist in each of the state's 169 cities and towns, 215 K-12 districts, 50 college and university campuses, and 178 libraries. During 2006, the amount of active CEN connections increased by 50 percent and usage of CEN increased by nearly 65 percent. Additional connections were placed in three additional higher education facilities and 140 additional libraries.
- In 2006, DOIT responded to nearly 1,000 service calls from municipalities, libraries and school districts for internet filtering customization and network configuration assistance.
- For the fourth consecutive year, support was secured from the federal Universal Service Fund (USF) "e-rate" program for discounted telecommunication service rates. These discounts enabled the State to save \$5.7 million in fiscal year 2007 in CEN operating costs, and continue payments on its long term investment in the network. The e-rate application was submitted four months earlier than in past years.

## Development of Online Content and Resources

- In 2006, a new position was established to direct all business activities associated with CEN content delivery. The position was filled in early 2007.
- In 2006, pages on the CEN home page for users – [www.cen.ct.gov](http://www.cen.ct.gov) -- were viewed an average of 6,522 times per day, or 2.38 million times in calendar year 2006. DOIT supported the development and hosting of this site in 2005.

## Online Safety and Security Awareness

- CEN continues to offer an internet filtering tool to schools and libraries at no cost. The tool is now used by 178 schools and libraries. A seminar on the tool was held in 2006 and attended by 53 school districts.
- In June 2006, DOIT and the State Police taped a public access show with Governor M. Jodi Rell on the topic of online safety. The show was distributed to 30 public access station statewide.
- DOIT's online safety site, [www.ct.gov/cybersafe](http://www.ct.gov/cybersafe), was enhanced in 2006 with links to sites offering safety advice concerning blogging and social networking safety sites. The site, linked to from [www.cen.ct.gov](http://www.cen.ct.gov), was viewed 8,989 times in 2006.

## Contracts

- DOIT offers 31 contracts off of which educational institutions can purchase. They provide discounts on technology hardware, software and services. The list is updated throughout the year and [is available on the DOIT website](#). The site was accessed 5,528 times in 2006.

# About CEN

CEN is the result of a multi-year initiative that began in 1999 by then Lt. Governor M. Jodi Rell to ensure Connecticut schools and libraries had access to the best possible educational technology. In 2000, the State Legislature endorsed and funded Lt. Governor Rell's recommendations to create the network. DOIT was identified as the lead agency in constructing the network.

CEN deployment to cities, towns and school districts, and institutions of higher education was completed in 2005. CEN deployment to libraries was completed in 2006. CEN has now has 433 connections in 169 cities and towns.

CEN is the nation's first all-optical network linking K-12 public schools, higher education campuses and library locations throughout Connecticut. It operates at speeds one thousand times faster than a home broadband connection. CEN benefits for schools includes no-to-low cost internet connection, and access to a wide variety of education resources including Internet2.

## Colleges and Universities: 47 Connections

### Public Institutions of Higher Education

*Connecticut State University System:* All Campuses

*University of Connecticut:* All Campuses.

*Charter Oak State College:* All

*Community Technical Colleges:* 10 out of 12

(Final two to be connected in 2007)



### Private Institutions of Higher Education

All non-profit higher education connections have connections to the CEN, including Yale University, Wesleyan University, Trinity College, Fairfield University, the University of Bridgeport, Sacred Heart College and other private institutions.



## K-12: 215 Connections

### Local K-12 School Districts

Optical connections to the CEN are active in all school districts. Individual schools connect to the CEN through these district connections. In a growing number of towns, districts have leveraged state infrastructure grant funds to connect individual schools. This approach alone has extended CEN to more than 160 additional school buildings. In 2006, Governor Rell announced an additional \$5 million in state grants for this purpose.

### Regional Technical High Schools

CEN connections have been provided to 19 of the state's Regional Technical High Schools.

### Regional Education Service Centers

Connections have been provided for all six of the state Regional Education Service Centers which serve 160 school districts. Connections to these sites have greatly improved capacity for inter-district collaboration, video conferencing, and technology consolidation.



## Public Libraries: 178 Connections

To date, 178 libraries, including all 165 principal public libraries, library service centers and secondary libraries are directly connected to CEN.

# CEN in Use Around the State

The CEN network is facilitating expanded use of technology.

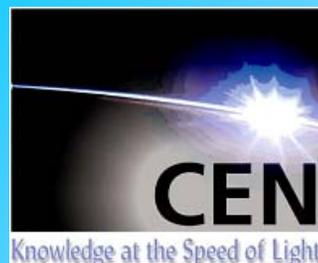
In **Danbury**, a special gateway (Citrix) was established to enable students to access, from home, any program they use at school, their files, and any periodicals from the media center.

In Region 12 (**Roxbury/Bridgewater**), backup data is now transported to a remote facility via CEN rather than tapes. This change reduced a two day process to just two hours.

One area of particular note reported by school technology coordinators is the increased use of videoconferencing.

Area Cooperative Educational Services (ACES), a regional educational service center, facilitates videoconferencing initiatives with 32 Connecticut school districts. They report that 1,500 students from grades 1-12 and 81 teachers currently conference on a regular basis.

In December 2006, a *New York Times* article highlighted CEN at work in Connecticut schools, including videoconferencing between students at the Burns Elementary School in **Hartford** and the Wexler-Grant Community School in **New Haven** using CEN.



## More CEN Connections



Using CEN, 62 second graders from Wintergreen Magnet School in **Hamden** participated in the Musical Explorers Program with Carnegie Hall in New York via a CEN connection.

The Center for Advanced Technology and Horace W. Porter School in **Columbia**, CT, conducted a videoconference between Connecticut and Chinese students on global warming.

Videoconferencing enabled high school spanish class students in **Woodbury** to dialog with students in Mexico. **Bethlehem** Elementary School students shared field trip experiences with a an elementary school in Nebraska.

The **American School for the Deaf** is establishing a video tutoring program with the University of Tulsa. Students in the teacher preparation program will tutor ASD students in 2007.

# Online Content Support and Assistance

*Online Tools on cen.ct.gov*

DOIT continues to work with the Commission for Educational Technology (CET), the principal educational technology policy advisor for state government charged with executing state-wide educational technology goals.

## Dedicated Position for Content Development

In 2006, DOIT worked with CET to establish a new position to facilitate strategic and operational planning for content delivery on CEN.

## CEN User Site Use

On the existing site for CEN users, [www.cen.ct.gov](http://www.cen.ct.gov), the content pages were viewed an average of 6,522 times per day in 2006.

*The CEN Teacher's Page* was viewed 2,157 times by 1,933 users. The site links to online resources for teachers, including development, curriculum and technology tools.

*The CEN Student Links Page* was viewed 1,139 times. It links to online homework help, adult learning resources and more.

Other site resources enables parents and others to access pre-school, literacy, adult and continuing education resources and more.

**STUDENTS Click Here**

SCIENTIFIC LIVING HOME

MOVIES:

- SOLAR SYSTEM
- OUTER SPACE
- SPACE TECHNOLOGY
- SPACE, TIME & BIG IDEAS

COMPONENTS

## TEACHER'S GUIDE

**Getting Started with Scientific Living**  
**A new application of video as short-form multimedia**

**CONTENTS:**

1. Overview
2. Format of the movies (less than 2 minutes each)
3. Format of the Discussion Guide
4. Using the "student workshop" side of this web site
5. Exploring the benefits of integrating short-form media into your regular lesson plan

### THE SOLAR SYSTEM

The movies are MPEG format and play on both Mac and PC, on either QuickTime or Windows Media Player. If you have trouble viewing movies or worksheets, [go to: sciliving@doit.ct.gov](mailto:sciliving@doit.ct.gov)

**1. Mysteries of the Sun:**

The more we know, the stranger it gets...

**2. Saturn's rings:**

Would you believe Saturn's rings are made of ice?

Related Links: Screen Script Worksheet, Preview Movie, High Quality Movie

**The Scientific Living** series, above, is the latest addition to cen.ct.gov. The first edition features short digital movie clips that can be integrated into existing lessons, and includes teacher and discussion guides.



**The Geography Challenge**, above, is the world's largest online geography contest. It was accessed 2,157 times from the cen.ct.gov site in 2006.

# Online Safety

## Filtering Tool

DOIT offers an Internet Filtering, Smart Filter, solution at **no Cost**, to school districts and libraries to help protect students from inappropriate web content and to comply with federal regulations such as the Children's Internet Protection Act (CIPA). Smart Filter offers more than 70 filtering categories. Schools and libraries tailor filtering choices to meet their own specific needs.

DOIT conducted a seminar in 2006 both to provide information on internet filtering. 53 school districts attended the seminar and shared information. DOIT will periodically conduct future seminars on demand on subjects that are pertinent to the school districts.

## Online Safety Awareness Activities

DOIT continued to update its online safety site, [ct.gov/cybersafe](http://ct.gov/cybersafe), with new links to resources offered by the National Center for Missing and Exploited Children and other organizations. In addition, special public access show on online safety with DOIT, the State Police and Governor M. Jodi Rell was taped and distributed to 30 public access stations statewide in June 2006.

## New Features on [ct.gov/cybersafe](http://ct.gov/cybersafe)



CT.Gov/Cybersafe was launched by Governor M. Jodi Rell in October 2005 to help residents learn more about using the internet safely and responsibly. It is maintained and offered as public service by the State of Connecticut Department of Information Technology. We hope you find CT.Gov/Cybersafe a useful tool to stay safe online.

### Getting Started

#### New! Blog Beware

If your child uses blogging or social networking sites, this resource from the National Center for Missing & Exploited Children has a wealth of information

[Help Keep Kids Connected and Protected](#)  
Tips from the National Cyber Security Alliance