

CTE Teleconference, Webcast Guidebook  
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CTE Webcast Executive Summary .....	4
Planning for a teleconference.....	5
Set Design .....	5
Makeup, Catering, Transportation, Lodging.....	5
Webpage Updates.....	6
CTEWeb .....	9
Izaak Walton League of America.....	10
Connection Strings .....	10
CTE Live Webcast GUI .....	11
Live Meta Files .....	17
Slides .....	21
Exporting from PowerPoint .....	23
Resizing .....	24
Renaming .....	24
Uploading the files to the CTEONLINE locker space.....	24
Running the Slideshow.....	26
Production Encoding Software and Hardware.....	27
Video Encoding.....	31
Real Producer (v 10)/Helix Producer (v 9.0).....	38
Setup of Equipment at APT .....	46
Setup of Additional Encoders .....	46
Streaming Servers .....	48
CDNs and Service Providers and their account generations systems .....	48
Configuring Helix Server to Pull a Stream (Windows Media).....	48
Web archive - Placing Files on the Server (after the teleconference).....	50
Linking Files .....	50
Machines providing services for webcasts .....	51
Server Settings .....	51
Video Archives – Web Pages .....	51
SQL Table.....	59
Forums .....	60
Transcripts .....	61
Server Information .....	61
Streaming Server IPs .....	61
Windows 2003 Firewall.....	61
IIS Configuration .....	61
Helix Server Admin Accounts.....	61
View more information on the authentication realms.....	62
Encoding Tips Appendix .....	62
Real Encoder .....	62
Windows Media Tips.....	62
DVD Authoring and Replication.....	64
Premiere Capture.....	65
Creating individual video clips from captured files in Canopus ProCoder.....	66
DVD Creation in Encore and Image Manipulations in Photoshop .....	72

Transferring VHS to DVD..... 72

Studios and Video Production ..... 74

    UNC-TV Signal Acquisition and Encoding ..... 75

Content Delivery Networks, Streaming Service Providers, Encoding Operations, Vendors  
..... 77

    East Bay Media ..... 77

    Nine Systems..... 77

Software and Hardware Vendors ..... 79

DVD Replication..... 80

CTE Production Checklist ..... 81

Webcast Checklist..... 83

Software Support..... 85

    Viewcast Technical Support ..... 85

Helix Server Information..... 86

    Windows Firewall on webcast103/stream102 ..... 91

    Downloadable Software and Licenses..... 91

Setting up a location for CTE Viewing ..... 94

Statistics..... 95

Purchasing Information ..... 96

    Streaming Media Information Lists and Web Searches ..... 106

    Backups..... 107

    Streaming Archive (backup) ..... 107

    Database Backups..... 107

    Accessibility Options and Checks..... 108

Training Opportunities ..... 109

Video Conferencing ..... 111

    IP Video Conferencing ..... 111

EPA Programs and Contacts Appendix..... 113

Places to post CTE technical jobs ..... 115

Equipment Wish List..... 116

Accounts and Passwords ..... 117

## CTE Webcast Executive Summary

Decision on encoding and stream hosting will vary by budget, program origination, level of monitoring and intended audience. CTE has created several relationships for webcast partnerships. Signal acquisition appears to be the greatest challenge for programs. If CTE transmits a program by c-band satellite, then the most logical path for encoding is to utilize the encoding services of UNC-TV and a Content Delivery Network (CDN) that monitors connectivity. If C-Band is not an option, CTE should still pursue UNC-TV as an option through its presence at the Legislative Building. At the time of this writing, [East Bay Media](#) is the preferred CDN. Information on [East Bay Media](#) can be found in the [CDN Section](#). Alternatively, CTE has utilized the services of [Ninesystems](#). See the Appendix of [CDN's](#) for contact information. On average, CTE has allocated up to 60 GB per webcast. The actual usage is close to 8-20 GB per session. TC38 surpassed 20 GB with 346 users. To figure out required bandwidth, see the application, bwcalc2.exe application in the webcast files directory. Please note that almost all [CDNs](#) charge overage rates, if customers bypass an allocated throughput. This should be discussed with any vendor, prior to signing any PO or contract.

In all cases a secondary encoding system should be utilized to provide for redundancy. Arrangements and purchase orders should be arranged as early as possible. Currently, [UNC-TV](#) handles the secondary encoding for CTE. Please see the contact information for [UNC-TV](#). Secondary encoding facilities need encoding profiles and information for signal acquisition. CTE is also currently providing ad-hoc streaming for [EPA's Air Quality](#) programs. At this time, CTE can only provide either an archive or a simulated live webcast from a tape or DVD. CTE does not have signal acquisition for [EPA](#) programs. EPA has been advised of other paths. CTE currently has the infrastructure to comfortably handle 30-40 concurrent live streams for EPA. These programs are currently transmitted anywhere from 2-4 times a year. The CTE person responsible for this program should contact Donna Rogers with EPA.

[Contacts for services are in the appendix.](#)

When budget is a concern, CTE should aim to do its own encoding and utilize the hosting of [UNC-Chapel Hill's CIT services](#). When signal acquisition paths appear limited out of the production facility (APT), then [ITS-VNS](#) should be consulted for both encoding and live streaming. ITS has a switched circuit audio/video connection available via the [North Carolina Information Highway](#) to its encoding and data facility. **Redundant Encoders and Pathways to the CDN are imperative. On more than one occasion, CTE has lost connectivity from the studio. The APT data link's reliability can be flaky. If all else is in question, provide at least an audio phone call as a backup. This can be accomplished offsite with a voice interface box to a computer and encoder.** ITS-VNS organization can provide turn key streaming. The data circuit for this service is the same circuit that [APT](#) uses for video encoding. While this removed redundancy for the data circuit, it is still advisable to encode with secondary encoders. At this time, the [APT](#) data circuit (sans [NCIH connection](#)) is not fully reliable and should only be used as a secondary encoding source.

## ***Planning for a teleconference***

Information TBA – Katie

When establishing a date for a teleconference, it is important to secure a studio location. For several years, CTE utilized NCSU's EGRC facility that is managed by NCSU [DELTA](#). In 2004, CTE moved production facilities to the [Agency for Public Telecommunications](#) ( <http://www.ncapt.tv> ) in downtown Raleigh. In planning a production, both panelists and facilities should be available. For a facility, this requires studio space and for either the facility or CTE to book satellite time. This has usually meant both C-Band through Microspace and space on EPA's private network. If the latter is used, EPA should be notified for including program information in its monthly schedules. Please see the [EPA Contact information](#). C-Band coordinates are not usually made available until one month prior to broadcast. Please check with APT for availability and report information to the CTE Technology Transfer Director, Information Processing Assistant, Webcast Specialist, Distance Learning Specialist.

The studio on request will arrange satellite time, closed captioning, and a phone bridge (for individuals wishing to pick up the program by telephone). The phone bridge number is assigned by the State Government operator and will be made available by APT. There is no one set number and all marketing information and web pages should be updated accordingly.

A viewing location should also be arranged at CTE through ITRE and CTE staff. Room 2600 is a preferred location as a video projector is permanently installed in the room. [See setting up a viewing room for more information.](#)

### **Set Design**

APT has borrowed two tables from the NC Dept of Public Instruction. If tables are used, they will need skirting. CTE has rented skirting and an occasional table from Chair and Equipment rental on Morgan street.

### **Makeup, Catering, Transportation, Lodging.**

More information forthcoming

## Webpage Updates

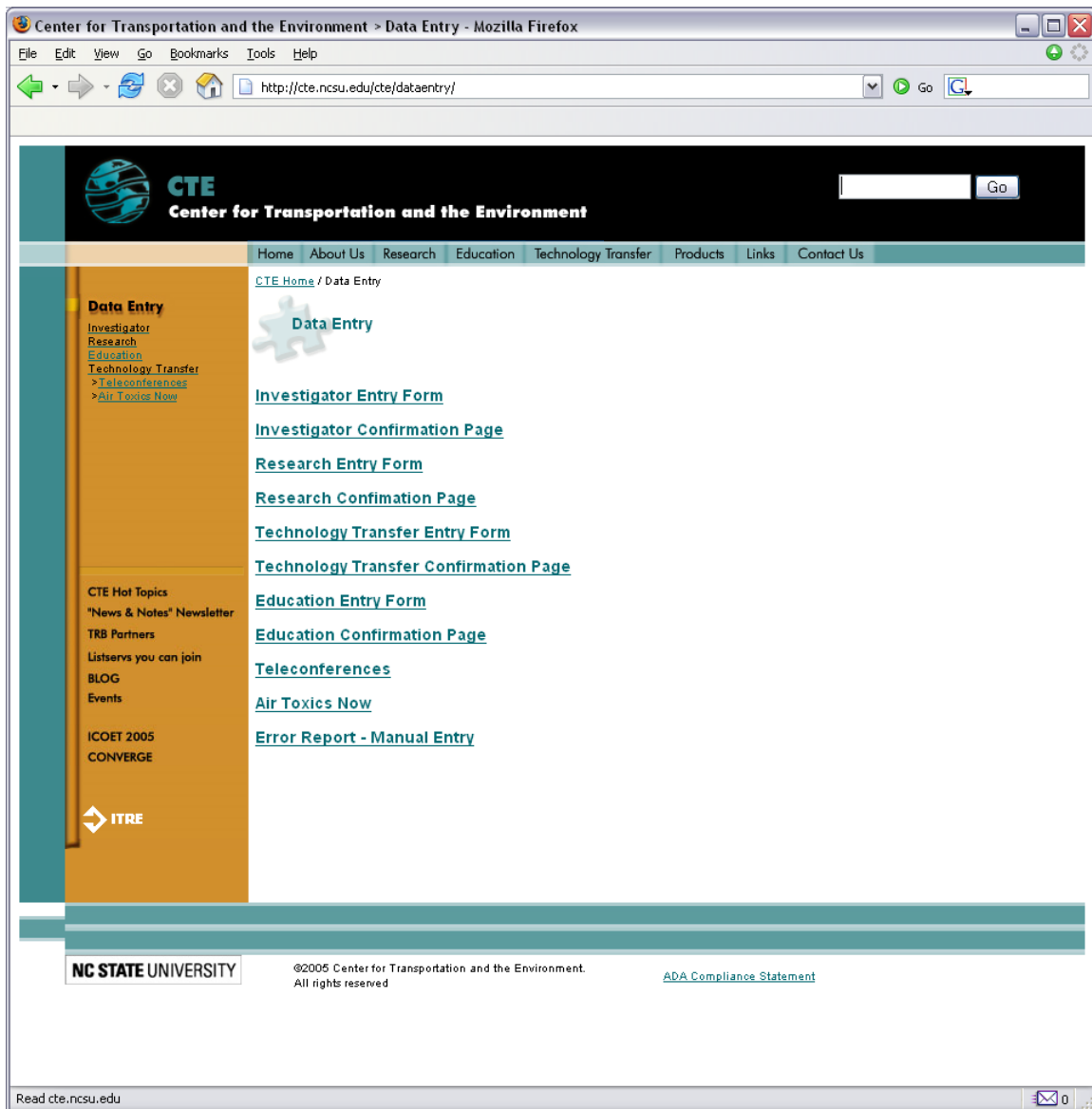
When a teleconference is announced, information on the web pages should be updated.

/CTE/TechTransfer/Teleconferences/ ctewebcasts.xml		Usual Responsibility	
	RSS Feed	Distance Learning Specialist	See <a href="http://cte.ncsu.edu/cte/development/rsinfo.html">http://cte.ncsu.edu/cte/development/rsinfo.html</a> for more information on RSS
/index.asp	General Teleconference Information		Update with new information
2005schedule.asp	2005 Schedule	Tech Transfer Director	Update with new information
downlink_info.asp	Satellite Downlink Information		
downlinks.asp	CTE Downlinks (pre-register listed, but actual sites)	Information Processing Assistant/TSA	Update with new information
registration.asp(inform 6620ea80)	satellite registration page		Update with new information Include satellite information in hidden fields
*downlink_reply.asp	satellite registration confirmation(orphan) replaced with		
satregistration_thankyou.asp	New confirmation		Include satellite coordinate information
web_participate.asp	Steps for users to watch program live (webcast)	TSA	Update with TC information
tips.asp	webcast tips	TSA/DL	Note Phone Bridge to Be Updated for Every Teleconference
forum.asp	forum entry point	TSA/DL	
forum/default.asp	forum listing		Update with Forum Name, Close after 2 weeks
order.asp (inform fafc8498)	DVD and Transcript Order	TSA/DL	Update with New TC Order and transcript request, new checkboxes

			should be created.
evaluation.asp (inform 54f150e1)	Teleconference Evaluation	TSA/DL	Copy to email with hidden field
evaluation_thankyou.asp	reply to evaluation	TSA/DL	Update with order and forum information
archive.asp (database)		TSA/DL	Update with teleconference information, enter data in sql
web_register.asp	initial registration page	TSA/DL	Update with TCinformation and handouts
web_register2.asp	updatable information page for those registered (no phone number)	TSA/DL	Update with TCinformation and handouts
web_regConfirm.asp	user registration confirmation page	TSA/DL	Update with TCinformation and handouts
web_verify.asp	Launch page, once user logs in	TSA/DL	Update with TCinformation
plugins.js	javascript used with web_regConfirm.asp to check plugins		
web_verify2.asp	updates registration		Update with TCinformation
supportform.asp	Not in use		
question.asp			
question_2.asp			
questionresponse.asp			
questionresponse.html			
questionsend.html			
Supportresponse.html			
wmplayer.js			
Realplugin.js			
buttons.html and /images	Lisa Gullete Graphics		
Webcast files directory		TSA	Update with bios, agenda, slides, tips (phone bridge number), hard links to downloadable documents

Other relevant information ....

Data\_entry pages – <http://cte.ncsu.edu/cte/dataentry/> (currently does not work for data manipulation). Please use a sql client



When updating the registration pages, an additional column should be added to the sql cteweb – teleconlogins table and then update appropriate record sets in Dreamweaver

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc



**Update Record**

Connection: CTEwebsite Define...

Table to update: dbo.TeleconLogins

Select record from: rsUser

Unique key column: ID  Numeric

After updating, go to: web\_verify2.asp Browse...

---

Get values from: form1 (When submitted)

Form elements: TC38 updates column "TC38" (Checkbox 1,0)  
Submit <ignore>

Column: TC38

Submit as: Checkbox 1,0

OK  
Cancel  
Help

### CTEWeb

/CTE/TechTransfer/Teleconferences/	
/index.asp	General Teleconference Information
2005schedule.asp	2005 Schedule
downlink_info.asp	Satellite Downlink Information
downlinks.asp	CTE Downlinks (pre-register listed, but actual sites)
registration.asp(inform 6620ea80)	satellite registration page
*downlink_reply.asp	satellite registration confirmation(orphan) replaced with
satregistration_thankyou.asp	New confirmation
web_participate.asp	Steps for users to watch program live (webcast)
tips.asp	webcast tips
forum.asp	forum entry point
forum/default.asp	forum listing
order.asp (inform fafc8498)	DVD and Transcript Order
evaluation.asp (inform 54f150e1)	Teleconference Evaluation
evaluation_thankyou.asp	reply to evaluation
archive.asp (database)	
web_register.asp	initial registration page
web_register2.asp	updatable information page for those registered (no phone number)
web_regConfirm.asp	user registration confirmation page
web_verify.asp	Launch page, once user logs in
plugins.js	javascript used with web_regConfirm.asp to check plugins

web_verify2.asp	updates registration
supportform.asp	Not in use
question.asp	
question_2.asp	
questionresponse.asp	
questionresponse.html	
questionsend.html	
Supportresponse.html	
wmplayer.js	
Realplugin.js	
buttons.html and /images	Lisa Gullete Graphics
webcast.asp playreal.asp playwmp.asp playrealcaptions.asp playvideo.asp captions.asp conn_problems.asp	Update phone bridge on conn_problems.asp

***Izaak Walton League of America***

IWLA is using the IWLAUser account and connecting with IWLA.asp connection string. Files for IWLA are on the CTE Web site in \external\iwla

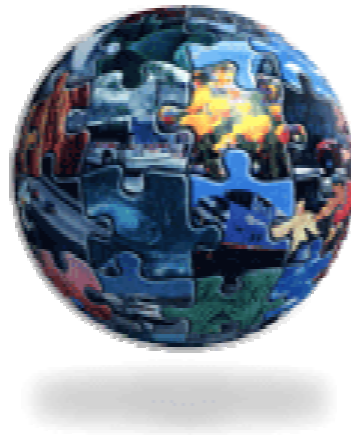
**Connection Strings**

```
CTEwebsite2.asp
Dim MM_CTEwebsite_STRING
MM_CTEwebsite_STRING = "Driver={SQL
Server};Server=(LOCAL);Database=CTEweb;UID=CTEuser;PWD=SEE DISTANCE
LEARNING SPECIALIST'S SERVER BOOKLET
```

```
CTEwebsite.asp
Dim MM_CTEwebsite_STRING
MM_CTEwebsite_STRING = "Driver={SQL
Server};Server=(LOCAL);Database=CTEweb;UID=CTEuser;PWD= SEE DISTANCE
LEARNING SPECIALIST'S SERVER BOOKLET
```

```
CTEwebsiteUpdate.asp
Dim MM_CTEwebsite_STRING
MM_CTEwebsite_STRING = "Driver={SQL
Server};Server=(LOCAL);Database=CTEweb;UID=CTEuser;PWD= SEE DISTANCE
LEARNING SPECIALIST'S SERVER BOOKLET
```

## CTE Live Webcast GUI



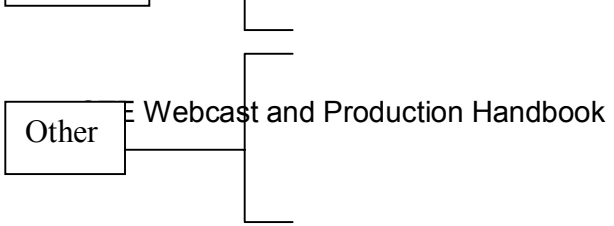
### **Includes documentation of the following:**

- File(s) Location
- I-Frame(s) source
- Pop-up window(s) source
- AVI file location and settings
- Checklist for upcoming Webcasts (coming soon)

CTE  
Center for Transportation and the Environment

<div style="background-color: black; color: white; text-align: center; padding: 10px;"> <p>Ready</p> <p style="color: lightblue; text-align: center;"><a href="#">Launch video in External Windows Media Player</a></p> </div> <div style="padding: 5px;"> <p><a href="#">Problems Connecting?</a>   <a href="#">Do You Need Captioning?</a></p> <p><b>Questions for the Panel or call 1-888-228-6736</b></p> <div style="border: 1px solid gray; height: 30px; width: 100%;"></div> <p style="text-align: center;"><input type="button" value="Send Mail"/></p> </div> <div style="padding: 5px;"> <p><b>Video Player Type</b></p> <p><input checked="" type="radio"/> Windows Media Player  <input type="radio"/> Real Player</p> </div> <div style="padding: 5px;"> <p><b>Connection Speed</b></p> <p><input checked="" type="radio"/> Default <input type="radio"/> 24K <input type="radio"/> 56K <input type="radio"/> 80K <input type="radio"/> Audio</p> </div> <div style="padding: 5px;"> <p><b>Tech Support</b>                  For assistance, please contact CTE technical support at <a href="mailto:ctewebcast@lists.ncsu.edu">ctewebcast@lists.ncsu.edu</a> or (919)515-8037.</p> </div> <div style="padding: 5px;"> <p><b>Feedback</b>                  Please remember to complete the <a href="#">Broadcast Evaluation</a>. We look forward to your feedback!</p> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p><b>Materials and Support</b></p> <ul style="list-style-type: none"> <li><input type="radio"/> <a href="#">Agenda</a> (74kb PDF)</li> <li><input type="radio"/> Tips</li> <li><input checked="" type="radio"/> <a href="#">Slides</a> (826kb PDF)</li> </ul> </td> <td style="width: 50%; padding: 5px;"> <p><b>Presenter(s) Bios Info</b></p> <table style="width: 100%; border: none;"> <tr> <td><input type="radio"/> S. Siwek (mod)</td> <td><input type="radio"/> D. Hyder</td> </tr> <tr> <td><input type="radio"/> L. Benjamin</td> <td><input type="radio"/> B. Dennison</td> </tr> <tr> <td><input type="radio"/> G. Jensen</td> <td><input type="radio"/> H. Brazil</td> </tr> <tr> <td></td> <td><input type="radio"/> B. Dickinson</td> </tr> </table> </td> </tr> </table> <div style="border: 1px solid gray; padding: 10px; margin-top: 10px;"> </div> <div style="padding: 5px;"> <p><b>Audio Bridge</b></p> <p>Users experiencing difficulty with streams may listen to the audio portion of the program, by calling <b>(919) 733 - 2441</b>. Long distance charges apply. Users are discouraged from following the live slide stream as it will be delayed by at least 30 seconds. As this line is a conference call, CTE asks that you do not put your phone on hold, talk, or make extraneous noise.</p> </div> <div style="padding: 5px;"> <p><b>Tech Support</b></p> </div>	<p><b>Materials and Support</b></p> <ul style="list-style-type: none"> <li><input type="radio"/> <a href="#">Agenda</a> (74kb PDF)</li> <li><input type="radio"/> Tips</li> <li><input checked="" type="radio"/> <a href="#">Slides</a> (826kb PDF)</li> </ul>	<p><b>Presenter(s) Bios Info</b></p> <table style="width: 100%; border: none;"> <tr> <td><input type="radio"/> S. Siwek (mod)</td> <td><input type="radio"/> D. Hyder</td> </tr> <tr> <td><input type="radio"/> L. Benjamin</td> <td><input type="radio"/> B. Dennison</td> </tr> <tr> <td><input type="radio"/> G. Jensen</td> <td><input type="radio"/> H. Brazil</td> </tr> <tr> <td></td> <td><input type="radio"/> B. Dickinson</td> </tr> </table>	<input type="radio"/> S. Siwek (mod)	<input type="radio"/> D. Hyder	<input type="radio"/> L. Benjamin	<input type="radio"/> B. Dennison	<input type="radio"/> G. Jensen	<input type="radio"/> H. Brazil		<input type="radio"/> B. Dickinson
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<input type="radio"/> S. Siwek (mod)	<input type="radio"/> D. Hyder										
<input type="radio"/> L. Benjamin	<input type="radio"/> B. Dennison										
<input type="radio"/> G. Jensen	<input type="radio"/> H. Brazil										
	<input type="radio"/> B. Dickinson										

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**Fig 1. Screen shot of Windows Media Player Webcast Page**

## I. Overview

When referring to [Fig. 1](#) on page 2, you will notice several main areas or sections in the CTE Webcast GUI (graphical user interface). Reading each column from top to bottom, beginning on the left side, the main sections are as follows:

- A. Banner
- B. Player
- C. Help
- D. Questions
- E. Player Settings
- F. Other
- G. Control Panel
- H. Viewing Pane

In the following paragraphs, each of the main sections will be subsequently explained in great detail. When modifying any of the main sections, please keep in mind that a table-based layout is being utilized, along with i-frames. In addition, there are two different CTE Webcast files: [webcastreal.asp](#) and [webcastwindows.asp](#). When making changes or updates for a webcast, be sure to check and update both files.

## II. Banner

The CTE banner is a Visual Basic.net include file. In other words, it is stored somewhere else on the server and only a file reference is included in the .asp file. The CTE banner is located in a folder named *includes*. The following shows the html code in Dreamweaver (as used in the [webcastwindows.asp](#) file) for the CTE banner.

```
<!--#include virtual="/CTE/TechTransfer/Teleconferences/includes/header2-TechTrans.asp" -->
```

**Fig 2. VB.net include for CTE banner**

The [header2-TechTrans.asp](#) file has a background image called [header-2TechTransfer.jpg](#). The [header2-TechTrans.asp](#) is also where the image attributes for the CTE banner can be modified (width, height, orientation, etc). The following Dreamweaver code shows the file path for the [header-2TechTransfer.jpg](#).

```
<style type="text/css">
<!--
.Norepeat1 {background-image:
url(/CTE/TechTransfer/Teleconferences/images/header-2TechTransfer.jpg);
background-repeat: no-repeat}
.style2 {font-family: Arial, Helvetica, sans-serif; font-size: 10px;}
-->
</style>
<table width="790" height="63" border="0" cellpadding="0" cellspacing="0"
background="/CTE/TechTransfer/Teleconferences/images/header-2TechTransfer.jpg"
class="Norepeat1" bgcolor="#000000">
  <tr>
    <td width="785" height="63" align="left" valign="middle">
    </td>
  </tr>
</table>
```

**Fig 3. HTML code for header2-TechTrans.asp**

In [Figure 3](#), the [header-2TechTransfer.jpg](#) file is set as the background image for the table and is also the background image for the class called “Norepeat1.” This will ensure that the image is always called independently of browser type.

If you would like to modify the CTE banner, you will need to do one of two things:

1. Modify the [header2-TechTrans.asp](#) file and the changes will be automatically reflected in [webcastreal.asp](#) and [webcastwindows.asp](#).
2. Point the include reference to a different .asp file by modifying the file path given in [Figure 2](#). Remember to modify the file path in both [webcastreal.asp](#) and [webcastwindows.asp](#).

### III. Player

As you can see in [Figure 1](#), the player section includes two portions: the actual player, along with its user controls, and a hyperlink. The hyperlink allows the user to launch the player externally, so that it is not embedded in the webpage. The player section is one of three i-frames within the CTE Webcast GUI. The source of the player i-frame is dependent upon the player preference settings of the user (they chose whether they prefer Windows Media Player or RealPlayer when they register).

If the user had chosen Windows Media Player, then the source of the player i-frame would be set to the default stream and the radio button located in the **Connection Speed** section would be set to default. As a user clicks on different connection speeds, different i-frames will load in the player i-frame section.

```
<iframe name="playertype" id="playertype"
src="http://cte.ncsu.edu/CTE/TechTransfer/Teleconferences/webcast_files/wmplayer_page.asp"
width="310px" height="260px" scrolling="no" frameborder="0" marginwidth="0"
marginheight="0" ></iframe>
```

**Fig 4. Player i-frame html code**

As you can see above in [Figure 4](#), the file path for the player i-frame source is located in a subfolder called *webcast\_files*. This is where all of the various connection speed files (for wmp and rp) can be found. If you need to modify the source file for Windows Media Player or Real Player, these are the files that you will need to modify. You will also need to make sure that you modify the information for the hyperlink to “launch in external player” as well.

The webcast\_files folder includes the following files that will be used in the player i-frame:

Windows Media Player	Real Player
wmplayer_page.asp	realplayer_page.asp
wmplayer_page28.asp	realplayer_page56.asp
wmplayer_page56.asp	realplayer_page_audio.asp
wmplayer_page80.asp	



wmplayer_page_audio.asp	
-------------------------	--

### **Live Meta Files**

Currently, these asp pages have code that links to meta files (asx and ram) in the cteonline afs web space (course locker) /afs/unity.ncsu.edu/web/c/cteonline/htdocs/meta (corresponding to <http://www.ncsu.edu/project/cteonline/meta/filename.ext>). **Please note: these files were placed at campus servers as a contingency for the CTE Web server failing. It would be possible to email the meta files to all registrants, provided CTE staff has access to the list of webcast participants. This might be through an excel spreadsheet with a sql query. These files are:**

- epa.ram
- live.asx
- live.ram
- live\_56.asx
- live\_56.ram
- live\_80.asx
- live\_audio.asx
- live\_audio.ram
- live\_modem.asx
- live\_modem.ram

The files can be edited via a shell program (ex. Putty) or replaced with an ftp or scp/sftp client. In the future, CTE developers may wish to create dynamic meta files on the course locker (perl or php) or on the cte server. This would address issues of cached files and time to live for any link changes.

### **IV. Help**

The Help section has two areas “Need Captioning?” and “Problems Connecting.” These two areas are to help the user configure either the connection speed or the external player settings. The help section hyperlinks will cause a pop-up

window to appear. These files are called `captions.asp` and `conn_problems.asp`; they are both located in the *webcast\_files* folder directory.

## V. Questions

The Questions area has another i-frame. If you reference [Figure 5](#), you will see the name of the i-frame and the file location. This `question.asp` file is located in the same root folder as the `webcastreal.asp` and `webcastwindows.asp`. The `question.asp` file also includes a refresh function; without the refresh, the server would log the user out of the webcast registration system for being idle. The user would be left unaware and would receive a page-not-found error when attempting to email in a question. **CTE has had feedback that users were typing questions and the page refreshed. This is due to session state on IIS. This could be lengthened, but would increase the stress on the server. The tradeoff of using the database connection is that CTE is able to pass user information from the question box without the user having to type out their contact information. It might be possible to use NCSU's inform or another method.**

```
<iframe src="question.asp" name="question" width="300" marginwidth="0"
height="100" marginheight="0" scrolling="no" frameborder="0"
overflow="hidden" ></iframe>
```

If you would like to change the background color of the i-frame (it is currently gray) or the size of the text box provided for the user to enter a question, you will need to make the changes in the `question.asp` file.

## VI. Player Settings

The Player Settings area includes the Video Player Type and Connection Speed subcategories. The Video Player/Type is either Windows Media Player or Real Player. If these buttons are selected, the user is essentially hyperlinked to the other .asp file (a whole new page is loaded). We are still attempting to verify if the connection is dropped after choosing a different player type.

The Connection Speed area varies depending on if the user is on the [webcastreal.asp](#) or the [webcastwindows.asp](#) file. The Connection speed radio buttons control the source of the player i-frame section. For more clarification, read the Player description in Section III of this manual and also refer to [Figure 4](#).

**VII. Other**

The section is just information for the user. There aren't any buttons to be clicked, but there are a couple of hyperlinks: email address for technical support and a link to the online evaluation form. These links should be checked and verified periodically to make sure that they are still accurate.

**VIII. Control Panel**

The Control Panel has various radio buttons and when clicked, these buttons will modify the source of the third i-frame, referred to as the Viewing Pane. This situation is similar to the relationship between the Connection Speed and the first i-frame for the Player. And again, the files for the Control Panel are located in the *webcast\_files* subdirectory folder.

If you need to update the information that appears for a presenter, moderator, or the downloadable documents (agenda, evaluation form, slides and tips), you will need to modify the following files:

Control Panel files
<a href="#">presenter1.asp</a> – <a href="#">presenter7.asp</a> <a href="#">agenda.asp</a> <a href="#">slides.asp</a> <a href="#">tips.asp</a>

**Note:** Be sure to update the Audio Bridge number(s) on the following pages: [conn\\_problems.asp](#), [slides.asp](#), and [tips.asp](#).

**IX. Viewing Pane**

The information that is displayed in the viewing pane is determined by the radio button that is active in the control panel. It is common that the [agenda.asp](#) page be set as the default source prior to the broadcast. The default source of the

Viewing Pane is then changed the day of the broadcasts to be the slides. For additional information visit the Control Panel section (VIII).

**Note:** Java is required in order for the user to view the slides using the Java Applet

## Slides

Slides are typically created in PowerPoint and sent to the studio for TV formatting. For the webcast slidestream, slides are prepared in PowerPoint, exported, manipulated, and then served with the Jwebpresenter java program from the <http://www.ncsu.edu/project/cteonline> webspace.

This has typically involved two slide streams

-720x540

-360x270

CTE provides an instruction sheet to presenters and traditionally distributes this by email during pre-production phone conversations.

The general guidelines are (courtesy of APT)

Please tell the people creating PowerPoint that all text and images should fit inside a box with the following dimensions:

**Size:**

Height: 6.09"

Width: 8"

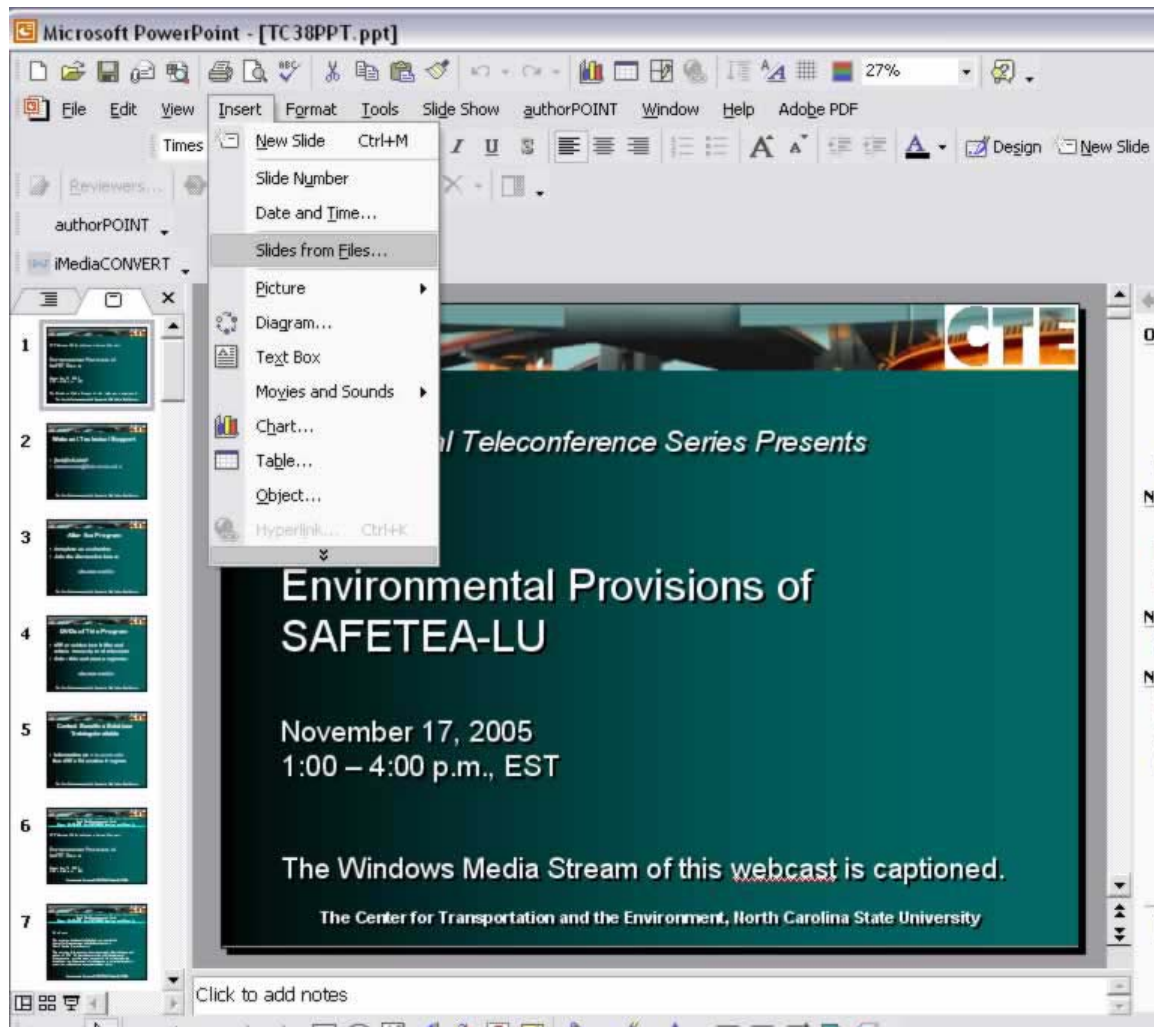
**Position:**

Horizontal: 1.08" from Left Corner

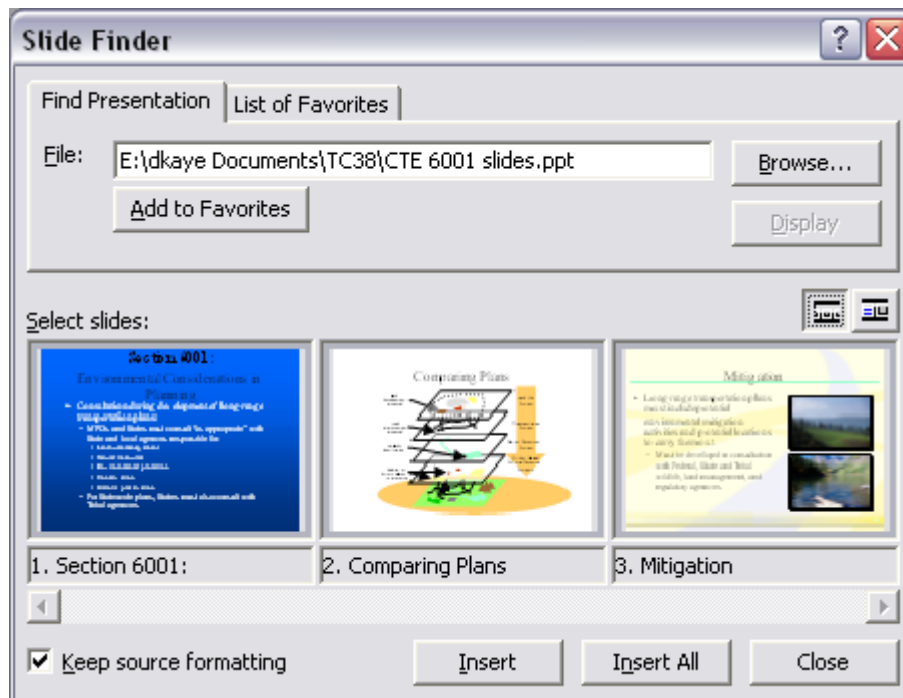
Vertical: 0.83" from Left Corner

If they use the drawing toolbar (usually at the bottom of the PowerPoint window) to draw a rectangle on the slide, they can right click on the box they drew and select "properties" from the submenu that appears. The dialog box that appears will have several tabs, two of which are "Size" and "Position". The numbers above can be manually typed in to match the values above. The resulting box on the slide is in the exact same size and position as the title safe box for our system.

CTE Webcast Slides (intro, presenter, break, reference slides) should be created into one PowerPoint file. Open PowerPoint, choose to insert files into a presentation by going to the "Insert" Menu.



In the slide finder, locate the set of slides that should be inserted into the presentation. Choose the Keep source formatting box to preserve the presenters background and look. You may also choose individual slides by highlighting only the slides that you wish. An outline view may also be selected. Press either the "Insert" or "Insert All" button to add the slides to the compiled presentation.



Rearrange and edit as necessary. It may be helpful to edit the slide master for CTE based slides to adjust the Program title, contact information and program date.

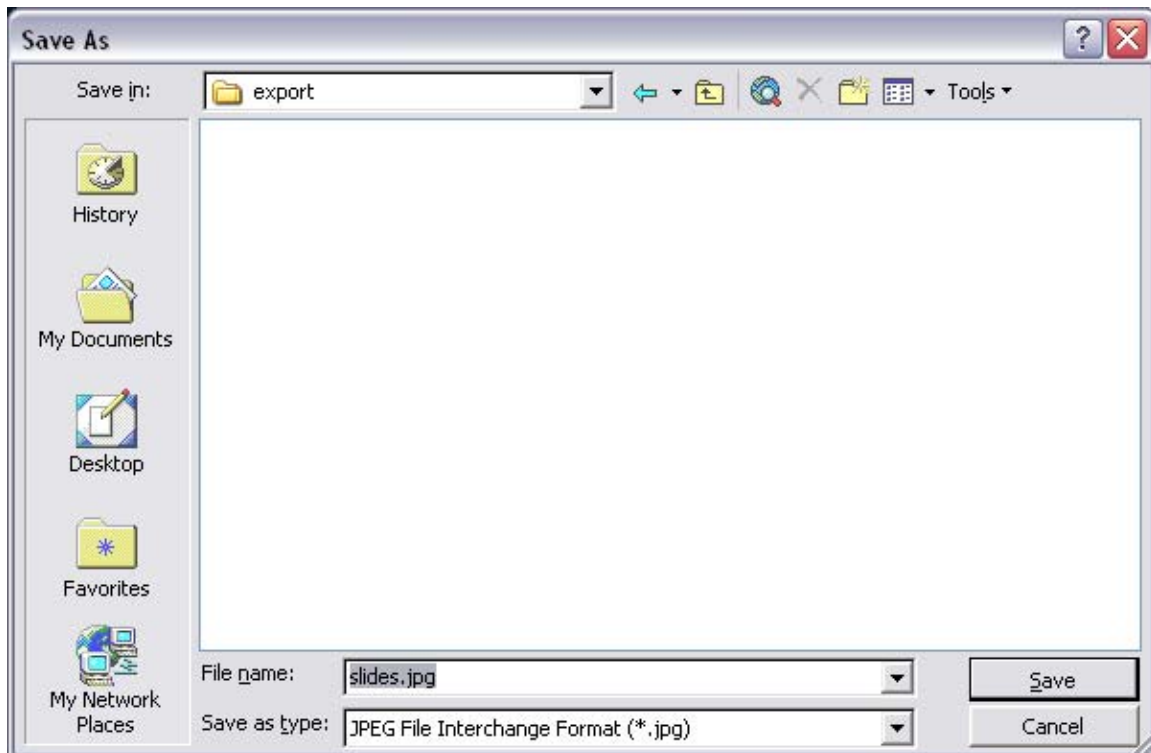
For the slidestream, the files are:

1. exported as jpg files
1. resized
2. renamed.

This can be accomplished in a variety of ways. The CTE Distance Learning Specialist utilized PowerPoint's export capabilities, Macromedia Fireworks, and Jim Wilshire's Bulk Rename Utility (<http://www.bulkrenameutility.co.uk>).

## ***Exporting from PowerPoint***

After the files are compiled and edited, go to the File>Save As > menu  
 Select "JPEG File Interchange Format" from the second drop down box  
 Rename files as slides.jpg in the first blank



Choose to export every slide. PowerPoint by default will save the files as 720x540 pixels. This can only be adjusted in the registry in Office XP and 2003. By default, the resolution will be okay for the 720x540 slide stream.

## Resizing

You will need two sets of slides. One will be formatted for 720x540 and the other will be formatted for 360x270. The slides will also need to follow a certain naming convention, where y=the slide number. You may keep the original export set, but should use a graphic tool with batch processing capabilities. Macromedia Fireworks offers this capability from the File menu. Once your two sets are complete, you'll need to name your files.

## Renaming

	Resolution	Naming Convention
Slide stream one	720x540	slide-1-y.jpg ex. slide-1-1.jpg, slide-1-2.jpg, slide-1-3.jpg
Slide steam two	360x270	slide-2-y.jpg ex. slide-2-1.jpg, slide-2-2.jpg, slide-2-2.jpg

The slide files can be renamed with any renaming utility. Jim Wilsher's tool allows files to be manipulated graphically with regular perl expressions. Any renaming tool will work, or you may use NCSU's unity tools, if you are inclined.

## Uploading the files to the CTEONLINE locker space.

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc



## CTEONLINE PROJECT SPACE – Draft 10/7/2005

CTE has purchased 1GB of locker space on the Unity file servers. This was set up to alleviate file storage and applications that were being saved and accessed in Dave Kaye's unity file space. Among these were web forms and the teleconference slide show presentation system. This will provide a long term solution for CTE business applications and a more robust system. The calendar program could also be moved to the storage space.

CTEONLINE be used for web development and storage space outside of normal CTE/ITRE services. Its main intention is for support of online CTE programs. In particular, it will support web meeting space, php applications, live meta file links for webcasts, and common storage for web forms and data that need group access.

The file space can be accessed by logging into your unity account with putty.

```
Hostname:ssh.ncsu.edu
User: yourunity_id
Password: your password
```

You'll need to get to the cteonline locker. This is directory: /afs/unity.ncsu.edu/web/c/cteonline/  
You would issue a cd (change directory) to get to the file area.

Currently Walt, Vanessa, Katie, Cynthia, Lisa G., Anne, and Dave have access to the space.  
Other unity users can be added with afs file commands.

See [http://www.ncsu.edu/it/cd2004/cd\\_content/eosguide/eos/guide/permissions.html](http://www.ncsu.edu/it/cd2004/cd_content/eosguide/eos/guide/permissions.html) for information on viewing and changing permissions. Currently, Dave, Anne, Katie, and Lisa have full rights permissions on the directory and can add others.

To create a link to the directory for ftp or normal file access, you would change your directory to your home directory by issuing the command  
cd \$home <return>

Create a symbolic link (a shortcut) by issuing the command  
ln -s /afs/unity.ncsu.edu/web/c/cteonline/ cteonline <return>

in this case, your soft or symbolic link is called cteonline and you can then

```
cd cteonline
```

or

ftp to <ftp://ftp.ncsu.edu>. Internet explorer does not fully support soft links. Please use another ftp client. Some popular products are WS-FTP and filezilla and Dreamweaver's built-in ftp/sftp client. The Distance Learning Specialist preferred WSCP, but this required accessing the locker through sftp (secure ftp through ssh.ncsu.edu)

Whichever manner you choose, login with your unity id and password. You can then click on the cteonline directory to get to the folder. As appropriate, download the files to your workstation, modify and upload them.

Inside the cteonline are four directories:

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

backups (Dave SQL and Calendar backups)  
htdocs (web directory corresponding to <http://ncsu.edu/project/cteonline/>)  
private (development directory - storage space)  
webforms (location for CTE web forms for dvd orders, teleconference evaluations..)

You'll need to choose htdocs and then the slides directory. Place the jpeg files in the directory. The directory and the jpg files should have at least read permissions. If unfamiliar, research chmod for unix.

## ***Running the Slideshow***

**Jwebpresenter Information (<http://sourceforge.net/projects/zhao> and <http://zhao.sourceforge.net/> )**

**To launch jwebpresenter, you'll need to use putty or a unix terminal. Download putty, if you do not have it and connect to ssh.ncsu.edu with your unity id and password. Get to the cteonline space through the afs space and cd to /htdocs/slides/**

**Start the perl script, by entering the command `“./slideshow.pl”`**

**Advance the slides by typing the appropriate slide number. Output is generated and viewed on the live webcast pages. To check the slides, your computer should have java installed (<http://www.java.com>)**

- Setting a variable that would delay the slide change

Yes, as you said, this can be done by modifying the slideshow script. Say, put a 'sleep 30'; right before 'print "OK. Slide number = \$SEQ.\n";'

Note: Thus, the text would be sleep 30;  
Chmod of file to 777

-It would also be able really cool to be able to have the program write  
> down the times of the slide changes. After the fact, we could couple  
and  
> embed the timings into our real and windows media streams.

This should be not difficult. Where do you need them? Presenter side  
or audience side? And how do you use them? Is a simple text file fine?

Regards,

Liang

## ***Production Encoding Software and Hardware***

CTE has purchased several pieces of hardware and software to aid in live webcasts and webcast archives. Although CTE can offer turn-key live webcasting, our vendor service providers offer some of the tools to aid in accomplishing encoding and serving. In some facets, it is easier to allow a vendor to use its own encoding hardware and manpower to accomplish the encoding tasks. This minimizes labor, transport, and configuration of hardware and transitions responsibility to vendors. Software cds, licenses are available in the appendix and the shelves of 3614B

Software	Purpose	Location		Notes
Helix Producer 9 (Real)	Live/Archive	itre163	Commercial	Real 9 < Can use file or capture system as source
Real Producer 10 (Real)	Live/Archive	ltre184	Commercial	Real 10<, not installed Can use file or capture system as source
Producer Rmeditor Rmbatch Rmevents  real streams more than audio and video, realpix and realtext are two additional types of streamable/web delivered media			Commercial/ Freeware	Real provides command line for running jobs, editing files and meta data, and inserting events (ex. URL flips). With the commercial, program a graphical editor is provided
Windows Media Encoder 9	Live/Archive	ltre163/itre184	Free	WM Can use file or capture system as source
Windows Media File Editor, Profile Editor, Stream Editor WMVappend	Rudimentary File modification, thinning, merging, editing  Part of WMSDK	ltre163/itre184	File	
Simulstream	System Tool	ITRE184(installed) ltre163 (not installed)	Commercial	output multiple instances of audio and video data from Osprey2xx source to multiple applications
Canopus ProCoder (one license)	File Converter, Work Flow, DVD, Archive,	Installed on itre184, itre188	Commercial	Requires USB Key Batch file

	Misc Projects			converter, a/v manipulator – allows avi, dv, wm file transcoding
Roxio Easy Media Creator (two licenses)	Swiss Army Tool for Capture, Authoring, burning, ISO imaging/reading	ITRE184	Commercial	Timer DV/mpeg2 capture available, DV is type 1 (can be converted)
Adobe Premiere Pro (v. 1) (two licenses)	Raw or DV file capture and Editor	ITRE184, ITRE163	Commercial	DV files are type 2 CTE owns Classroom in A Book
Adobe Encore Pro (v. 1.01) (two licenses) <b>with 1.5 upgrade owned</b>	DVD Authoring Environment	ITRE184	Commercial	Accepts type 2 DV files, 720x 480 mpeg2 files CTE owns Classroom in A Book
Adobe After Effects 6.0 (two licenses)	Animation and Video Effects Generation	ITRE184	Commercial	Design Library has Classroom in A Book
Adobe Audition	Sound Track generator	ITRE184	Commercial	NetLibrary owns Classroom in A Book
Photoshop CS2	Menu editing for DVDs	ITRE184	Commercial	CTE has created .psd templates for DVD menus Aspect Ratio should be set to D1/Video Square Pixels
Camtasia	Screen Recording Software	ITRE184	Commercial	Exports in Flash, WM, Real, QT Allows for editing, hotspots, annotation and live workstation streaming
ULead Video Studio	Capture, Editing, DVD creation software for Belkin Easy DVD creator ( USB Device	Portable	Commercial	Support documentation on Belkin CD (CTE wallet)
Imedia Convert	Convert Narrated PPT files to Flash Audio files	One License NTR-M49V775IV45E <a href="http://www.imediasoft.com">http://www.imediasoft.com</a>	Commercial	
Macromedia Studio MX 2004	Dreamweaver Fireworks	2 Licenses for Video 163 and Video184		

	Flash Professional Freehand			
Acrobat 6.0		Video184		

Hardware Name	Location	Purpose	Notes
Osprey 200	ITRE184, ITRE 163(to be installed)	Analog Source, Composite or S-Video for live webcasting or file capture	Generally useful for web video and all live webcasting. This PCI card should be used with the Simulstream software, which is by default in operation.
Canopus ADVC-100 (CTE owns two devices)	Unit 1 Portable Unit 2 Portable	AVI <>DV Conversion	Allows analog source (ex. VCR, DVD player) to be captured through DV port. Video can be captured in Premiere, Easy Media Creator, WM Encoder, Real Producer or any program that can use a firewire source. This device works on macs and pcs
Belkin Easy DVD Creator – USB Breakout Cable	Portable	Analog Video Capture for DVD creation or quick capture on machines without firewire or Osprey cards  Includes mini-y stereo cable to be attached to sound card	Install with Belkin Hi-Speed USB 2.0 DVD Creator (CTE CD Wallet)  Comes with ULead Video Studio
Osprey 100	ITRE188	Currently a test card for ad-hoc capture and testing	Drivers available from <a href="http://www.viewcast.com">http://www.viewcast.com</a>
Osprey 100	ITRE163	Previously used for production for EPA broadcasts	Drivers available from <a href="http://www.viewcast.com">http://www.viewcast.com</a>
Sony Video Camera	Portable -Admin Assistant Checkout	Tapes can be digitized through the camcorder and edited to/from any workstation/laptop with a firwire port	Unit can also be used as an analog<>translator through the breakout cable and menu system
Toshiba DVD Player and Remote	Portable		
Silver JVC S-VHS Deck	Distance Learning Specialist Office		
Black JVC S-VHS	TSA Office		
Toshiba Video Playback with VCR	TSA Office		
Cable Electronics Distribution AMP	Portable		Used to split analog signal to multiple outputs. Unit

CE-Model 400			supports 4 composite outputs.
Manfroto Tripod and Head	Distance Learning Specialist Office	Camera Stability	For use with Sony Video Camera
Samson UHF Series One	Distance Learning Specialist Office	To be used for narrated PowerPoint, mobile video production and PA	Includes XLR, mini-out, and headphone jack, Requires 9volt batteries for transmitter and receiver (or a/c adaptor that CTE owns)  Camera bracket on site and available for use
Sony Digital Camera and 512 MB memory card	Check out from CTE Support		
Lacie 240 GB Hard Drive	Mobile	Use for capturing video at studio with Premiere on a laptop, backup and file transfer to server	USB 2.0, FW 400 and 800 interfaces

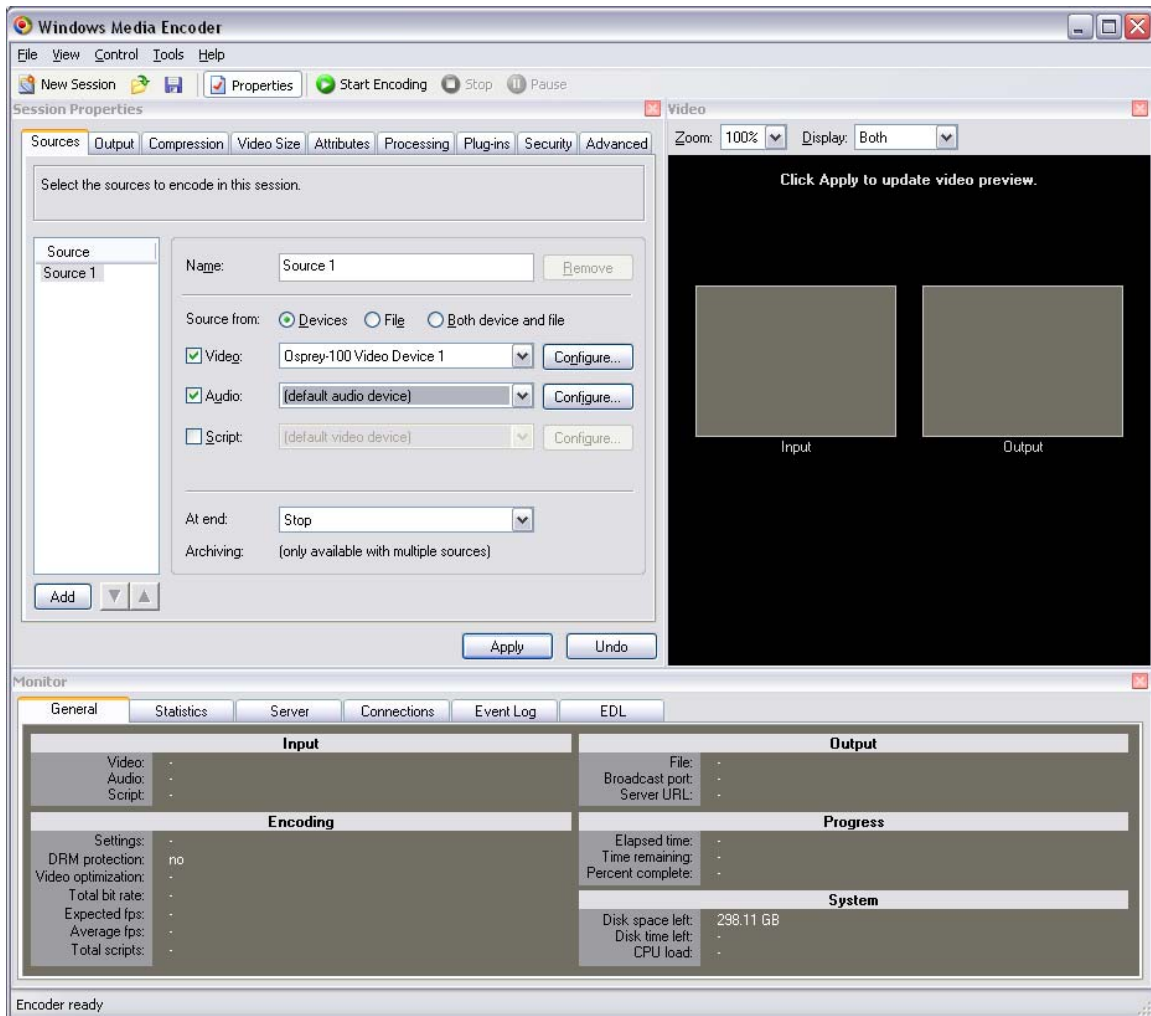
## **Video Encoding**

Live video encoding should use Windows Media Encoder for Windows Media and the Helix or Real Producer for Real Media. It is also possible to create archive files with the software independent or in conjunction with live streams. For workflow in trying to get an archive stream on the server after a webcast, this is almost always the fastest way to make a file. However, best results occur, when an uncompressed or efficiently compressed (dv/avi) file is available and can be compressed into wmv or rm files. This can be accomplished in Real Producer, or Windows Media Encoder. Ideally, [Canopus ProCoder](#) would help with the automation and manipulation of the archive files. It can also generate an mp3 file for the archive (suggested).

### Windows Media

Launch Windows Media Encoder from the Start menu. By default, the “new session” wizard starts. It is permissible to use the Windows Media encoder’s default settings. However, experience has shown that a customized session and profile work best for CTE clients. In particular, CTE offers one multi-bitrate stream, a modem stream, and an audio only stream. Each of these items will need to be created in separate Windows Media encoder jobs and profiles. Because CTE owns a license of Simulstream, it is possible to reuse the Osprey 210 capture source. Once a profile is established, it can be reused to avoid recreating the process for every webcast. However, any meta data that is entered in the “Attributes” section should be checked and adjusted.

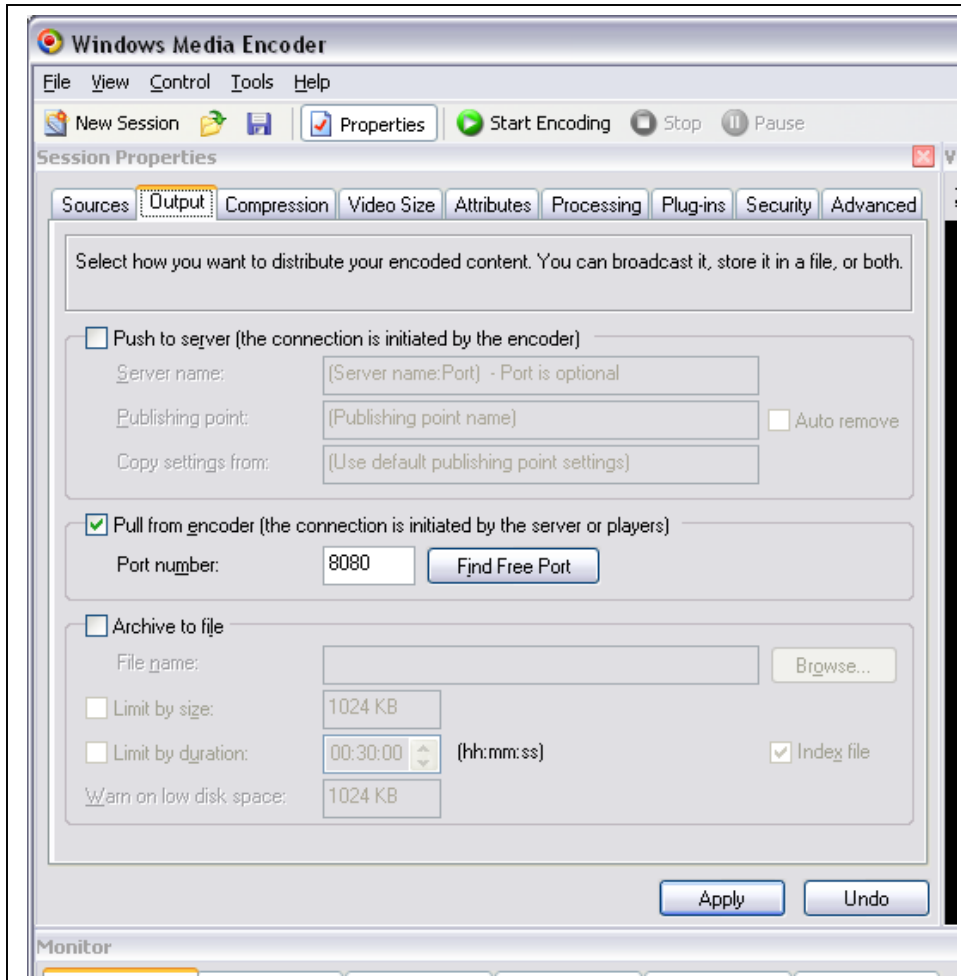
Start by canceling out of the wizard to create a Windows Media Profile. Select the Properties button and then the proper video and audio sources. If you plan to use closed captioning, you will need to select the Script option, too and configure the Osprey card. In many cases, the Osprey card will auto recognize captions. Because of false negative results, check the stream and captions through the Windows Media Player (turn on the capture settings). Be sure to use a source with captions. You will select the “Script” box in the Sources dialogue box and the Osprey card.





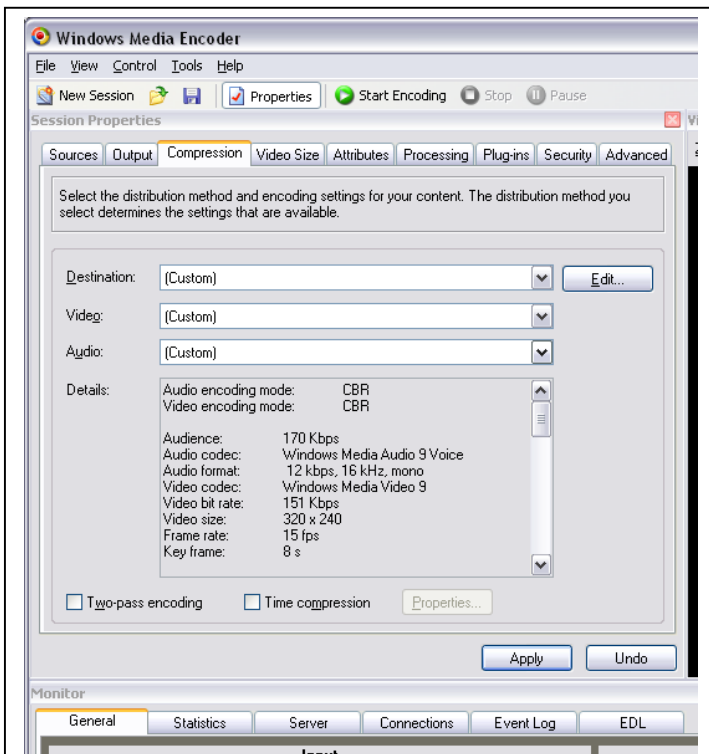
Choose the appropriate output(s). Select the “Pull” from encoder and select a port that can be reached (check if a firewall is in operation). In general, port 80 is good place to start. If you or encoding multiple jobs. For each job, you will need an available port. These will also need to be set on the streaming server. If you wish to archive the file on the workstation, choose “Archive to file” and an appropriate directory. You’ll need to make sure that you have enough space. Be sure to only save to a local drive. In general, it is best to save to a drive other than c: (the OS drive). There are additional options to limit by recording length, too.

**Tip: If a live webcast is saved to a file “Output” tab, it will allow CTE to publish the stream quickly to the web archive. The start and stop points can be trimmed with Windows Media File Editor or controlled with an asx file (without manipulating the file).**

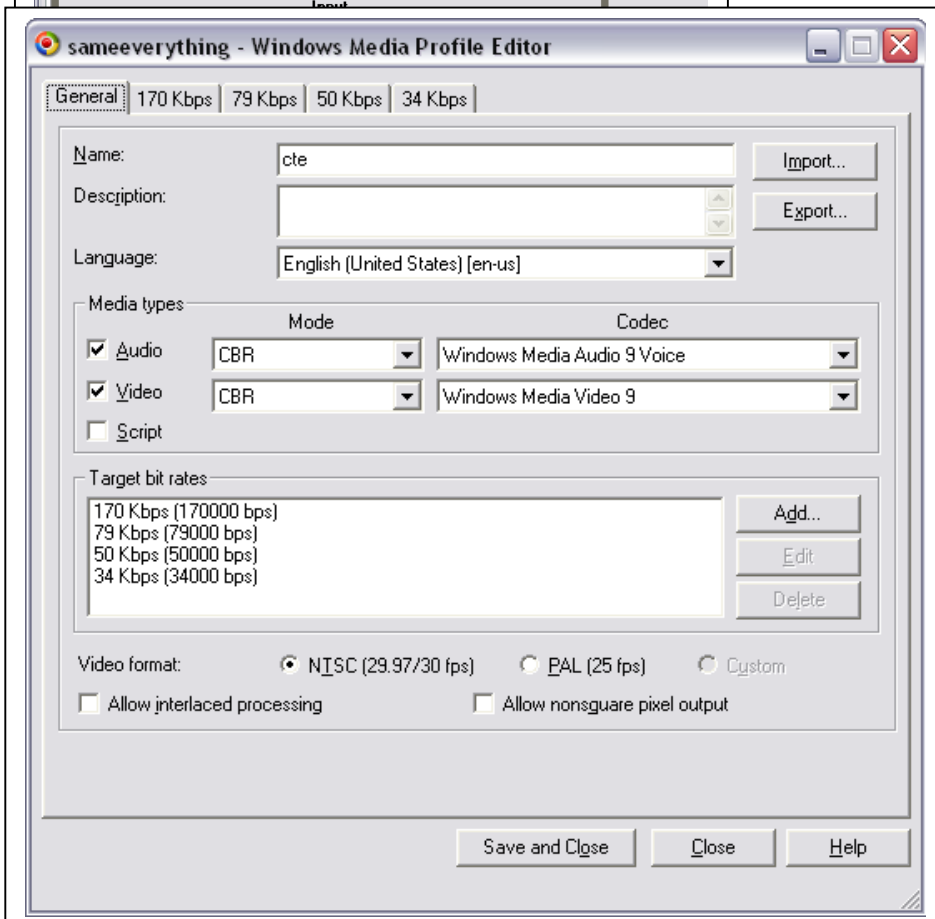


Note: it is possible to push authenticate to a server. It is generally thought to be more reliable to have the server pull streams. This also hopes with redundancy with CDNs. As of 7/2005, push encoding seemed to work only with port 80 on a helix server. This configuration would sacrifice port 80 streaming (setting that allows for best firewall penetration). CTE has tested push

to a Windows 2003 server, but not to stream102.



By clicking the Edit button, you can set-up a customized profile for one or several bandwidths. Note: if you encode for a multibitrate stream, all of the bandwidths and frame sizes must use the same attributes.

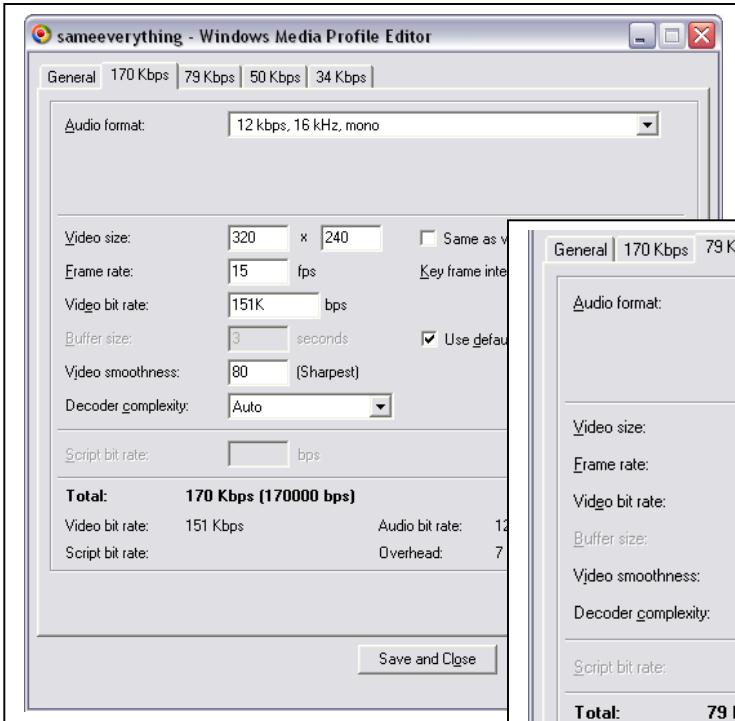


In the profile editor, it is possible to import and export the profile information that is independent of any other property. This can dramatically save in development time. Additionally, the profiles that are saved with \*.prx suffixes can be brought into Canopus ProCoder, which has limited ability to configure profiles.

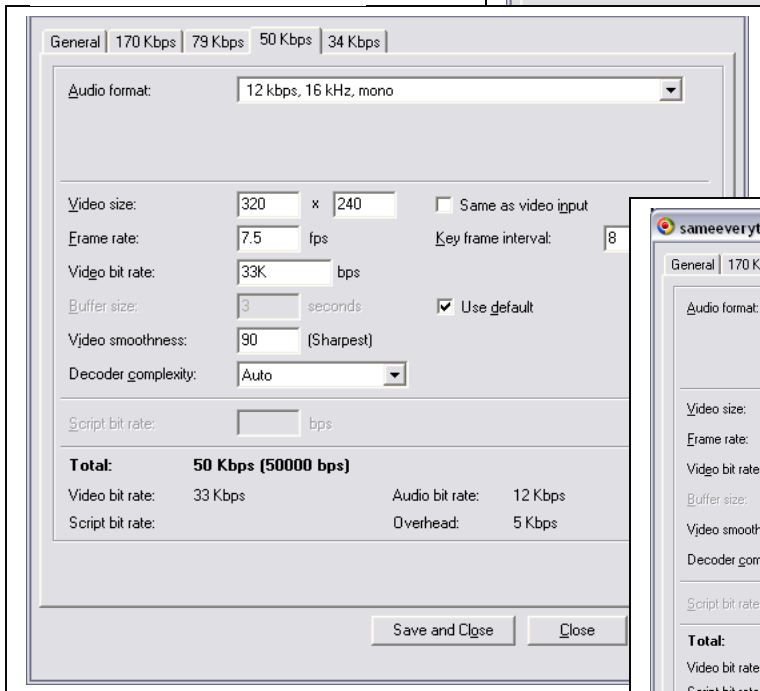
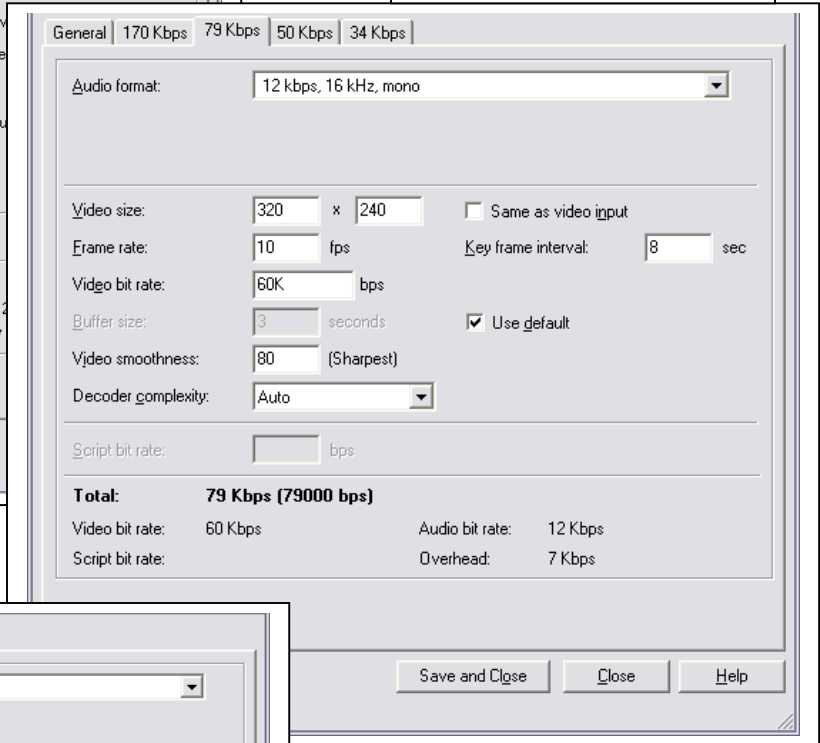
The types of profiles generated for CTE live webcasts are contingent on available bandwidth out of the production facility, and the aggregate of redundant encodings (Real, Windows, multi-bitrate (MBR), surestream)

For a windows MBR, it is advisable to encode at 320x240 pixels and at 20kbps for audio.

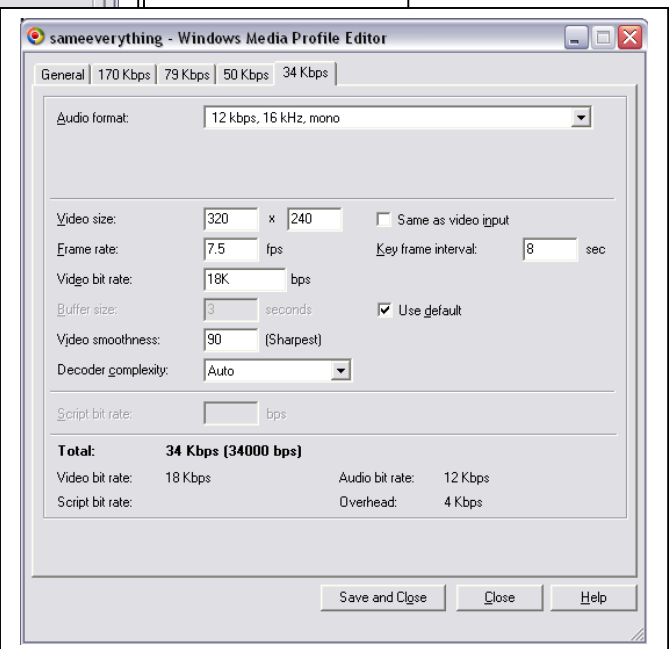
**15 fps for a 150kb > stream**

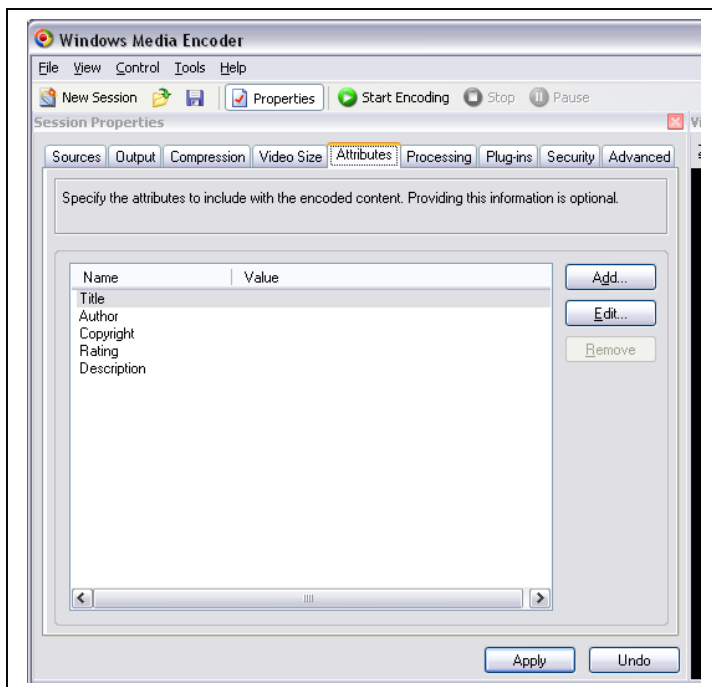


**10fps for 100-70kb**



With a 34kb stream, the majority of the stream is audio. If you are lucky, 1 fps would be a worthy target. Usually, you need to create a modem only stream.





It will be rare that the Video Size, Processing, Plug-Ins, Security or Advanced tabs will be accessed. The **Attributes** tab contains metadata information. This information will show up in the Windows Media Player or Plugin, when a user plays back files. If this information is set to anything non-generic, it should be updated for any new recordings to insure that participants are not confused by inaccurate program information. Additionally, search engines and eventually CTE may catalog or make videos searchable from this information. Click the **Apply** button.

### Saving the Session

If you wish to use the session on multiple computers or again, be sure to save it. This is useful, if you are having another organization encoder for CTE. You may wish to provide both profile and session to the external agency. With WUNC-TV, CTE has found that the Osprey 500 series card that it uses does not handle captions or scripting in the same way as the Osprey 200 series. The Sessions are saved as \*.wme files. This is different than the \*.prx (profile setting), which is also stored inside the session.

### Starting the Recording.

Press the Start Recording button to begin recording. You may be warned that anyone can connect to the workstation. This is generally okay. You want to make sure that only the appropriate servers are pulling the stream or for testing purposes another player can pull the stream. To circumvent this, firewalls are usually utilized.

### Live streams

For most live productions, CTE creates three streams:

Multibitrate for multiple audiences – 320x240 with the multiple bit rate settings listed previously.

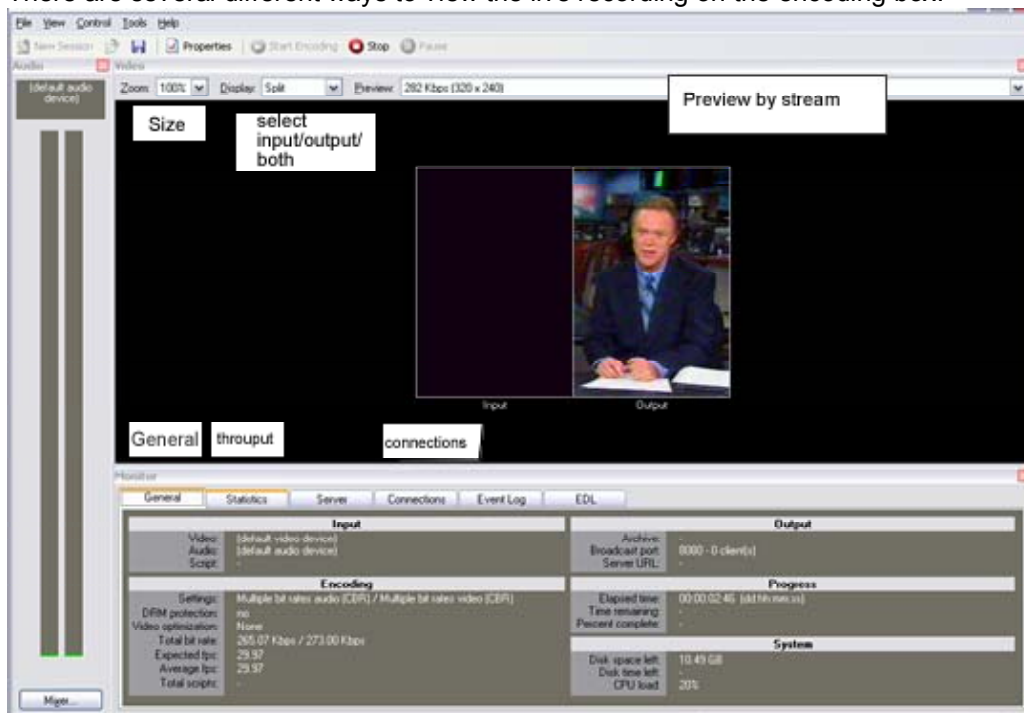
Modem for lower bandwidth -160x120 with a frame rate < 5 fps

Audio @ < 20kb

On the live web interface, several additional stream bandwidths are created. There are only three profiles in use. The broadband setting is thinned with Additional Query Strings in the linked asx files. See <http://support.microsoft.com/kb/315959> for more information.

## Monitoring the Recording

There are several different ways to view the live recording on the encoding box.

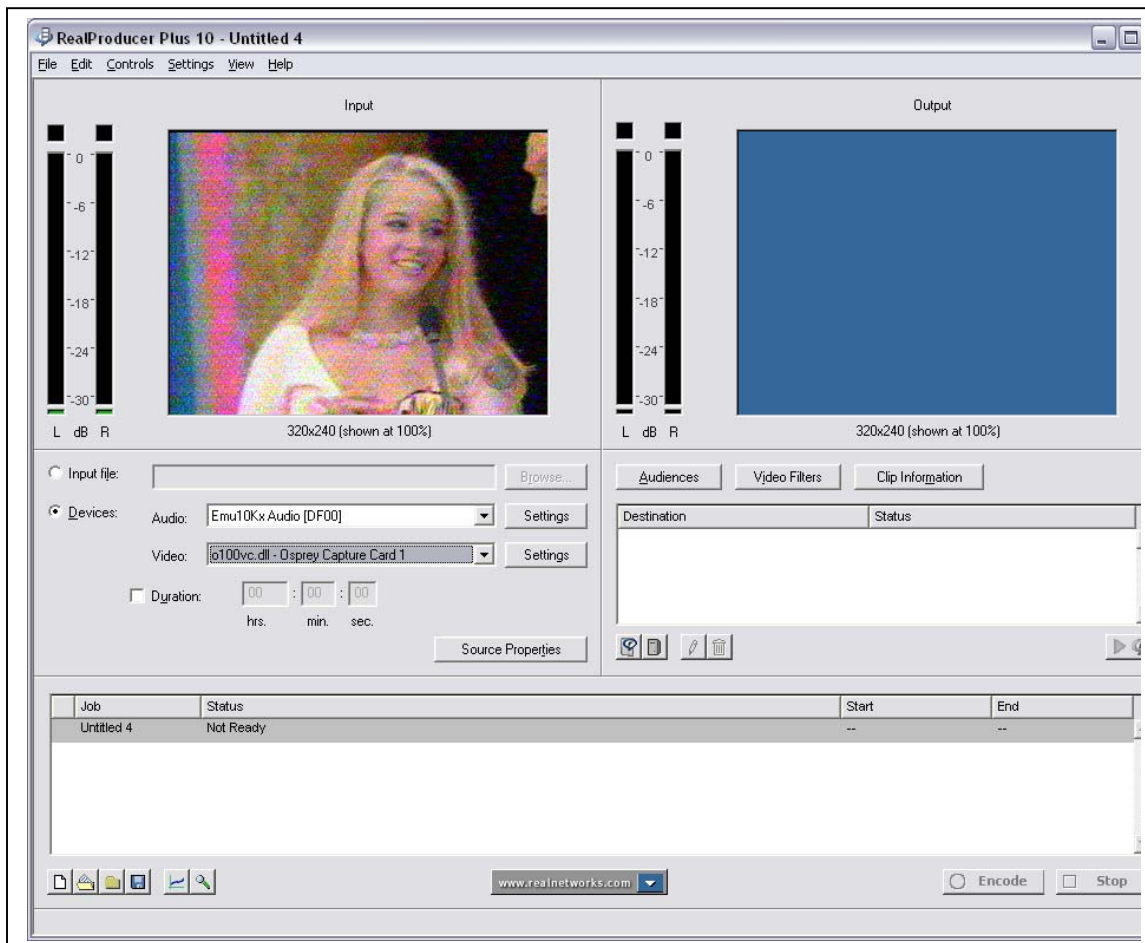


## Stopping the Recording

Press the Stop button to end recording. If you have created an archive file, you may test the playback of the file, after it is finished indexing. You may wish to either rename, relocate it to an archive server (video on demand) or edit the file with the Windows Media Editor.

## ***Real Producer (v 10)/Helix Producer (v 9.0)***

Launch Real/Helix Producer



On launching Real Producer, you must either choose a source (input file or Device) or open an existing job. Jobs are accessed from the File menu. Sources are selected in the middle of the Real Producer interface. In most cases, a live input will be used and selected from the Device area. On most of the CTE machines, this is the Osprey 200. However a firewire device, sound card or Osprey 100 card can be selected from the appropriate pull down menus. It is possible to encode audio, video or both. Input files can be wmv, avi, or mpeg files. Real Media files (.rm) can not be used as file sources.

The Settings buttons allow for customization of audio and video.

### **Adjusting Audio**

For audio, it is possible to choose audio ports (be sure to have the proper Recording control panel selected versus the Playback). If you have problems with audio, make sure that the correct audio source is selected on the proper audio card. On boxes with Osprey 200, there are two sound cards available. Real also provides a way to adjust gain in the vendor provided area.

### **Adjusting Video**

There are three options available from the Video Settings button.

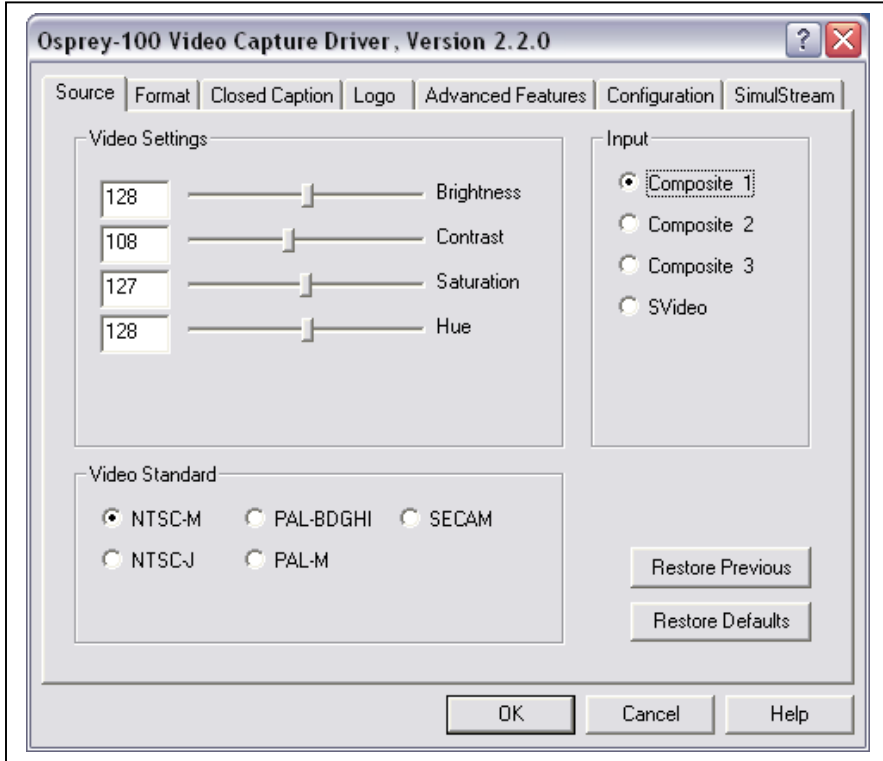
ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

DirectShow Video Filter – provides a snapshot of current video settings

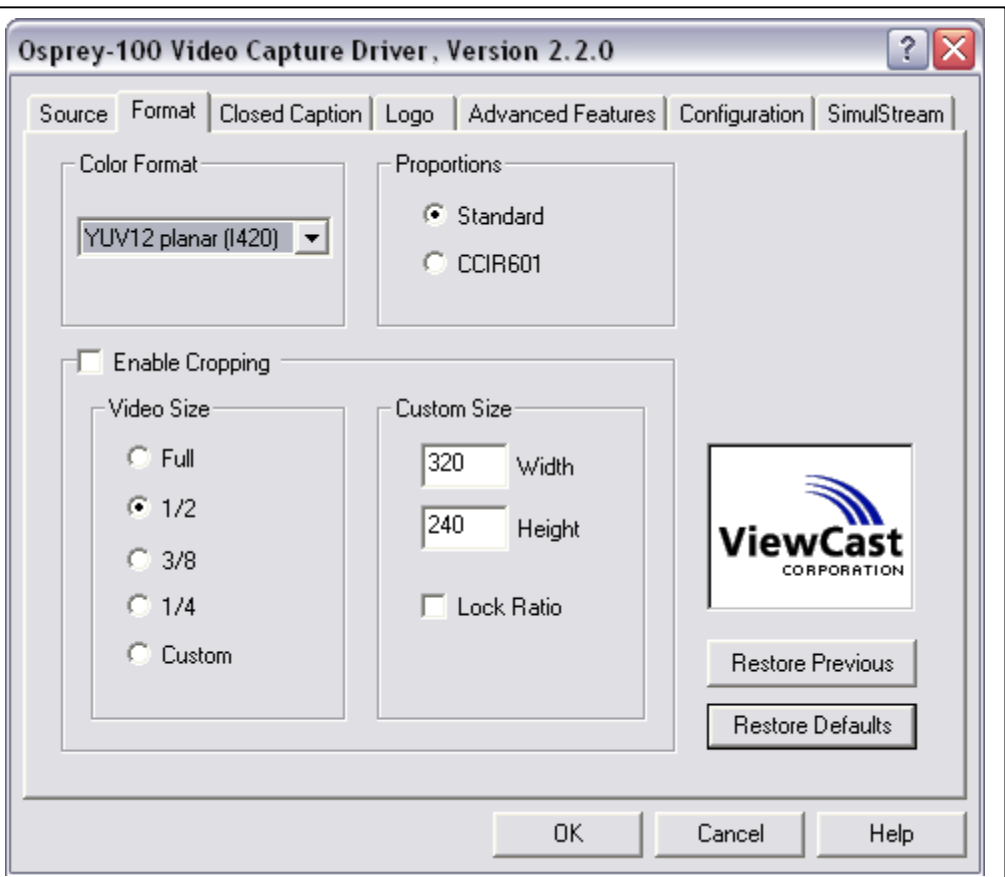
VFW – Video Format for Windows provides access to the Osprey Video Capture Driver Control Panel (opens to the format tab)

VFW Source - Video Format for Windows provides access to the Osprey Video Capture Driver Control Panel (opens to the source tab)

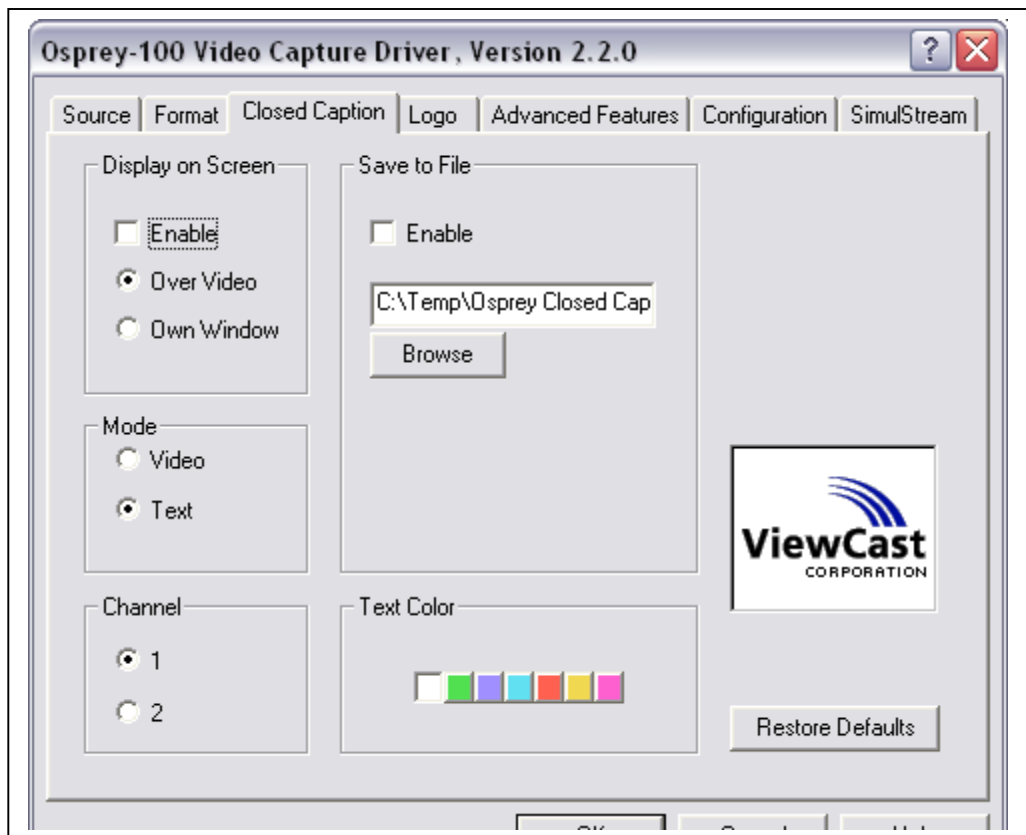


This diagrams show an Osprey 100 control panel. The settings for the 200 are slightly different.

In this dialogue box, it is possible to adjust the chrominance and luminance and select the video card's input. Any changes should be submitted by pressing the ok button.



In the format tab, generally the color format should be set to IYUV/I420 or YUV12planar(I420), a format natively supported by Real Producer. Other formats are permissible. Cropping is permissible, but generally not used. Set the video size to 1/2, which is equivalent to 320x240 pixels.



The Osprey 100/200 video capture cards support Close Captioning via video overlay. If this option is selected, the card will superimpose captions over the video. The card can also capture captions to a file, by enabling save to file.

### Logo

This feature of the card allows the watermarking or superimposing an image over video. This is comparable to a broadcast bug.

### Advanced Features and Configuration

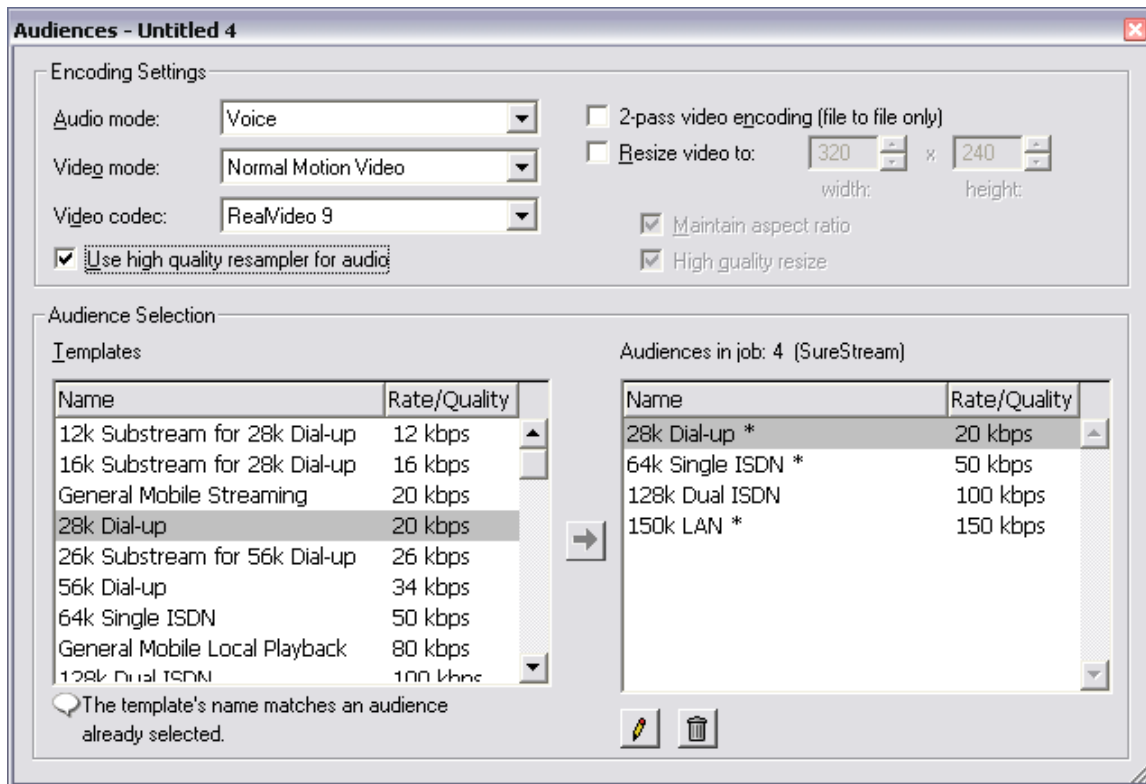
These features are not currently configured by CTE

### Simulstream

This feature is a separate software license that CTE uses with its Osprey 200 cards. It allows one video capture source to be utilized repeatedly. The software key is stored on a floppy disk or in <\\itreserver2\cte> \ITProcedures\WebcastFiles\SimulstreamKeys. If you encounter problems installing the keys, contact Viewcast support as the install program was updated to work with later versions of the Osprey drivers.

Once settings are configured, audiences and destinations should be chosen.





### Selecting Audiences

From the Real Producer main screen, press the audiences button. As with Windows Multibitrate streams, the video size must be consistent for any surestream (multibitrate streams). However, Real Producer adjusts audio bitrates dynamically. Thus, the audio bitrate is not fixed for Real variable bit streams. Frame rates can and should be customized.

Audio tends to be the most important part of a program. In most cases, it is okay to set Audio Mode to music. Video mode can be set to Normal Motion Video and Video Codec should be set RealVideo 9. The 2-pass video encoding is only applicable to encoding from a file. The Resize video to option should only be set, if the source size was not set in the Osprey panel. This would be appropriate if the source was a DV converter.

You might create a profile with 4 speeds that is based off of existing templates. 150kb, 80kb, 50kb and 20kb. We'll use the 150kb corporate lan, 128k Dual ISDN, 64k ISDN and 28k Dialup. Framerates will be customized. To move an audience from the template to Audiences in job, highlight one of the templates and press the arrow button to enter the audience into a job. Double click on the audience name in inside the jobs box and configure as appropriate.

Corporate lan, 15fps, 32kb audio  
 128 Dual Isdn, 10fps, 20kb audio  
 64k Single ISDN, 7.5 fps, 8.5kb audio  
 28k Dial-up, 3fps, 8.5 kb audio

When you have all of the audiences selected that you intend to use, close the audiences box.

For most live productions, CTE creates three streams:  
 Surestream for multiple audiences – 320x240 with the multiple bit rate settings listed previously.  
 Modem for lower bandwidth -160x120 with a frame rate < 5 fps  
 Audio @ < 20kb

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

## Selecting Outputs



Real producer can output files to servers and/or to files

The “r” icon sets a file location on the local pc. Local files must follow proper windows naming conventions.

The computer icon sets a server location. It is possible to designate more than one server location. This is a useful option for redundancy. For CDN webcasts, one additional server should be set from the primary encoder, when bandwidth is available. File naming conventions vary for redundancy. For CTE served live files, file names would follow the pattern filename.rm.#, where # equals the stream number. It is suggested to add .rm for filename consistency.

Ex. scenarioplanning.rm.1  
scenarioplanning.rm.2

The server's firewall should be configured to receive the encoder stream. Most servers block udp traffic. CTE is supporting Push Account and Legacy. Each uses a separate authentication system.

If using a NAT address, click the Advanced Options button and adjust the listen to address. **In some cases, the address should be set to 0.0.0.0.**

Each [CDN](#) handles Real redundancy differently. Contact the appropriate CDN for explanation.

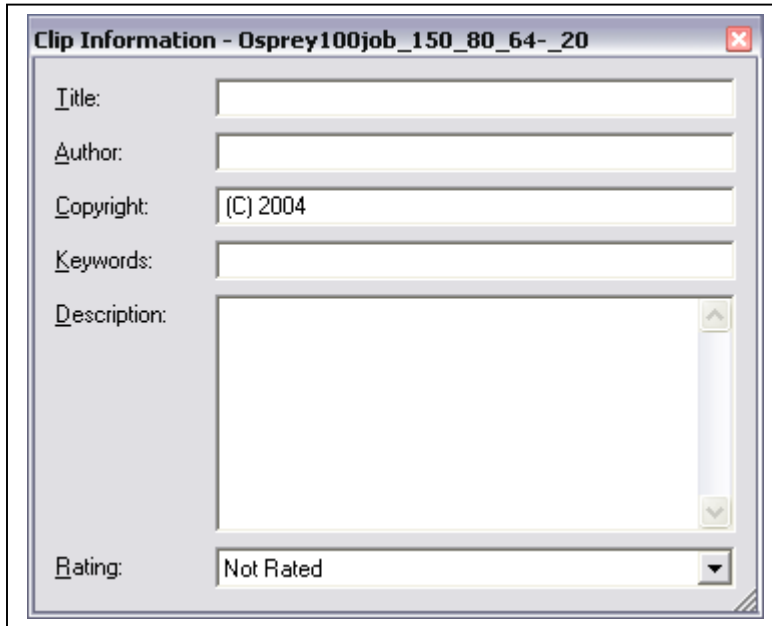
See the appendix for information on servers. Information on other options for encoding and authentication can be found in the Real Producer guide from Real Networks available at <http://service.real.com/help/library/encoders.html#realprouersguide>

You may also add a file output, in addition to adding servers.

**Tip: If a live webcast is saved to a file “Output” tab, it will allow CTE to publish the stream quickly to the web archive. The start and stop points can be trimmed with RMeditor from the Real Producer file menu or at the command line or controlled with a ram file (without manipulating the file).**

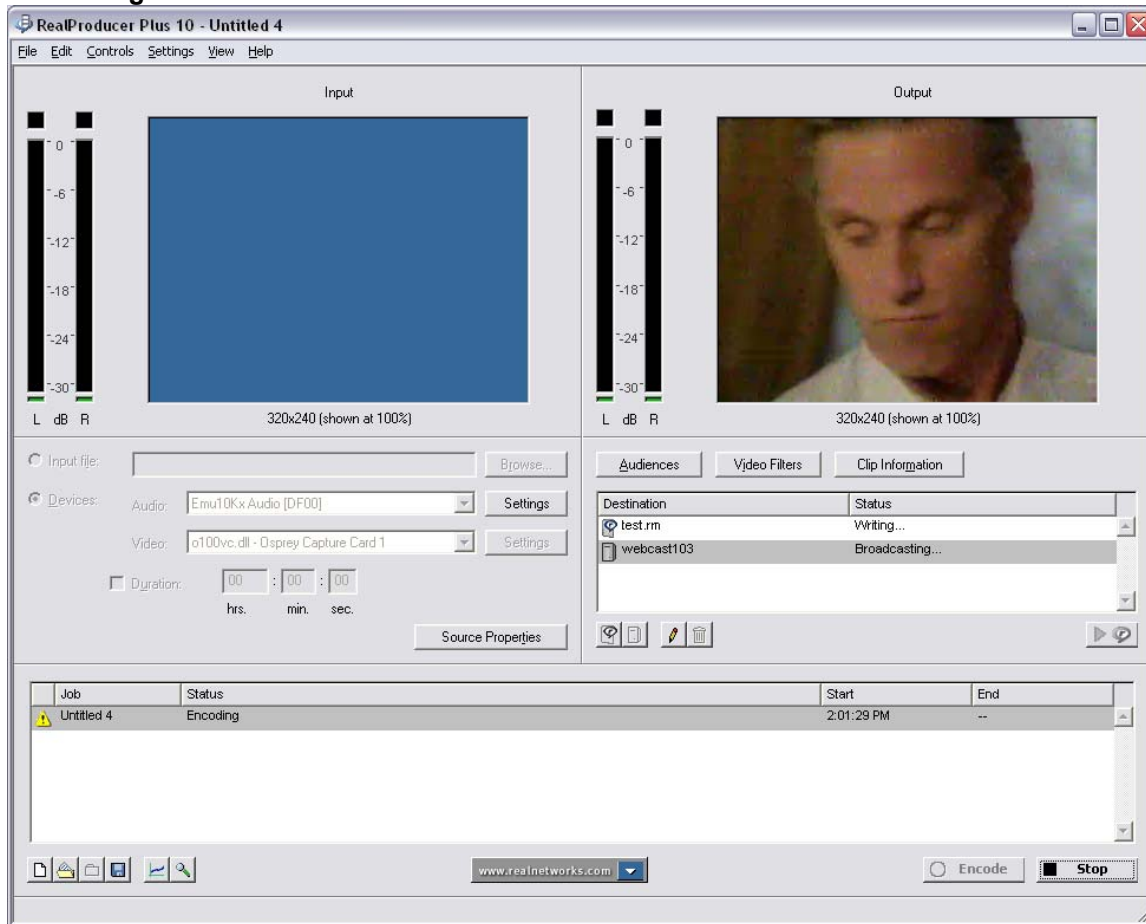
**Video Filters**

This option addresses cropping, which is also addressed in the Osprey control panel.

**Clip Information**

contains metadata information. This information will show up in the Real Player or Plugin, when a user plays back files. If this information is set to anything non-generic, it should be updated for any new recordings to insure that participants are not confused by inaccurate program information. Additionally, search engines and eventually CTE may catalog or make videos searchable from this information. Click the "x" to apply the metadata information. .

## Monitoring the Streams in Real Producer



The Real Producer provides feedback of streams in the Destination area and in the job /status box. Note that several jobs can be in a cue, but only one is operational at a time in the graphical interface. It is possible to run concurrent jobs through the command line. Additional feedback is available from the View menu>Show Statistics and View menu> Show Log.

To save the job settings for future encoding, choose File>Save Job As and save the job with a descriptive name and location.

## Setup of Equipment at APT

Typically, equipment is setup at APT at least one week before broadcast. Contact Latham Hamner and Tammy Martin to arrange setup. Usually parking space 26 can be saved for CTE staff, but this should be arranged with APT staff. Usually a loop promo is authored on dvd and it can be played as a test stream until broadcast. The equipment is usually set-up in studio b. APT was purchasing and testing its own encoding system. This may eliminate some of the setup. Two Ethernet connections should be requested. CTE owns a 100' Ethernet cable and this will be used with one of the networked computers. Four PCs are listed on this page. By using one laptop or pc for encoding to dv, production quality and time is saved for the DVD authoring. This can be done after the program, but would need to be encoded from a DVD or S-VHS tape as CTE does not own any other tape playback systems. The Digital Media lab at DH Hill Library does have a DVCam deck.

## Setup of Additional Encoders

Normally, the additional encoders are located at UNC-TV. Whomever is responsible for the encoding sessions should determine the methods of redundancy and encoder failover order. UNC-TV's setup is for two encoders. Because WM tends to have high traffic, a greater emphasis is established for WM redundancy than Real. One possible setup (to be configured with the CDN) is:

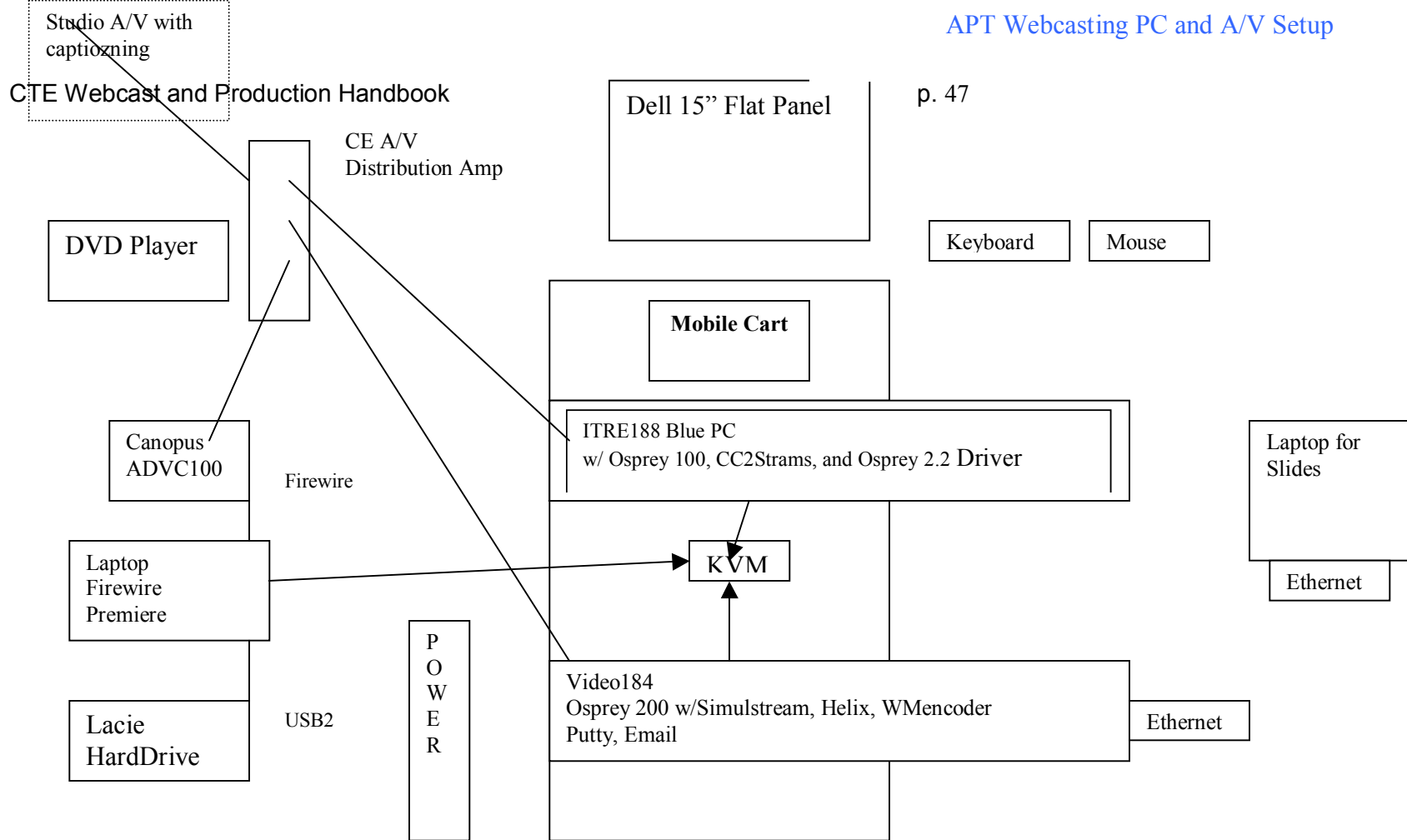
Real Surestream – UNC-TV (redundancy on CDN ingresses)

WM MBR – UNC-TV (primary) APT (secondary)

WM Modem and/or Audio – APT (redundancy on CDN ingresses)

Real Modem and/or Audio – APT (redundancy on CDN ingresses)

There is a limit on the amount of bandwidth out of APT and the number of encoders at UNC-TV. There isn't enough of either resource to make full redundancy on encoders or bandwidth. Failure or degradation of the network at APT is a great concern and has happened during CTE broadcasts. CTE has provided additional test streams that originate out of CTE offices. However, a looping source a/v playback system or broadcast system would be needed, if the dvd player is in use at APT.



Firewall information may vary. It is best to contact the APT engineer for information on the LAN and port forwarding. The ip should be statically set and the NIC set to 100 Full Duplex. In the past, the APT engineer has forwarded

199.90.29.82 port 80	to NAT 192.168.1.5 port 80 WM MBR encode
199.90.29.82 port 81	to NAT 192.168.1.5 port 81 WM modem encode
199.90.29.82 port 82	to NAT 192.168.1.5 port 82 WM audio encode

Router 199.90.29.82 - 192.168.1.1, DNS 149.168.11.11 and 149.168.?11

## Streaming Servers

Depending on the nature of the webcast, a streaming server or content delivery network must be selected. The streaming server will determine how the encoder and server interact. If the webcast is small, it might be possible to stream from CTE's Helix server. Typically for national teleconferences, a CDN is utilized. In most cases, the CDN will provide a web interface for generating account information and meta files.

### CDNs and Service Providers and their account generations systems

EastBay-Speedera, Akamai and TBA, contact Brad Pumphrey at [East Bay for more Information](#).

Nine Systems, configuration through streamos – please visit the [Nine Systems Information](#)

State of NC ITS – generated through Ken Nuebler

NCSU – generated through Earl Shannon

UNC – CIT – generated through Todd Stably

### Configuring Helix Server to Pull a Stream (Windows Media)

To have the CTE pull a stream from a Window Media Encoder, it is necessary for an admin to login to the stream102 server and

**Broadcasting**

- RealNetworks Encoding
- QT & RTP Encoding
- Windows Media Encoding
- Live Archiving
- Broadcast Redundancy

#### Windows Media Encoding HELP

Mount Point\*

Push Encoding Port

Push Encoder Authentication  Create user names and passwords.

Windows Media Sources

dave
itre184

Source Description

Host

Port

Stream Name

\*A server restart is required to effect changes applied to this field.

select the Broadcasting tab and then Windows Media Encoding. In the Windows Media Sources, click the "+" to add a Windows Media Encoder source. Fill out the Source Description and the ip and port information of the encoder. You should also give the stream a name. The .wmv is

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc



optional, but helpful for consistency. Any additions or changes should be submitted by hitting the apply button. You may duplicate a source, but pressing the button to the right of the trash icon (removes a profile). By default, all Windows Media streams should keep the /wmtencoder/ mount point. Changing the mount point for one stream changes all streams. This is not true of a Windows Media Server.

Notes: selected ports must not be blocked by either the originating firewall (Windows 2003) server or a firewall at the encoder's location. The local network administrator may need consulting to open the port. If multiple Windows Media Encoders are being used from the same box or on a NAT address, then each encoder must have its own port. These should match on both encoder and server. Push encoding is not recommended. Please discuss firewall issues with the local studio LAN/Network manager.

#### Example

80 – multibitrate

81 – modem

82 – audio

## ***Web archive - Placing Files on the Server (after the teleconference)***

Currently security is an issue on ITRE servers. In an effort to circumvent threats, all file shares are currently inactive to keep out ICMP requests and traffic. The ITRE LAN administrator or CTE stream102 administrator can turn on the file shares. In the immediate, files can be transferred by CDROM, movable hard drive, or pulled from an alternate location. For example a share can be established from a workstation or an alternate server and the Helix server can mount the share to pull files. This option is untested and may provide too much latency.

## ***Linking Files***

Live file paths and URLs are generated according to the specification of the CDN or streaming servers.

Archived files can be opened directly inside of Real Player or Windows Media by using the following paths

Real – `rtsp://webcast103.itre.ncsu.edu/path/filename.rm`

Where path equals anything off of stream102's "f:\content\" directory

Or `rtsp://webcast103.itre.ncsu.edu/content2/path/filename`

Where path equals anything off of stream102's "f:\real\_content\" directory

Windows Media – <mms://webcast103.itre.ncsu.edu/path/filename.wmv>

Where path equals anything off of stream102's "f:\content\" directory

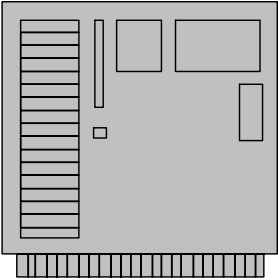
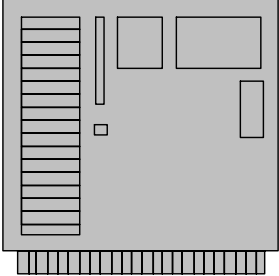
Or `mms://webcast103.itre.ncsu.edu/content2/path/filename`

Where path equals anything off of stream102's "f:\real\_content\" directory

This same url is saved into a text file called a metafile or shortcut file. This metafile is then saved on a webserver (usually webcast102/teleconferences) where it is the object of a hyperlink. Real metafiles are called .ram files and Windows Media files are called .asx files.

## Machines providing services for webcasts

### Server Settings

<p style="text-align: center;"><b>Web SQL</b></p>  <p style="text-align: center;">IIS 6.0 Web SQL2000</p>	<p style="text-align: center;"><b>Unity/WWW Inform (forms) Live Slides</b></p>	<p style="text-align: center;"><b>Streaming</b></p>  <p style="text-align: center;">Streaming All content is on the external drive</p>
<p>Ctweb190 (webserver) Ctweb190.itre2.ad.ncsu.edu</p> <p>Win2003 <a href="http://cte.ncsu.edu">http://cte.ncsu.edu</a> <a href="http://itre.ncsu.edu">http://itre.ncsu.edu</a> <a href="http://webcast102.itre.ncsu.edu">http://webcast102.itre.ncsu.edu</a></p> <p>152.14.30.150 152.14.30.151</p> <p><a href="\\ctweb190\wwwroot">\\ctweb190\wwwroot</a> CTE Folder WEBCAST102 Folder</p>	<p>Currently slides are placed in public www folder where a command line and perl are available. Slides are transferred and accessed through putty.</p> <p>Slides come off of afs space – <a href="http://www.ncsu.edu/project/cteonline/">http://www.ncsu.edu/project/cteonline/</a></p> <p>ssh.ncsu.edu www folder see help.ncsu.edu for setting up a public web space</p>	<p>Stream102 (streaming server) Win2003 <a href="http://webcast103.itre.ncsu.edu">http://webcast103.itre.ncsu.edu</a>(Helix) <a href="http://stream102.itre.ncsu.edu">http://stream102.itre.ncsu.edu</a> (WM)</p> <p>152.14.29.8 Helix 152.14.30.10 (ITRE Network), WM</p> <p>Currently No Shares Established Fshare (when active) Content Real_content2</p>

## Video Archives – Web Pages

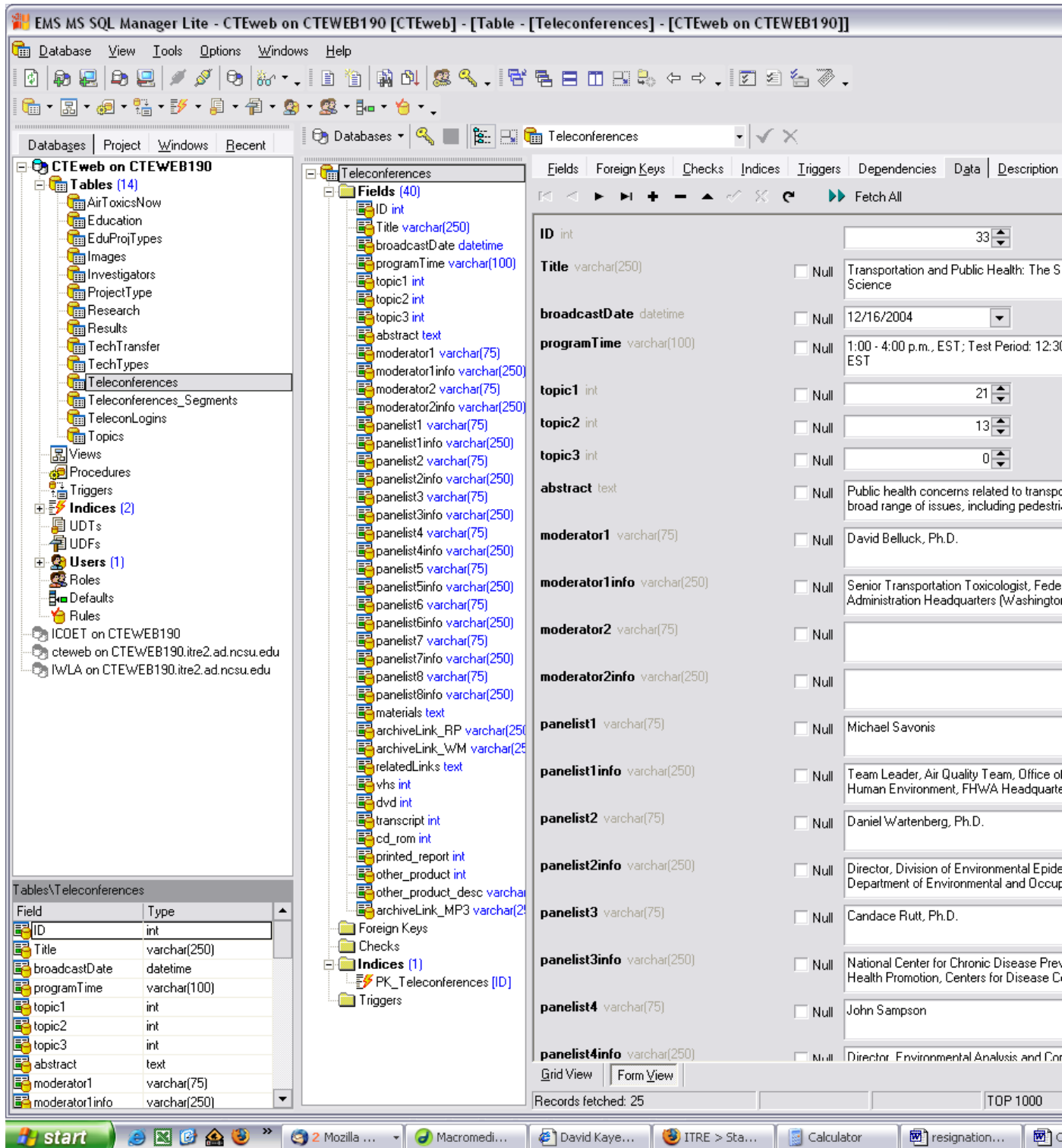
Video files from teleconferences should be placed on the video server on the f drive in the teleconferences folder. The external Lacie drive is a great way to transfer files that were made at the production studio to the video server. Edited or recompressed files can later be replaced on the server.

For the archive (video on demand) page to list a teleconference and its metadata, the information should be entered into the sql database ctweb and teleconferences table. An illustration of EMS MS SQL Lite interface shows the data entry fields. HTML code can be included in the fields, particularly for the handout information.

Ex. <a href="http://www.itre.ncsu.edu/CTE/TechTransfer/Teleconferences/docs/tc33handout.pdf">Program Handout</a> (PDF, 100kb) - for all audiences<br>

<a  
href="http://www.itre.ncsu.edu/CTE/TechTransfer/Teleconferences/docs/tc33slides.pdf"  
>Panelist PowerPoint Slide Handout</a> (PDF, 1.99mb) - for all audiences<br>  
<a  
href="http://www.itre.ncsu.edu/CTE/TechTransfer/Teleconferences/docs/TC33transcript.  
pdf">Program Transcript</a> (PDF, 324KB).

**Note: Information must be entered into this table and at least one clip must be entered int the Teleconferences\_Segments table to avoid getting page errors.**



## Introduction

Pages used in dynamic playlist, captions, and MP3.

webcast.asp  
playreal.asp

ITRESERVER2\CTE  
ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

playwmp.asp  
 playrealcaptions.asp  
 playvideo.asp

### **webcast.asp**

This page has dynamic content for teleconference information based on which link/teleconference is selected on the archive.asp page. This page displays [teleconference #], [teleconference title], [original broadcast date], [abstract], [moderator(s)], [panelist(s)], and [program materials – handouts, slides, etc]; all of the fields displayed on this page use the Teleconferences table located in the CTEWeb190 – cteweb SQL database. If you need to modify any of this information, please do so using the SQL database. [EMS SQL Manager Lite](http://www.sqlmanager.net/en/products/mssql/manager) is a desktop client that can provide a graphical tool for manipulating data in the sql database. It is available for free download from <http://www.sqlmanager.net/en/products/mssql/manager>.

**Note:** Information for a teleconference is entered inside the Teleconferences table. You will get page errors, unless you create at least one clip in the Teleconferences\_Segments table inside the CTE. This can be a segment that plays the program from start to finish.

This page also has a graphic/image of shopping cart and links to view archived files using Real/Windows/MP3 (if available). The shopping cart image will send an email to a couple of CTE staff members; for concerns/questions regarding this, please see Dave Kaye or visit the inform website within the NCSU pages. The archived links look like this:



What you need to be aware of is that the archived links are not automated. The ASP code does a simple check of the fields in the Teleconferences table located in SQL to determine whether or not to display the links. By default, the Real link will always show because that was the first supported Player type of CTE.

```
<td width="80%"><A HREF="playreal.asp?<%= "ID=" &
rsTeleconference.Fields.Item("ID").Value %>">Real Player </a>
  <% If Len(rsTeleconference.Fields.Item("archiveLink_WM").Value) > 2
Then %>
    / <A HREF="playwmp.asp?<%= "ID=" &
rsTeleconference.Fields.Item("ID").Value %>">Windows
Media Player</a>
  <% End If %>
</td>
```

As you can see in the above example, the webcast.asp page checks the Teleconference table for the field called archiveLink\_WM for the corresponding teleconference #. If the

length of the field is greater than 2 characters, then it displays the WM Player link. This same approach will be used for the MP3 player link to display as well.

**playreal.asp**

This page takes in the teleconference ID# and displays the [teleconference title] and [date of broadcast] from the Teleconferences table located in the SQL database. It also displays a listing of the individual segments or playlist which comes from the Teleconferences\_Segments table located in the SQL database.

This page determines if the selected teleconference ID# has captioning available or not. If captioning **is not** available, then this page handles the user request directly and launches the RealPlayer showing the correct segment. If captioning **is** available, then this page will capture the appropriate teleconference ID#, and Program Segment# from the Teleconferences\_Segments table and send the request over to the playrealcaptions.asp page.

**No captioning available**

Then the page will simply concatenate or add the string together and the url will consist of the streamingserver variable (set in the page), start time of segment, end time of segment and title of segment. This will cause the player to automatically launch.

```
<a href="<%= strStreamingServer & "?start=" &
(rsSegment.Fields.Item("Start").Value) & "&end=" &
(rsSegment.Fields.Item("End").Value) & "&title=" &
(rsSegment.Fields.Item("Title").Value)%>">
```

**Captioning is available**

The request will be sent to playrealcaptions.asp along with the teleconference ID# and the appropriate program segment # from Teleconferences\_Segments table in SQL.

```
<a href="playrealcaptions.asp?<%= "ID=" &
rsTeleconference.Fields.Item("ID").Value &
"&Program_Segment_Number=" &
rsSegment.Fields.Item("Program_Segment_Number").Value %>">
```

For the segments numbered greater than zero for particular teleconference ID #, the name of the speaker will display before the title of the segment and duration, if available. All segment zero's are reserved for the Play Entire Program option.

```
<% If Len(rsSegment.Fields.Item("Speaker").Value) > 2 Then %>
<%= (rsSegment.Fields.Item("Speaker").Value)%>:
<% End If %>
<%= (rsSegment.Fields.Item("Title").Value)%> / <%= (rsSegment.Fields.Item("Dur
ation").Value)%> </a> </li> <br>
```

So the final URL result will look like this (whether for captions or not):

[Marcy Schwartz: Panel Intro and Program Overview/05:17](#)



The web user does not see what happens behind the scenes (determining whether or not a program has captions); therefore the URL's will look the same, but function differently.

### **playwmp.asp**

Similar to playreal.asp, this page takes in the teleconference ID# and displays the [teleconference title] and [date of broadcast] from the Teleconferences table located in the SQL database. It also displays a listing of the individual segments or playlist which comes from the Teleconferences\_Segments table located in the SQL database.

This page does check to see if the particular teleconference has captions or not, but it does not affect the code on the page; if captions are available it will display the captions logo and instructions for turning on captions, otherwise the logo and instructions are not displayed. The playwmp.asp creates the dynamic links, and passes off the following variables to the playvideo.asp page whether or not captions are available: teleconference #, program segment # (which specific clip).

```
<a href="playvideo.asp?<%= "ID=" & rsTeleconference.Fields.Item("ID").Value
& "&Program_Segment_Number=" &
rsSegment.Fields.Item("Program_Segment_Number").Value %>"
target="_blank">
```

The playvideo.asp page dynamically creates the ASX file for the particular clip/segment, and determines if captions are available for that teleconference ID#. If so, then the ASX file includes SAMI instructions, otherwise it does not.

### **playrealcaptions.asp**

This page has absolutely no HTML code, so it does not display in the browser; it is created dynamically behind the scenes and the user doesn't know the page exists. This page takes in the variable of the TC# and the segment# and writes the SMIL file for each individual clip. There are two variables of concern: the streamingserver and the realtext URLs.

```
Dim strStreamingServer
Dim strRT

strRT = "http://cte.ncsu.edu/cte/techtransfer/teleconferences/captions/tc" &
rsTeleconference.Fields.Item("ID").Value & ".rt"

strStreamingServer = "rtsp://webcast103.itre.ncsu.edu/teleconferences/TC" &
rsTeleconference.Fields.Item("ID").Value & ".rm"
```

These two variables are partly hard-coded and partly dynamic; if you need to change the stem of the URL, then do so in the code, but the remainder of the URL allows the page to dynamically add the TC# to the end of the file and the file extension (.rt/.rm) based on the TC# that was passed to the page.

The SMIL file is written for the particular segment of the TC#; it uses the following variables, which correspond to the correct segment #: start time, end time, and segment title. It also passes those same variables to the .rt or Real Text command so that the real text or captions will know when to begin and end (so that it correlates with the specific clip/segment being played).

### **playvideo.asp**

This page takes in the variable of the TC# and the segment# and writes the ASX file for each individual clip. In addition, this page handles all WMV dynamic playlist(s) files whether or not captions are available for a specific TC#. There are two variables of concern: the streamingserver and the SAMI URLs.

```
Dim strStreamingServer
Dim strSami
```

```
strSami = "http://cte.ncsu.edu/cte/techtransfer/teleconferences/captions/tc" &
rsTeleconference.Fields.Item("ID").Value & ".smi"
```

```
strStreamingServer = "mms://webcast103.itre.ncsu.edu/teleconferences/TC" &
rsTeleconference.Fields.Item("ID").Value & ".wmv"
```

These two variables are partly hard-coded and partly dynamic; if you need to change the stem of the URL, then do so in the code, but the remainder of the URL allows the page to dynamically add the TC# to the end of the file and the file extension (.wmv/.smi) based on the TC# that was passed to the page.

The ASX file is written for the individual segment of the TC#; if captions are available, then the 'ref' line is changed to include the SAMI instructions; otherwise the SAMI instructions are left out.

```
If (rsSegment.Fields.Item("Captions").Value > 0) Then

    Response.Write Chr(9) & Chr(9) & "<Ref href = "" &
    strStreamingServer & "" & "?SAMI=" & strSami & """/>" & vbNewLine

Else

    Response.Write Chr(9) & Chr(9) & "<Ref href = "" &
    strStreamingServer & """/>" & vbNewLine

End If
```

## SQL Table

The main table of use throughout these pages are the Teleconfereces\_Segments table in the SQL Server 2000 database. Here are some tips:

- **ID** – refers to main TC# (such as TC# 36, 37, etc.); it is not the primary key of the table.
- **ClipID** – This is the primary key of the table; cannot be duplicated and should be in sequential order; this number is never really referenced anywhere throughout the ASP pages.
- **Program\_Segment\_Number** – This number is referenced quite often through the ASP pages to find the particular clip/segment title, times, speaker, and title; This number can be duplicated between TC# but should not be duplicated within TC#. Each teleconference begins with a Segment number of Zero (0) for Play Entire Program, the Introduction is Segment 1 and so on. When you begin another TC#, you start over with Zero (0) to play entire program and so on.
- **Title** – title of the individual clip; there is a format to follow for Segment Zero (Play All) just look at other TC# to get format. Be careful; this field is text, so you should not use the return key or leave extra spaces at the end of the line as this will show up when the table is queried through the ASP pages.
- **Speaker** – This section is the speaker for the specific segment; if there is more than one speaker for a segment, then put all their names in the field separated by AND (Ex: John Doe and Sallie Jones). Any segment that is primarily announcements or spoken by Katie McDermott then leave the speaker field blank; this is for future use so that we don't have Katie showing up in the listings repeatedly. Also leave the speaker blank/null for segment zero (Play entire program) since it is obviously more than one speaker for entire program. This field is also text, so do not use the enter key or leave extra spaces.
- **Start** – use the following format 00:00:00. If there is not an hour yet, then leave the first set of zero's off (05:47 – represents five minutes and 47 seconds). This field is saved as text, but is limited to eight spaces.
- **End** – use same format and rules as Start time.
- **Duration** – same format as Start and End Time. Note: All times (start, end, duration) must be in the table for each segment of the teleconference or the dynamic playlist will not work. Start and End is used for Real Player and Start and Duration is used by WMP.
- **Captions** – Is a number value (integer); use a 1 (for yes) or 0 (for no) only; remember to use a 1 for each segment of a TC#, not just the first segment.
- **MP3** – use same rules for Captions; using 1 or 0 and remembering to use the choice for each segment in a TC#.

## Conclusion

In addition to the walk-through provided above, there is a lot of commenting provided throughout these pages in order to assist any future developers with questions/changes/concerns.

## Forums

Dbase name on 152.14.30.150 forums

Username: administrator – (request the password from password forgotten). It should email ctetechsupport@ncsu.edu

Pass: SEE DISTANCE LEARNING SPECIALIST'S SERVER BOOKLET

Web Administration – admin - administrator pass: f0rums (0 =zero)

SQL Connection String in:

```
\cte\TechTransfer\Teleconferences\forum\admin\SQL_server_connection.asp
```

```
strSQLServerName = "(LOCAL)" 'Holds the name of the SQL Server
```

```
strSQLDBUserName = "forumadmin" 'Holds the user name (for SQL Server Authentication)
```

```
strSQLDBPassword = "w3bf0rums" 'Holds the password (for SQL Server Authentication)
```

```
strSQLDBName = "forums" 'Holds name of a database on the server+
```

most modifications are conducted in the includes/skin\_file.asp

admin\category\_details text length of field has been modified to 100 characters

database forums\tbl.category field Cat\_name has nvarchar changed to 100 from 60

Security – please subscribe to the Web Wiz Forums Update list:

<http://www.webwizguide.info> current account is dskaye password is w3bw1z

## Transcripts

CTE provides written transcripts of programs. Traditionally, the technology transfer director arranges for the transcript to be generated from a DVD or video tape. Staff then proof and make corrections. The transcript is converted to a pdf and posted in the web archive, when it is available. Links on the order form should be removed, when the transcript is available and the information specialist should contact those that have requested the transcript.

## Server Information

### *Streaming Server IPs*

152.14.29.8	webcast103.itre.ncsu.edu	Helix Universal Server
152.14.29.10	stream102.itre.ncsu.edu (not currently active)	Windows Media Services ITRE Network

## Windows 2003 Firewall

### Firewall Ports Open

152.14.29.8	80	TCP	Streaming In
152.14.29.8	554	TCP	Streaming In
152.14.29.8	4040	TCP	Streaming In/Out, only from ITRE subnets
152.14.29.8	8898	TCP	Streaming Admin
152.14.29.8	9090	TCP	Streaming Admin – Java Applet Monitor

rmserver.exe given full outbound

## IIS Configuration

To make the captioning files work with IIS, additional mime types should be added to the ITRE web server.

Among these are:

Text/vnd-rn-realtex	text/vnd-rn-realtex	rt
		Smi
		Smil
		Asx
		ram

## Helix Server Admin Accounts

<http://webcast103.itre.ncsu.edu:8898/admin/index.html>

Cynthia pass: jamocha99

admin pass: mast3r

Encoder Accounts-

Helix Encoding (push account based) uses the SecureRBSEncoder realm and RealSystem5

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

Sample account in this realm:encoder password:3nc0d3r

Legacy Encoding (Real Producer 8.5 and lower) uses  
Sample account in this realm (uniquely created): encoder password:3nc0d3r

Mount Points  
/encoder -virtual, live (legacy)  
/broadcast – virtual live  
/wmtencoder – virtual windows media live

webcast102 contains meta files for all programs

## [View more information on the authentication realms.](#)

### Encoding Tips Appendix

#### *Real Encoder*

Batch File to make an encoder auto-reconnect with legacy authentication

```
=====
echo off
:START
producer.exe -j saidprofile.rpjf
GOTO START
=====
```

where said profile.rpjf= profile in operation

Simply copy everything between the "=" lines, and place it into a .bat file. Run that .bat file either in the RealProducer directory, or make sure the producer.exe is in your path.

Helix push account authentication includes auto-reconnect.

#### *Windows Media Tips*

A multi-bitrate stream can be thinned by tagging the argument of  
Here's the URL I put in my browser:  
?WMContentBitrate=speed on to the end of asx filename

example:

**Supplying error files**  
Content directory

Sample Job files

H:\ITProcedures\WebcastFiles\StreamingProfiles

**Speedera requires that Query Strings be included in asx files**

### Applicable to Nine Systems

Here's the URL I put in my browser:

[http://boss.streamos.com/wmedia/ninesystems/eve\\_1.asx?WMContentBitrate=28000](http://boss.streamos.com/wmedia/ninesystems/eve_1.asx?WMContentBitrate=28000)

the asx file looks like

```
=====
<asx version="3.0">
<title>No Title</title>
<author>Nine Systems Corporation</author>
<copyright>2003 All Rights Reserved</copyright>
  <entry>
    <title>No Title</title>
    <author>Nine Systems Corporation</author>
    <copyright>2003 All Rights Reserved</copyright>
    <ref
href="mms://gwmod20.streamos.com/7/ninesystems/eve_1.asf?WMContentBitrat
e=28000&ts=1115759008&tll=300&cs=63A176CE28103227489EFD2DED7BC9D84C9B4D8
B"/>
    </ref
href="mms://st31g1.services.att-idns.net/cw3404/7/ninesystems/eve_1.asf?
WMContentBitrate=28000&ts=1115759008&tll=300&cs=63A176CE28103227489EFD2D
ED7BC9D84C9B4D8B"/>
    </entry>
  </asx>
<!-- Generated by Nine Systems Stream OS BOSS (v2-20050425) / 421b7f4e
-->
```

## ***DVD Authoring and Replication***

CTE has been redigitizing a dvd or s-vhs provided by the Agency for Public Telecommunications. The program is captured in Adobe Premiere and segmented with Canopus ProCoder. ITRE staff have also requested vhs to DVD transfers. [Please see the note on vhs to dvd transfer](#). Individual presenter images are saved in Premiere and modified in Photoshop or Macromedia Fireworks. Segment files are created in ProCoder, following the program agenda. ProCoder jobs are created and saved for any necessary modifications. See the ProCoder Section for additional information.

<b>Process</b>	<b>Input</b>	<b>Output</b>	<b>Application</b>
Acquire Video Source from Studio	Tape/DVD		
Digitize Video Source	Tape/DVD	AVI/DV File	Adobe Premiere
Segment Video with Agenda	AVI File	mpeg2 video mp3 audio	Canopus
Capture Still Frames of Presenters	AVI File	JPEG or BMP	Adobe Premiere
Create Head Shots of Presenters	JPEGS	PNG, JPEG, PSD	Fireworks or Photoshop
Reduce Head Shots to 100x101 pixels	Images	Images	Fireworks or Photoshop
Create DVD Open Menu- Part A	Open Video Segment and Encore Menu File	AVI File	Adobe After Effects
Create DVD Open Menu- Part B	After Effects Video, Buttons	Rendered Menu	Encore
Create Presenter Main Menu and Indiv. Presenter Menus	Images, Bio Text, buttons, Image Manipulation	Presenter Main Menu, Indiv. Presenters	Encore, Photoshop
Create Segment Timelines	MPEG2 and mp3 files	Encore Timelines	Encore
Set End Properties on Timelines		End Action - next timeline	Encore
Create Segment Menu	Encore Timelines, Agenda, Menu	Segment Menu	Encore, Photoshop
Set Button Properties on Menu	Buttons on Menu	Properties - Override point to next button on menu, adjust button order	Encore
Set Menu Button Properties on Timelines		Menu Remote to Segment Menu	Encore
Set Default Button on Menus	Each Menu		Encore
Check Navigation of all buttons on all menus			
Check for bleeding on buttons on all menus			Encore
Download any materials for program			
Set materials folder			
Burn DVDs (two copies)			
Test DVDs in player			
Send DVDs to replication facility			



## Premiere Capture

Obtain Source Media from Studio

CTE is currently supporting:

S-VHS

DVD

Capture Notes: Windows XP's screen saver must be disabled for capture to take place.

Attach video output from proper playback system to Canopus ADVC-100 black box. Input devices are in the front of the device. Attach ADVC-100 to computer through firewire cable.

Open Adobe Premiere on PC. Create a project file and make sure that the partition has up to 17 GB/hour of storage for the teleconference file. For a 2 hour program, you'll need 34 GB. Capture Video File in Adobe Premiere by going to the File Menu> Capture (or F5 key)

Log Clips in the project file location. In the Clip Data section, log the tape name and provide a file name for the segment of your program. One method of capture is to name files according to their relevance to program breaks. For example, a two hour program would have two parts, a part1.avi (before the break) and a part 2.avi (after the break). Select scene detect, if you anticipate any editing. Click the "settings tab." If you are not using a device controllable deck (mini-dv), you may wish to turn off device control. Select the "Logging" tab.

Cue your device on your playback deck and pause as necessary. Hit the "red" record button in Premiere and begin playback on your device. Capture the file in Premiere. Hit the stop button, when your segment is complete. Repeat capture process until all media is captured.

## Capturing Still Images of Presenters

From the .avi files captured in Premiere, you can capture still images of presenter. From the project window in Premiere, open (double click) an avi file (preferably, the first segment) and begin playback of the video. Scrub the video with one of Premiere's playback methods, until finding a suitable image. Choose File>Export>Frame and then name your file appropriately. Usually, a suitable name is the presenter.bmp. Save the file the project directory. Repeat this process, until all presenter images are captured.

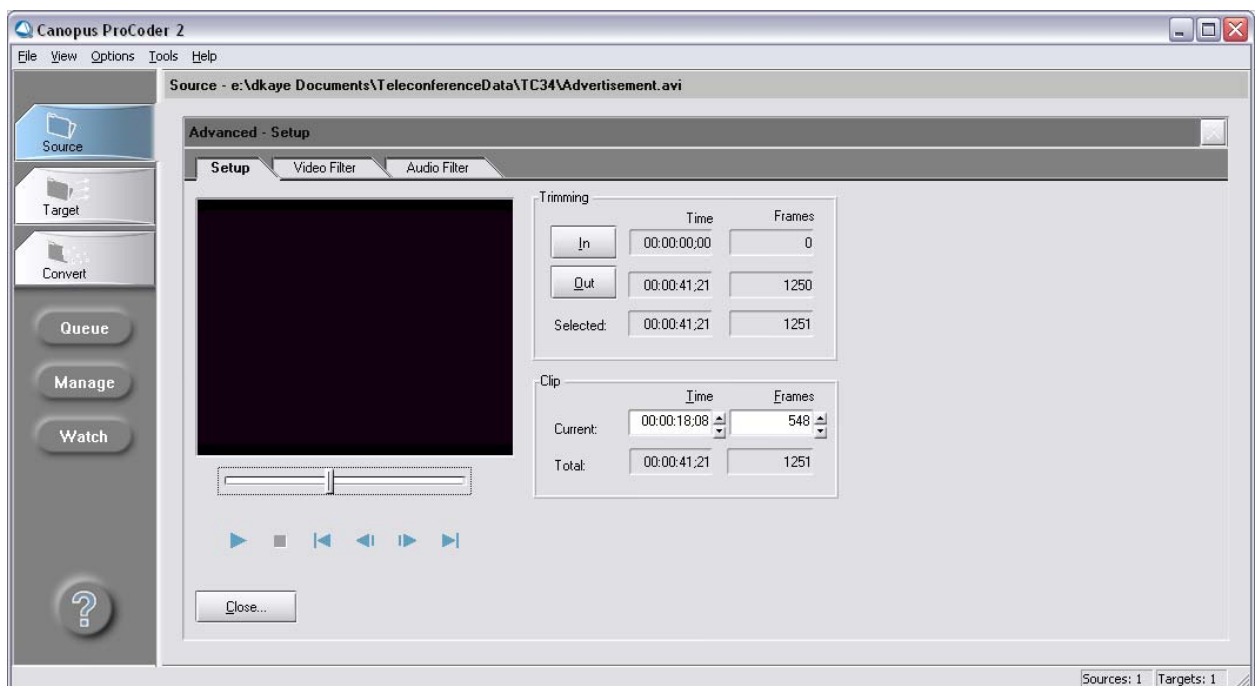
## Creating individual video clips from captured files in Canopus ProCoder

This process can be accomplished in Adobe Premiere, but the preferred method is through Canopus ProCoder 2. CTE owns one copy of this software. However additional copies can be installed on multiple computers. To activate the software, the “USB ProCoder Dongle” must be attached to the computer that is using ProCoder. ProCoder is a batch video file processing tool. ProCoder is to video as Photoshop is to images. The product competes with Media Cleaner, Sorenson Squeeze and other products.

1. Open ProCoder  
Select the Source Tab, and then “Add” , find the .avi source file that was created in Premiere.

2. Set the in and out points of the clip.

In the “Source List” Click inside of ProCoder, double click on the avi file or on the “Source” tab. This will bring up the “Setup” tab. Use the Play button, slide and Clip-Current Time box to navigate to create In and Out points for the individual movie clip.



Note: to finesse the time, you may replace time increments to make the play head jump to a specific point or use the up and down arrows in the Time or Frames boxes. If erasing, try to only erase two numeral spaces and quickly type

in replacement numbers, otherwise your play head will jump radically to a location with 00. You may find it easier to use the mouse and highlight the numbers and replace existing number by then typing new digits.

Time increments are in the form hours:minutes:seconds;frames

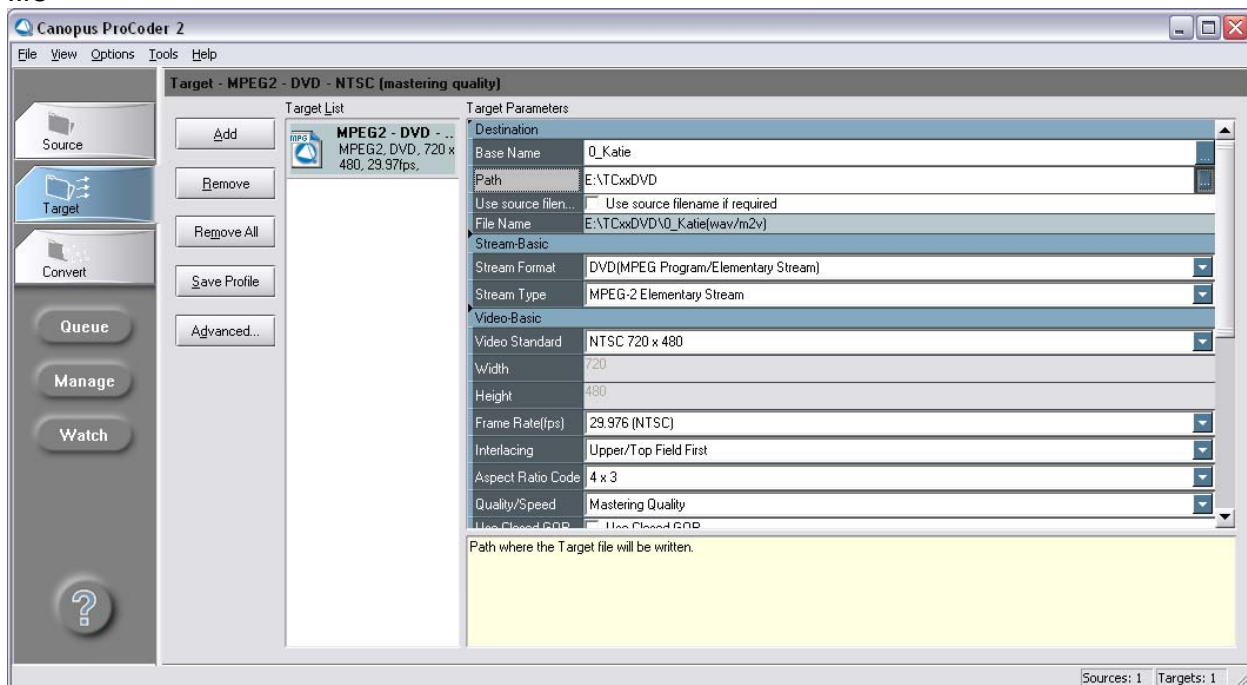
There are 29 frames per second.

00:00:18;08 would signify 18 seconds and 8 frames

When you find the correct start point, press the “In” button in the “Trim” panel. Search for the correct out point and press the “Out” button in the “Trim” panel. Write these number down on your format/agenda. You may need the numbers later for recreating a job or other compressions. If the slider or time will not increase, you may need to increase the time in the Current time or frame blank in the Clip window.

If you need to provide any extra video or audio manipulation, you can apply filters from this screen. Typically CTE applies fade in and fade out on tracks. It is also possible to adjust chrominance, luminance, volume and to crop. Other filters are available. Hit the “Close” button.

### 3. Set the Target file

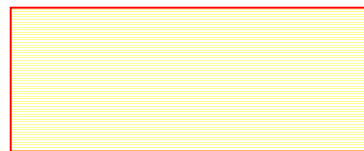


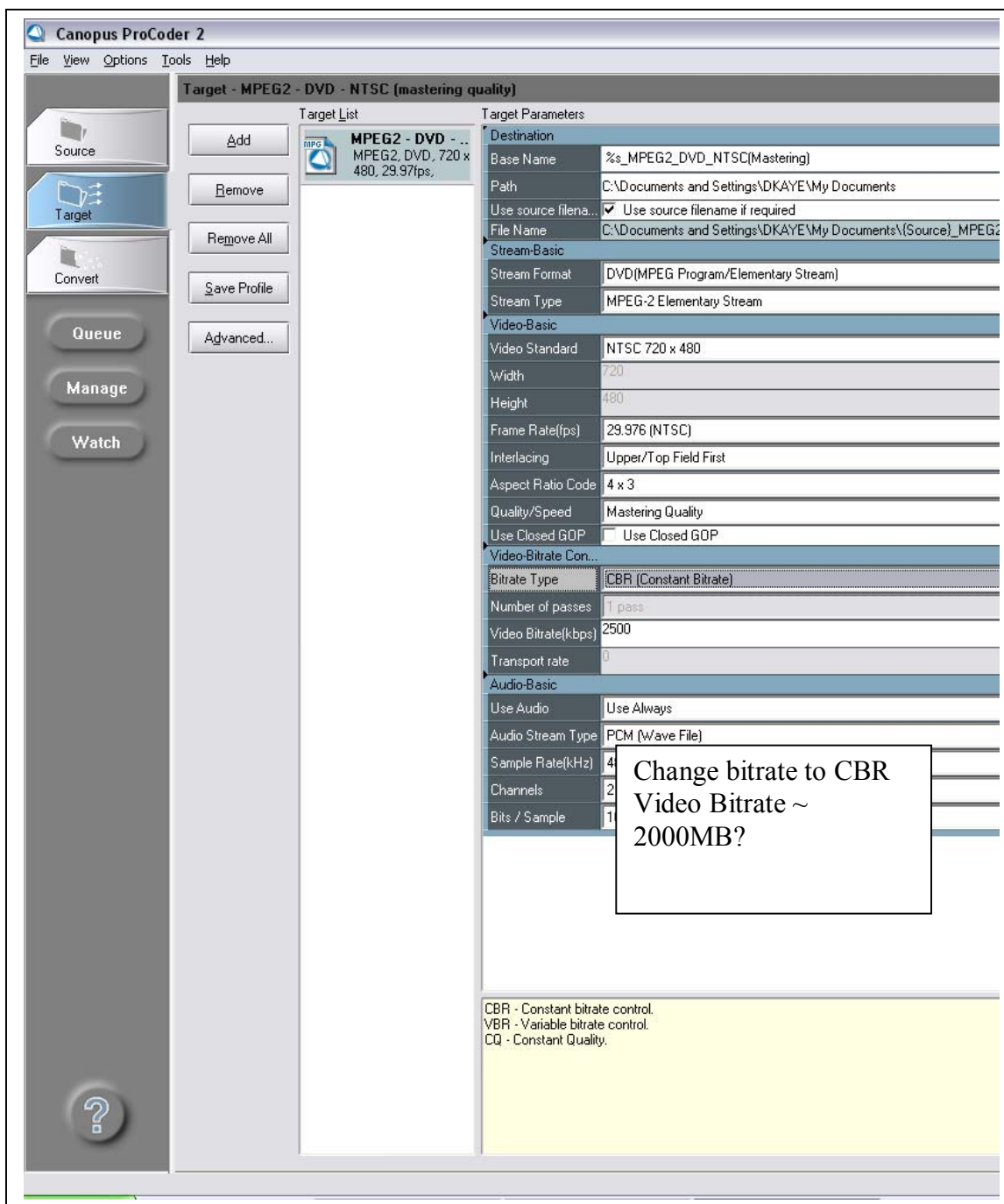
This could be a variety of outputs. ProCoder is good for outputting to Real,

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

QuickTime, Flash (requires Flash Professional to be installed), and DVD formats. Note: for Windows, a wme profile should be used. Press the "Target" Tab. Click the "Add" button. Click on the "+" adjacent to "CD/DVD" category and then "DVD." You will now choose when of the MPEG2-DVD-NTSC presets. In general the "Mastering quality" should be your choice. Avoid the VOB file. Depending on the length of the final DVD, these presets should be adjusted. This is due to the media size of the dvd. The mastering quality setting compresses at 6MB/s . A three hour CTE program will not fit on a 4.7 GB DVD at this compression. (Adjustments can be made in the Video-bitrate Compression section.





#### 4. Click the "OK" button

It is now necessary to adjust the base name, and path (that the file will be saved). In the Target parameters of the interface, change the "Base Name" to reflect the segment name from the teleconference agenda. It is preferable to start this with the incremental segment number, followed by an underscore and a description.

Ex. 0\_KatieIntro Be sure to only use legal windows characters.

In the path, choose a directory where you wish to store the compressed files. This maybe best accomplished by creating a dvdmedia file directory. Your directory should be able to store at least 6 GB. Uncheck the “Use source filename if required box.

#### 5. Save the job file

You should now save the job file to use it as a template for additional jobs. Save it with a job name, that reflects the segment number and content, for example 0\_KatieIntro.pcp

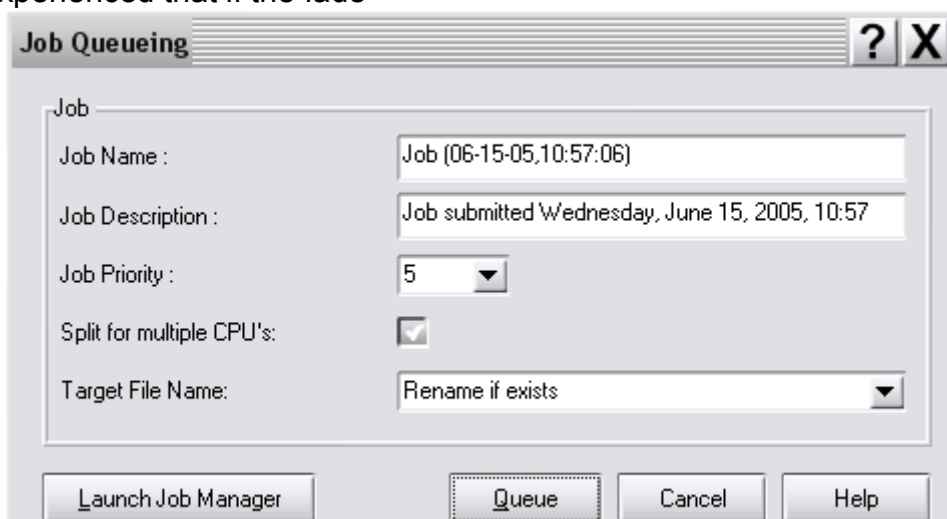
If you have only one job to run, press the convert tab and then the “convert” button.

#### 6. Queuing Jobs

When it is necessary to batch process multiple segments from the same source file, you should use ProCoder’s Queuing feature. With the first job saved, press the “Queue” button

The Job Queuing dialog box appears

Replace the Job name with segment title for future reference. ProCoder provides visual effects for cropping, fading, color correction and the like. CTE has experienced that if the fade



in /fade out is set with “Split for multiple CPU’s” the program will place fades everywhere that the program has split the file for use with multiple processors. Uncheck the “Split

for multiple CPU's" to avoid this problem. Canopus has not responded to a support request for this item.

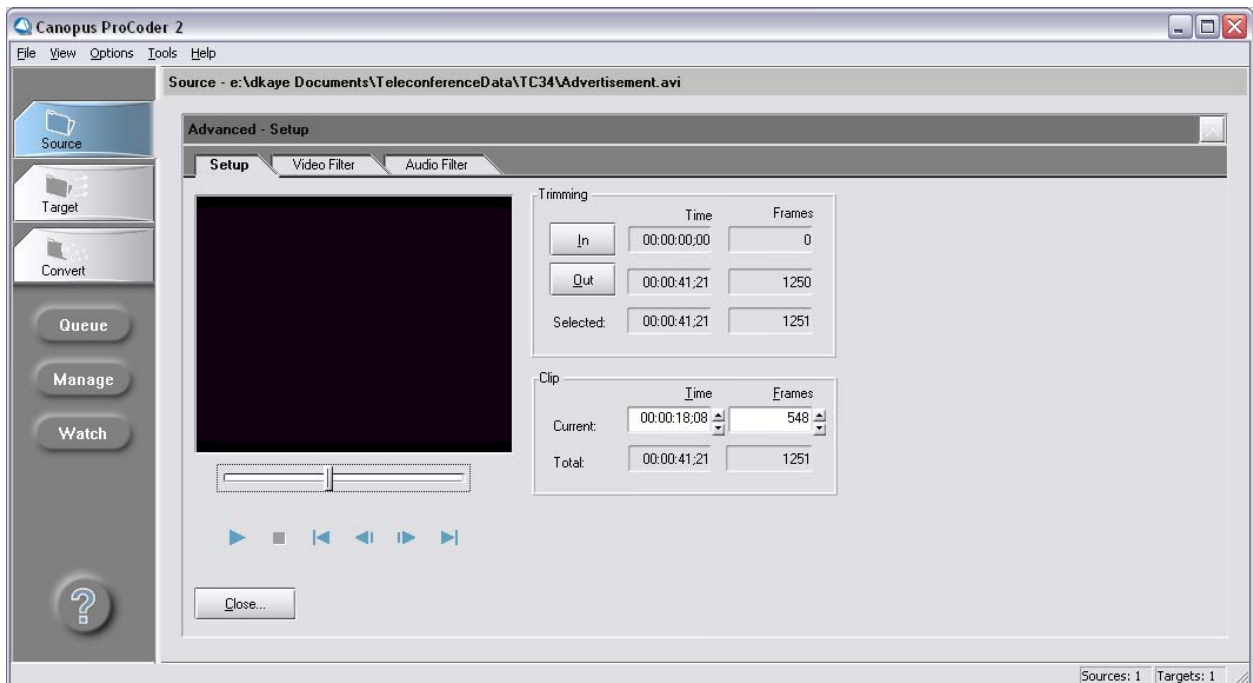
For the first job processed, press the "Launch Job Manager" button to start the ProCoder Job Manager process. A ProCoder icon will appear in the Windows task bar in the lower right hand corner of your desktop. Submitted job status can be accessed and modified through the Job Manager. In the Job Queuing box, there are certain options that can be selected. You may change the any of the fields.

Job Name	Provides Identification information in the job manager. This is helpful, if you should need to erase a job or check its status.
Job Description	By default provides the time for when a job is submitted. The parameter can be altered
Job Priority	Allows a user to set the priority of the job from 1-9
Split for multiple CPU's	Checkmark signifies that ProCoder will split a file for compression, if the codec allows for multiple cpu or hyperthreading processing  If certain filters are applied to the video (fade in and out, the "Split for multiple CPU's" item should not be checked.)
Target File Name	Allows files to be overwritten or renamed, if the filename previously existed.  Note: It is sometimes easier to change the base name or delete an existing file, if you should receive warnings.

Then press the "Queue" button to begin processing. If the Job Manager is not running, ProCoder will not process files in the background.

## 7. Creating subsequent clips with an existing Canopus Job file.

Hopefully, you have not closed the first job file. If available, you can use the out point + one frame of previous job as the in point of your next job. If not, you hopefully have the numbers written down your agenda. If the job is closed, you'll need to open the job that you previously created. Click on your source or source button to bring up the time dialogue box.



You will now add one frame in the time or frame windows from your out time of your previous clip to create your new in time. Note: because ProCoder is basing the segment start and stop points, based on what you tell it, it may short itself on available time. If this happens, you'll need to push the playback at least a frame forward past the existing out point to have access to the rest of the clip. Initially this is confusing, but after some practice, it will not seem difficult. Repeat steps 2-5 from the previous section (Creating individual video clips from captured files in Canopus ProCoder), until all clips are processed.

**Note:** It is possible to split jobs over multiple encoders. Some filters, ex. Fade in/fade out do not handle jobs appropriately, when split. Canopus has not addressed this item. There is also a software update to ProCoder 2.0 available from Canopus.

## DVD Creation in Encore and Image Manipulations in Photoshop

CTE has purchased upgrades for Encore to 1.5. Sample psd menus are available in the menu set called teleconferences on video184. Files manipulated in Photoshop should be set to square D1 pixel ratio.

### ***Transferring VHS to DVD***

For transferring video tapes to DVD, it is possible to use Roxio Easy Media Creator. However, the program is cumbersome. It is recommended that CTE purchase a stand alone DVD recording



appliance. Typically CTE has provided the DVD-R media, but this should be addressed as needed, due to costs.

## Studios and Video Production

Agency for Public Telecommunications (APT)

116 W. Jones Street - Basement

(919)733-6341

(919)715-3569 fax

(888)-228-6736 – toll-free program dial-in

Production Contact – Tammy Martin, [tammy.martin@ncmail.net](mailto:tammy.martin@ncmail.net)

Engineering Contact – Latham Hamner, [latham.hamner@ncmail.net](mailto:latham.hamner@ncmail.net)

Operations – Bill Ramsey – Bill Ramsey, [bill.ramsey@ncmail.net](mailto:bill.ramsey@ncmail.net)

Billing Contact – Nicole Branch, [Nicole.branch@ncmail.net](mailto:Nicole.branch@ncmail.net)

Mailing Address:

N.C. Agency for Public Telecommunications

1316 Mail Service Center

Raleigh, NC 27699-1316

DELTA at NCSU (EGRC)

Tony Pearson

Centennial Campus, Partners 1, Suite 2450

Campus Box 7502

Raleigh, NC 27695-7503

919.515.3683 Phone

[Tony Pearson](#)

Manager of Video Communications Services

Education Media Specialist II

[tony\\_pearson@ncsu.edu](mailto:tony_pearson@ncsu.edu)

919-515-1868

[Larry Evans](#)

TV Producer Director II

[larry\\_evans@ncsu.edu](mailto:larry_evans@ncsu.edu)

919-513-5020

[Robert Klein](#)

Media Technician II

[bob\\_klein@ncsu.edu](mailto:bob_klein@ncsu.edu)

919-515-3683

[Darren Ley](#)

TV Producer Director I

[darren\\_ley@ncsu.edu](mailto:darren_ley@ncsu.edu)

919-515-9522

**UNC-TV Signal Acquisition and Encoding**

To make encoding arrangements with UNC-TV, please contact Joe DeLuca, Kim Stahl and Doug Carman. Joe will handle the signal acquisition. Kim is the IT director for UNCTV. Doug Carman handles the encoding and firewall at the station. He is very knowledgeable in streaming and will require the CDN settings and encoding settings. As of July, 2005. UNC-TV charges a \$100 set-up fee, which includes the first hour of encoding in Windows Media and Real. Additional hours are priced at \$25 an hour. A 3 hour program would require 3.5 hours, including the 30 minutes of test time.

## UNC-TV

## Setup of Encoding

Provide Satellite downlinks  
Encoding Settings with CDN or Hosting  
Profiles

Joseph DeLuca – Production Manager  
[jdeluca@unctv.org](mailto:jdeluca@unctv.org)  
919-549-7841

Kim Stahl – IT Manager  
[kstahl@unctv.org](mailto:kstahl@unctv.org)  
919-549-7268 voice  
Please include an email or fax of the PO for Kim to 919-549-7207

Doug Carman – Technical Contact for Encoding Projects  
[dcarman@unctv.org](mailto:dcarman@unctv.org)  
919-549-7132

The Original PO should go to:

UNC-TV  
Accounts Receivable  
10 T.W. Alexander Drive  
P.O. Box 14900  
Research Triangle Park, N.C. 27709-4900  
(919) 549-7000  
549-7825 fax

Trailblazer Studios

**Tables and Skirting Vendors**

Chair and Table Rental  
Vicky

**Caterers****Makeup Artist****Parking and Directions****Ground Transportation**

ITRESERVER2\CTE  
ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

**Lodging**

**Setting Up a Conference Call**

## Content Delivery Networks, Streaming Service Providers, Encoding Operations, Vendors

(additional CDNs are available, please see the additional documents on the server)

### ***East Bay Media***

Brad Pumphrey  
brad@eastbaymedia.com  
President, EastBay Media  
"Your digital media and Internet video partner"  
Phone: 443-994-7074  
888/227.7103  
Fax: 443-926-9125  
[www.EastBayMedia.com](http://www.EastBayMedia.com)

Typically charges \$240 for 60 GB of traffic...East Bay is a reseller and has used two different national CDNs. Because of pricing and service, East Bay is a good choice for CTE. However, no current CDN or login is listed, because the company has not chosen a network as of this writing)

517 Red Birch Road, Millersville, MD, 21108  
[info@eastbaymedia.com](mailto:info@eastbaymedia.com)

Account Information  
Please contact Brad Pumphrey

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### ***Nine Systems***

Quoted a fee of \$2000 for 250 GB of traffic and encoding of one or two streams off of satellite (12/7/2005)

#### Contacts

John Ayers, Sales Rep  
johna@ninesystems.com  
703.842.7650, office:  
703.459.5435, mobile:  
703.997.4758, fax  
AIM/YM jaa2m

Firewall for ninesystems  
69.27.160.0/20

NineSystems  
Josh Cheshire, Account Rep

ITRESERVER2\CTE  
ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

858.332.3905 office  
858.405.3426 cell  
joshc@ninesystems.com  
YM- aykroyd007, joshuacheshire

NineSystems StreamOS Account Information (when active)  
https://secure.streamos.com  
account: ncsuadmin  
pass: mast3r

Network Operations Center  
noc@ninesystems.com  
866-631-4131  
Tom Brown directs operations  
Others include Justin and Greg

CIT at UNC Chapel Hill  
Todd Stabley  
Multimedia Consultant  
Center for Instructional Technology  
UNC-Chapel Hill

[stabley@ibiblio.org](mailto:stabley@ibiblio.org)  
<http://ibiblio.org/stabley/>  
919 843-8221

NC ITS Video Networking Services (NCIH)  
Live Stream Hosting – APT via NCIH or through independent Ken Nuebler  
(919)754-6623  
ken.nuebler@ncmail.net

Brian Layh  
(919)754-6622  
[brian.layh@ncmail.net](mailto:brian.layh@ncmail.net)

## Software and Hardware Vendors

BandH Do not use as a vendor. The organization has been banned from state business.

Microsoft – see Anne Lapierre

Real Networks Sales  
David Jebousek  
**Real Inc.**  
Account Manager  
206.892.6887  
djebosek@real.com  
RealNetworks, Inc.  
2601 Elliott Avenue  
Seattle, WA 98121

CDWG  
Rob Chalupsa

Robert Chlupsa  
CDWG  
Enterprise Drive Suite 404  
Shelton, CT 06484  
Phone: 1-800-696-1727 X87275  
Fax: 203-899-2018  
robert.chlupsa@cdwg.com

GovConnection  
Kevin Ruppel  
800-800-0019 x 33167  
Email: [kruppel@govconnection.com](mailto:kruppel@govconnection.com)  
Fax: (603) 683-0638  
706 Milford Road  
Merrimack, NH 03054

## DVD Replication

### **NCSU CALS**

- Mark Dearmon  
Media Production Specialist  
NC State University, College of Agriculture & Life Sciences  
Communication Services  
Phone: (919) 513-3114  
[mark\\_dearmon@ncsu.edu](mailto:mark_dearmon@ncsu.edu)

### **Vaughn**

Kelly Brady  
Project Manager  
[kelly.brady@alliedvaughn.com](mailto:kelly.brady@alliedvaughn.com)

101 S. Center Ct.  
Suite 800  
Morrisville, NC 27560

Toll Free 1-800-899-1970  
Local 919-380-0550  
Fax 919-460-0730

### **Jackson Media Solutions**

Jackson Media Solutions  
210 Commons Way  
Chapel Hill, NC 27516  
919-880-8031  
[sales@jacksonmediasolutions.com](mailto:sales@jacksonmediasolutions.com)  
[adam.staelin@jacksonmediasolutions.com](mailto:adam.staelin@jacksonmediasolutions.com)



## CTE Production Checklist

Establish program title and description  
 Check studio and uplink availability  
 Confirm moderator, panelists  
 Reserve studio and uplinks through Agency for Public Telecommunications  
 (C-Band, EPA Private Ku Band), captioning, phone bridge – send a PO to APT c/o Nicole Starks  
 and Tammy Martin (see sample in booklet)  
 Update webcast registration pages, satellite registrations  
 Establish Panelist Conference Call  
 Email Preparation Flyers to Panelists

### Marketing

- Distribute Program Information  
 Ctewebcast Mailing List (NCSU)  
**Transenviro Mailing List(NCSU)**  
**wftlistserv Mailing List(NCSU)**  
[cite-training\\_edu@lists.i95coalition.org](mailto:cite-training_edu@lists.i95coalition.org)

Bernie Wagenblast's transportation newsletter (Bernie Wagenblast, the  
 newsletter's editor, at [i95berniew@aol.com](mailto:i95berniew@aol.com). To subscribe, please send a blank e-mail to:  
[transport-communications-subscribe@yahoogroups.com](mailto:transport-communications-subscribe@yahoogroups.com).

- BCC email to all previously registered Teleconference Participants (SQL  
 CTEWeb/TeleconferenceLogins)
- EPA – APDLN – Deborah R. Miller (for simulcast on EPA Private Network – requests  
 information 2 months ahead of program for quarterly email to EPA facilities)  
 Environmental Protection Specialist  
 US EPA, Office of Air and Radiation  
 Office Air Quality Planning and Standards,  
 ITPID, Education and Outreach Group  
 (E-143-01)  
 Research Triangle Park, North Carolina 27711  
 Miller.Deborahr@epamail.epa.gov  
 919-541-5552 Voice  
 919-541-5598 Fax

Update webcast pages (web\_verity.asp, webverify2.asp, forums.asp, registration.asp,  
 web\_register2.asp, web\_register.asp, web\_participate.asp, webcast\_login.asp,web\_register.asp–  
 add back into includes\leftTechTransTeleLive)

Panelist bios  
 Handouts (web\_regConfirm.asp)  
 Phone bridge(tips.asp and iframes)  
 Forum (forum.asp &

Convert Slides for TV  
 Convert Slides for Handout  
 Convert Slides for jwebpresenter  
 Update DVD Order Page –order.asp  
 Update Evaluation Page – evaluation.asp  
 Create and Test Encoding Profiles  
 Update Webcast Archive and Databases

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

Update Webcast pages – remove web\_participate.asp, webcast\_login.asp, web\_register.asp –  
from into includes\leftTechTransTeleLive

Create DVD

2 weeks remove –forums.asp

Process DVD orders, send to panelists

Send out Evaluation and Thank you to webcast registration (SQL

CTEWeb/TeleconferenceLogins)

Review Evaluations

Post Mortem of Program

Repeat

## Webcast Checklist

- CDN
- CDN PO/PA submitted
- CDN confirmed
- CDN account (re)activated
- Captioning Available
  - Captioning Contract Secured
  - Captioning Configured on Encoders
- Encoding speeds determined and profiles created

Sample files are stored in //itreserver2/cte  
 /ITProcedures/Webcastfiles/StreamingProfiles

Profile	Metadate Updated	Primary Encoder(s) Location	Secondary Encoder(s) Location
Windows MBR, 150, 100, 50, 30			
Real Surestream, 150, 80, 50, 20			
Windows Modem – 20			
Real Modem – 20			
Windows Audio – 16kb			
Real Audio – 16kb			

- CDN encoding tested (at least one week ahead of broadcast)
  - Primary Encoders Configured
    - CDN Management Console
    - Encoder Configured
    - Check audio, video, throughput on all speeds
  - Secondary
    - CDN Management Console
    - Encoder Configured
    - Check audio, video, throughput on all speeds
- Rollover/Redundancy Confirmed

Web Pages Created

List of Video Files-EXCEL SPREADSHEET

<b>CTE Webcast Encoding Locations 4/13/200</b>				last updated on July 5, 2005		
Vendor	DELTA	ITS	APT	UNC Public Health	UNC-TV	ITS-Video Networking Services (NCIH)
Encoder Priority	Primary	Primary, Note: would not be a redundant network pathway, unless via NCREN	<b>Secondary</b>	Primary	Primary	
signal acquisition	Satellite	NCIH/NCREN		Satellite-NCREN	C-Band, NCREN Secondary, APT/Legislative Building Link	NCIH
Pluses	Great bandwidth, supports NCSU and VCS, little travel	inexpensive, reliable	encoder on site	much experience with encoding	Inexpensive - acquisition and encoding	encoding and streaming bundled, experienced
Negative	Setup and costs	Existing path/ 400 KB of APT bandwidth taken, must use NCREN, complicated setup (multiple parties)	equipment required, limited bandwidth, limited networking support	satellite downlink going away, NCREN would likely be required, extra coordination	C-Band	costs are not separated
Setup Costs	0	\$50	0	0	0	50
<b>Costs by the hour</b>						
signal acquisition	\$47	NCREN charges?	N/A	\$100	included	

## **Software Support**

Viewcast Support Forums - [http://forum.viewcast.com/forum\\_topics.asp?FID=1](http://forum.viewcast.com/forum_topics.asp?FID=1)

### ***Viewcast Technical Support***

#### **Osprey Video Technical Support**

ViewCast Corporation

17300 North Dallas Parkway

Suite 2000

Dallas, Texas 75248

Toll Free(US Only): 888.852.6622

International: 1.972.488.7157

Fax: 972.488.7111

Standard hours of operation: 9am - 5pm CST Monday through Friday

For fastest response email [support@viewcast.com](mailto:support@viewcast.com)

# Helix Server Information

<http://webcast103.itre.ncsu.edu/admin/index.html>

user:admin pass:

## Helix Server Ports

The screenshot displays the 'SERVER SETUP' interface. On the left is a navigation sidebar with categories: Server Setup, Security, Logging & Monitoring, Broadcasting, Broadcast Distribution, Content Management, and Advertising. The 'Ports' sub-section is selected under 'Server Setup'. The main content area is titled 'SERVER SETUP' and contains the following text:

The port numbers shown below are where the server listens for PNA, HTTP, RTSP, Monitor, and Admin requests. Keeping the default values will result in the widest possible number of users able to access your content. If you do decide to change these values from their default, you will need to add the new port numbers to all links. The server also uses specific ports for encoders, splitting, and multicasting.

**The Admin Port has been initialized to a random value for security. Please verify this pre-assigned port will not interfere with ports already in use by your system.**

To use a port lower than 1024 on a UNIX system, you must be logged on as super-user.

The 'Ports' configuration table is as follows:

Port Name	Current Value	Default Value
RTSP Port	554	554
PNA Port	7070	7070
HTTP Port	80	80
MMS Port	1755	1755
Monitor Port	9090	9090
Admin Port	8898	-

Below the table, there are several options:

- Caution:** If you change the Admin Port value, you must remember the new value to log back on to the Administrator. Also, you will need to update any URL references to these pages with the new port number.
- Create** user names and passwords for Administrators.
- Enable Ramgen Port Hinting URLs:** Yes (selected)
- Include HTTP port in URLs for cloaked users:** Yes (selected)
- Enable HTTP Fail Over URL for ASXGen:** No (selected)
- UDP Resend Port Range:** [ ] to [ ]

Buttons for 'Apply' and 'Reset' are located at the bottom right of the configuration area.

Helix IP Binding  
152.14.29.8

**Mime Types**

Audio/x-pn-realaudio	audio/x-pn-realaudio	ram,camv,rm *
Image/gif	Image/gif	gif
Image/jpg	image/jpg	Jpg, jpeg
Text/html	Text/html	html,htm
Text/plain	text/plain	txt
Text/vnd-rn-realtex	text/vnd-rn-realtex	rt
Video/quicktime	video/quicktime	mov

\*camv files added for camtasia, dll added into plugins. See <http://www.techsmith.com> for more information.

**Connection control**

This is inactive but used to limit the number of users or bandwidth. CTE's server is limited to 100 concurrent connections. There is no support for this software. CTE has not renewed its support license with Real.

**Redundant Servers**

Not currently configured for any redundancy

**Mount Points**

These are server directives to give a virtual directory and content locations. Currently CTE has all archived content located on the f: drive (the external lacie) drive. This unit is attached by firewire 800.

Mount Point Description	Mount Point	Base Path	Base Path Location (network or local)	Cacheable by Caching Subscribers	Notes
RealSystem Content	/	f:\content\	Local	Yes	Any file
RealSystem Secure Content	/secure/	d:\Program Files\Real\Helix Server\Secure	Local	Yes	Not used
content2	/content2/	f:\real_content2	Local	Yes	Originally a second mount point when the d drive was out of space

**URL Aliasing**

None currently established

**Http Delivery**

All mount points and virtual mount points should be entered.

- /admin
- /broadcast
- /ramgen

ITRESERVER2\CTE

ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

/viewsource  
 /encfs  
 /asxgen  
 /nscfile  
 /content2  
 /encoder  
 /wmtencoder  
 /redundant

### Cache Directives

All are currently allowed (Deny all cache requests set to “No”)

### Shared Licensing

This option is not configured

### Media Samples

These items are not currently configured to play as they are on the default installed content directory on the d: drive. To make them, play, they would need to be relocated

### Security Tab

#### Access Control

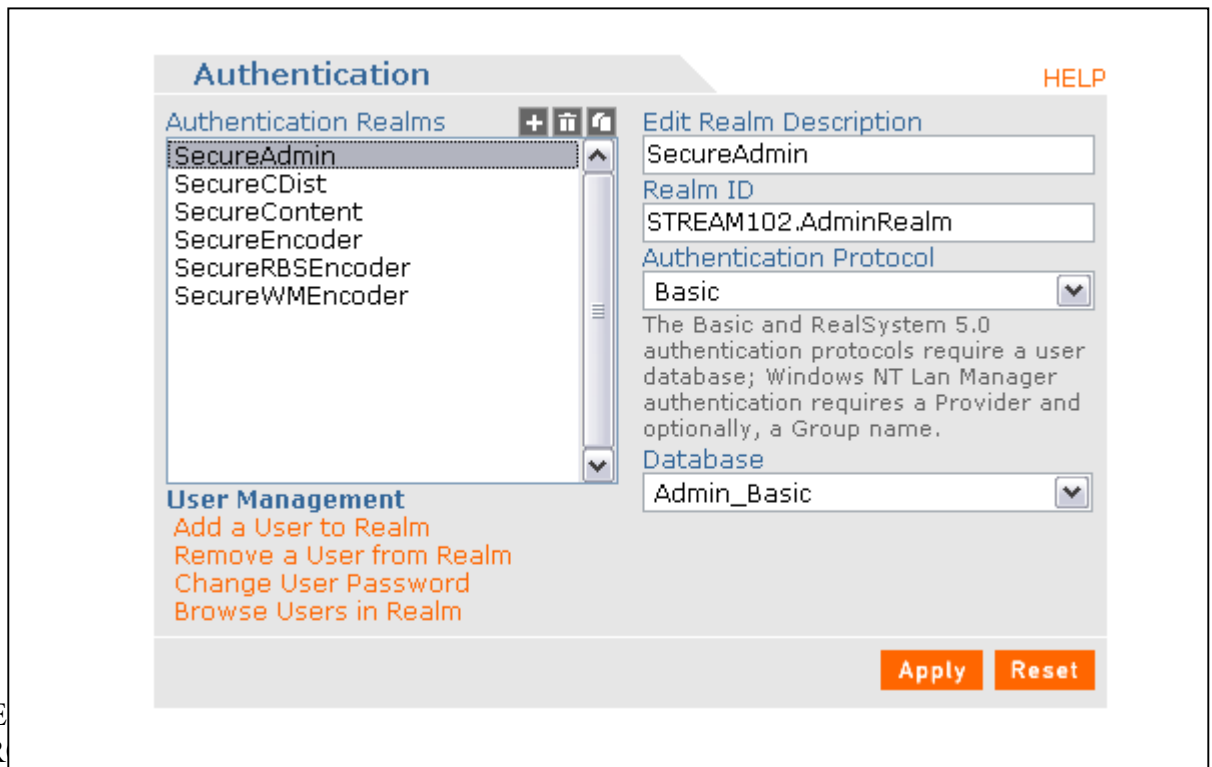
These settings are currently set to the defaults

Allow localhost access (do not edit)

Allow all other connections

#### User Databases

Real allows for several types of server authentication. CTE is using flat files for authentication for its encoders (Real) and admin. Administrators are stored in the Admin\_Basic flat file, d:\Program Files\Real\Helix Server\adm\_b\_db, and encoders are in the Encoder\_Basic, d:\Program Files\Real\Helix Server\enc\_b\_db. These files can be edited by hand, but would need a server restart. It is best to modify accounts through the Security > Authentication. See the Accounts page for information on current accounts.





**Commerce**

CTE is not currently implementing commerce

**Logging and Monitoring**

This is a powerful option for assessing the current state of the server. Java must be installed on a local workstation to view the real time stats. To configure the time increments, select Configure from the pull down Options menu. The java applet can also be released in its own window from the same pull down menu.

**Access and Error Logging**

This tab specifies the log rollover, log locations and style for both access and error.

**Custom Logging**

Set to defaults

**License Monitor**

This feature shows the allocation of licensing on the server and any shared licensing in use.

**Broadcasting**

Real Networks Encoding

This control panel sets the ports and the type of authentication used for Real encoding. The 9.0 Producer authentication allows an encoder to reconnect, if it experience problems. However CTE does a have a batch script for reconnecting. It is generally thought to be more reliable than G2 to 8.5 Producer.

Note: be sure that the firewall ports are open for inbound connections. Accounts can be added from this page or on Security>>Authentication.

### 9.0 Producer HELP

Port Range  to

Authentication\*  ▼  
Create user names and passwords.

### G2 to 8.5 Producer

Mount Point\*

Port

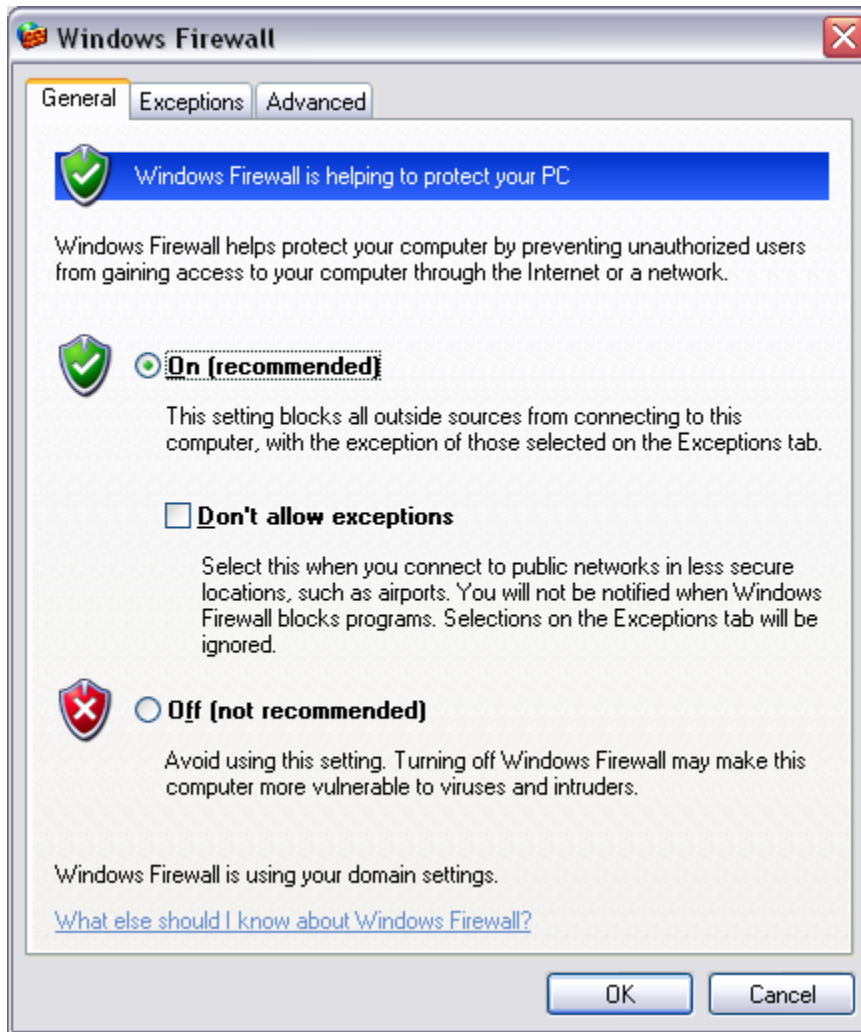
Timeout

Authentication\*  ▼  
Create user names and passwords.

\*A server restart is required to effect changes applied to this field.

**Log files are stored in d:\Program Files\Real\Helix Server\Logs\  
Files are readable with the opensource awstats program.**

## Windows Firewall on webcast103/stream102



Firewall information for

stream102

4040  
554  
80  
7070

Log Files  
Location  
Access

d:\Program Files\Real\Helix Server\Logs\rmaccess.log  
Error  
d:\Program Files\Real\Helix Server\Logs\rmerror.log

## Downloadable Software and Licenses

### Jwebpresenter

Use perl to rename files or a utility like Jim Willshire's Bulk Rename Utility

ITRESERVER2\CTE  
ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

Unity account

JRE

<http://zhao.sourceforge.net/>

<http://sourceforge.net/projects/zhao/>

Real Server Configuration and Binaries Stored In:

H:\ITProcedures\WebcastFiles\RealNetworksBinaries

rmserver.cfg (configuration file)

RNKey-01-0006-0071-38462-90-14327582347377932.lic (license key)

rs906-win32.exe (server binary version 9.6)

Real Producer 10 (can download to version 9)

<http://pam.realnetworks.com/pam>

Username: **1hgiqpnctstat** (needs to be lower case)

Password: 20951575

Serial Number 212-39741-6963

Second PAM (Product Account Maintenance Site)

<http://service.real.com/pam>

Username: 144818northc

Password: 92631281

Helix Producer 9 [Download](#)

212-39274-6863

Helix Server

Your Last Download: 9.0

-----  
Latest Version: 9.0 [Download](#)

-----  
System Number: 71384

-----  
License Id: 01-0006-0071-38462

-----  
Platform: Windows NT

-----  
Purchase Date: August 24, 2001

-----  
Upgrade and Support:

-----  
Support Email: [diskaye@unity.ncsu.edu](mailto:diskaye@unity.ncsu.edu)

RealPresenter (not used) [Download](#)

Serial Number pre-amy-164115-06

Web Wiz Forums Download (asp based forum software)

<http://www.webwizforums.com/>

**IMediaConvert for PowerPoint Files**

NTR-M49V775IV45E

<http://www.imediasoft.com>

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ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

SQL Graphical Client  
EMS MS SQL Client (choose lite for free)

<http://sqlmanager.net/products/mssql/manager/>

## Setting up a location for CTE Viewing

### Steps for Setting up Viewing Location

Reserve a room, projector, speakers and laptop through ITRE staff

Install java on the laptop, if using the slide stream.

Arrange handouts, sign-in sheet, and teleconference signage on door

1. Arrange for phone (wireless v-tech available from CTE) to be plugged into a suitable location.
2. Bring up laptop, speakers, and projector (CTE or ITRE)
3. Login to laptop
4. Open IE and point browser to  
[http://cte.ncsu.edu/cte/TechTransfer/Teleconferences/webcast\\_login.asp](http://cte.ncsu.edu/cte/TechTransfer/Teleconferences/webcast_login.asp)
5. Login with [dskaye@unity.ncsu.edu](mailto:dskaye@unity.ncsu.edu) or another account (may need to register)(press submit)
6. From right hand column, press “watch it” button
7. If video does not appear in the display on the projector, press the function+appropriate display button on the laptop to toggle the display mode of the laptop.
8. Under the WindowsMedia plugin window, press Launch in External Player (this provides more control of the player software)
9. Resize the player accordingly to optimize the way the video looks.
10. Adjust the speakers and sound control for optimal sound.
11. Turn off the projector, until desired time. The program begins at 1PM.

Welcome attendees and ask them to sign-in on registration form and to call you \_\_\_\_\_ at if they experience problems. If you need to reach the studio, call 733-6341.

## Statistics

Streaming statistics can be gained from the open source program awstats. This program requires perl (Active State Perl on Windows) and Helix or WM logs. The program can be run on any workstation. Log files should be transferred from the server. The program is free and can be downloaded from [awstats.sourceforge.net](http://awstats.sourceforge.net)

Sawmill is a commercial program that can be downloaded from [sawmill.net](http://sawmill.net) . It is a wonderful program that might have great utility for CTE.

Analog is a free web analytics program that is valuable for web site analysis. It has not fared well for streaming.

## **Purchasing Information**

Linda Lancaster  
North Carolina State University  
Institute for Transportation Res. & Ed.  
Box 8601  
Raleigh, NC 27695

fax number is 919-515-8898



**North Carolina State University**  
*Small Purchase Order*

Number #S00523101-Nov17\_2005EastBayMedia

Name of Person Ordering: David Kaye

Signature

Telephone 919-515-8563 Linda Lancaster  
919-515-8037 David Kaye

Fax (919)515-8898

**Ship To:**

North Carolina State University  
Institute for Transportation Research & Education  
909 Capability Drive  
Research Bldg IV, Rm 3600  
Raleigh, NC 27606

**Bill To:**

**Linda Lancaster**  
North Carolina State University  
Institute for Transportation Res. & Ed.  
Box 8601  
Raleigh, NC 27695-8601

Quantity	Description	Price
1	EBM – CDN-DU-US 60 GB of Stream Delivery and Live Delivery for 11/17/2005 Webcast	\$240

Brad Pumphrey  
East Bay Media  
517 Red Bird Rd.  
Millersville, MD 21108  
(888)227-7103 fax  
(443)994-7074 voice  
brad@eastbaymedia.com



**The Institute for Transportation Research and Education**

North Carolina State University

Centennial Campus  
 Box 8601  
 Raleigh, NC 27695-8601  
 TEL: (919) 515-8899  
 FAX: (919) 515-8898

**MISSION:**

The Institute for Transportation Research and Education (ITRE) is a university-based institute committed to leadership in the study of surface transportation issues through fostering analytical thinking, integrating technology in education and research, serving as a catalyst for problem solving, and cultivating professionals and students dedicated to excellence in transportation.

**FAX TRANSMITTAL**

**DATE:** 11/3/2005  
**FAX** 715-3569  
**No. of pages including cover:** 2  
**To:** Nicole Branch **CC:** Tammy Martin

**PLEASE DELIVER AT ONCE TO:** See Comments

**FROM:** David Kaye, CTE  
**TEL:** 919-515-8037  
**FAX:** 919-515-8898  
**EMAIL:** [dskaye@unity.ncsu.edu](mailto:dskaye@unity.ncsu.edu)

**COMMENTS:**

Hi Nicole,

Please see attached for the November 17 program that we are producing with Tammy. This is a modification of the original PO faxed and emailed on 10/6.

-Dave



**If you have any problems receiving this transmission, please call (919) 515-8899.**

**North Carolina State University**  
*Small Purchase Order*

Number # 00523101-Nov17\_2005APT

Name of Person Ordering: David Kaye

Signature

**Modified 11/3/2005**

Telephone	919-515-8563 Linda Lancaster 919-515-8037 David Kaye	Fax (919)515-8898
	dskaye@unity.ncsu.edu	

<b>Ship To:</b>  North Carolina State University Institute for Transportation Research & Education 909 Capability Drive Research Bldg IV, Rm 3600 Raleigh, NC 27606	<b>Bill To:</b>  <b>Linda Lancaster</b> North Carolina State University Institute for Transportation Res. & Ed. Box 8601 Raleigh, NC 27695-8601
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------

Quantity	Description	Price
1	Agency for Public Telecommunications Teleconference Production, including pre-production, uplinks for C-Band and EPA, closed captioning and phone bridge  November 17, 2005 1-4 PM EST Production (estimated 3 hour production, duration TBA)	\$10,000
1	Washington Remote – Studio, Vivex Connection, Catering	\$6000
	<b>Total</b>	<b>\$16,000</b>
	Nicole Branch NC Agency for Public Telecommunications 1316 Mail Service Center Raleigh, NC 27699	



**The Institute for Transportation Research and Education**

North Carolina State University

Centennial Campus  
 Box 8601  
 Raleigh, NC 27695-8601  
 TEL: (919) 515-8899  
 FAX: (919) 515-8898

**MISSION:**

The Institute for Transportation Research and Education (ITRE) is a university-based institute committed to leadership in the study of surface transportation issues through fostering analytical thinking, integrating technology in education and research, serving as a catalyst for problem solving, and cultivating professionals and students dedicated to excellence in transportation.

**FAX TRANSMITTAL**

**DATE:** 10/10/2005

***UNC-TV Accounts Receivable***

10 T.W. Alexander Drive  
 P.O. Box 14900  
 Research Triangle Park, N.C. 27709-4900  
 (919) 549-7000  
 549-7825 fax

**No. of pages including cover:** 2

**Email CC:** [kstahl@unctv.org](mailto:kstahl@unctv.org), [jdeluca@unctv.org](mailto:jdeluca@unctv.org)

**PLEASE DELIVER AT ONCE TO:** See Comments

**FROM:** David Kaye, CTE

**TEL:** 919-515-8037

**FAX:** 919-515-8898

**EMAIL:** [dkaye@unity.ncsu.edu](mailto:dkaye@unity.ncsu.edu)

**COMMENTS:**

Good day,

In this fax is small purchase order for work that my organization is conducting with Joe DeLuca. The PO will also be sent by email to Joe DeLuca and Kim Stahl.

Thank you,

David Kaye

**If you have any problems receiving this transmission, please call (919) 515-8899.**











## Streaming Media Information Lists and Web Searches

### Mailing Lists

List/Resource	URL	
Triangle Streaming	send a message to <a href="mailto:mj2@lists.ncsu.edu">mj2@lists.ncsu.edu</a>	body subscribe trianglestream
Webcast	<a href="http://www.broadcast.net/mailman/listinfo/webcasting">http://www.broadcast.net/mailman/listinfo/webcasting</a>	
WMTalk (Windows Media Talk)	<a href="http://discuss.microsoft.com/archives/wmtalk.html">http://discuss.microsoft.com/archives/wmtalk.html</a>	
The List, Advanced, Newbies	<a href="http://www.streamingmedia.com/discussion.asp">http://www.streamingmedia.com/discussion.asp</a>	
Helix (Real) lists	<a href="http://lists.helixcommunity.org/mailman/listinfo">http://lists.helixcommunity.org/mailman/listinfo</a>	
QuickTime (Apple)	<a href="http://developer.apple.com/quicktime/index.html#ML">http://developer.apple.com/quicktime/index.html#ML</a>	

**NCSU Mailing List and Groups** (message to [mj2@lists.ncsu.edu](mailto:mj2@lists.ncsu.edu) and subscribe followed by the list name)

brickyard\_news, csworkshops, ltsworkshopnews, lug, multimedia, trianglestream, webdesign webdevelopers:

microsoft.public.windowsmedia.\*

## **Backups**

### **Streaming Archive (backup)**

Teleconference archives are delivered dynamically with a customized asp/sql application. Streaming media files are stored on webcast103 on the f: drive in  
\content\teleconferences

Backups of the files are stored on DVD+R in the distance learning specialist's CD/DVD binder.

Additional Webcast103 archives are located on video184  
Teleconferences are stored on DVD and CD-ROM in the Distance Learning Specialist CD/DVD wallet

### **Database Backups**

Database backups on cteweb190 are done manually. The sqlserver agent must be running. Access the application through Microsoft SQL Server-SQL Agent  
Open the CTE190 instance or local instance, depending on your location.  
Expand the Management icon.  
Select Maintenance Plans.  
Create or Modify the existing database backups. Currently, CTE is supporting backups of:  
Converge, CTEWeb, forums, ICOET, master, msdb and NCHRP  
These files are backed up to the sql default backup directory.

Until Backup Exec is operational, the distance learning specialist has zipped the transaction logs and database backups and ftped them to the unity file space to:

/afs/unity.ncsu.edu/web/c/cteonline/backups

## ***Accessibility Options and Checks***

For several months, research was conducted to find a way to caption live webcasts. The Osprey 200 with Windows Media encoder and script source seemed to be the ultimate choice to preserve the captioning from the studio's captioning video feed. Captionkeeper was also explored, but it required a caption recovery unit with an RS-232 interface, which APT and CTE did not own. The recovery unit costs as little as \$300 and Captionkeeper about \$500. However, the simpler option was to use Windows Media Encoder for live streams. An option to use RealText with Real streams has also been explored with an Osprey 100 and the CC2Streams program from Viewcast. CC2Streams is the proven way to take closed captioning from the live program and preserve it in a SAMI file or RealText and convert from SAMI to subtitles or other format. Please refer to the AV Setup diagram on how to establish this process at the studio.

CTE has provided a transcript of teleconferences, beginning with TC31 on August 26, 2004. Please see the technology transfer director for contact information transcript information. Fully captioned programs began with TC36 on May 18, 2005 with the use of Window Media encoder. With TC37, the program again was captioned with Window Media encoder in real time, but also using a separate workstation was recorded in SAMI and Realex formats.

On ITRE188/DKAYE188, the Osprey 2.2.0 driver with patch was installed with an Osprey 100 card from Viewcast. The CC2Streams program was also downloaded and implemented. **CC2streams will not run with a later version of the software.** The SAMI file was brought into Hi Caption and then exported as a SAMI file and manipulated with SubTitle workshop. SubTitle workshop allows for easy manipulation of caption files for SAMI and DVD subtitles. It can adjust timings, split files, adjust spellings and auto correct errors in the SAMI file. Once a file has been successfully modified, it can export for Adobe Encore or back to the widely accepted SAMI format. HiCaption can then reimport the file, clean it and spit out a RealText file for use with the Real Player. The program is cumbersome. A manual is located in the DVD/Captioning binder. The program is cumbersome. NCSU DELTA offers a training session. Contact Rob Hambrick at DELTA for more information.

Notes: Using subtitles in Encore is a meticulous process. It is recommended to make corrections and adjustments in Subtitle workshop. Making edits in Encore 1.5 has caused the entire DVD authoring process to fail. Closed captions are lost when using the Canopus ADVC-100 and Premiere. Some dv converters will pass captioning, but not this box. There is also a third party tool that will save captioning into Premiere.

The university provides free tools and workshops for checking accessibility on electronic web and streaming sites. Among these are LIFT 2.1 for Dreamweaver and a suite of tools

from HiSoftware. Please check with Learning Technology Service ([lts.ncsu.edu](http://lts.ncsu.edu)) or ITD for appropriate training and the NCSU web site for downloading these tools.

LIFT for Dreamweaver - <http://ncsu.edu/it/access/lift/lift.html>  
Sn# - 881591951612

## Training Opportunities

Local conferences of interest  
Edtech sponsored by NCSU LTS/DELTA (usually in October)  
This is usually a one day event

UNCTLT (UNC Teaching and Learning with Technology) yearly (March 16-18) North Raleigh  
Hilton <http://conference.unctl.org>

TLT also sponsors a good number of resources for the UNC System  
<http://www.unctl.org>

CTE staff should look into joining the following NCSU mailing lists.

**NCSU Mailing List and Groups** (message to [mj2@lists.ncsu](mailto:mj2@lists.ncsu) and subscribe followed by the listname)

brickyard\_news, csworkshops, ltsworkshopnews, lug, multimedia,  
trianglestream, webdesign webdevelopers:

microsoft.public.windowsmedia.\*

LTS workshops through NCSU DELTA (free)  
<http://lts.ncsu.edu/is/workshops.php>

ITD Workshops (free)  
<http://www.ncsu.edu/it/education/>

Computer Training Unit (cost)  
<http://www.ncsu.edu/ctu>

NCSU Library— loans are for 2 months. Interlibrary loan is available and ebooks are a great resource through Netlibrary! NCLive.org is a wonderful resource for research and is free.

CTE also maintains several reference books on applications including Adobe Premiere Pro Classroom in a Book. Adobe Encore Classroom in a Book, and several books on asp, sql and vb script.

Microsoft maintains some free training resources on its msdn site. It is worth also registering for MSDN product demos that are once a quarter. The company often gives away free software and training.

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DV Magazine ([www.dv.com](http://www.dv.com)), Studio Magazine ([Studiomonthly.com](http://Studiomonthly.com)) and [streamingmedia.com](http://streamingmedia.com) provide additional print publications for what is hot in digital video.

## Video Conferencing

ISDN Video Conferencing is available through FHWA offices.

State of NC dedicated conferencing and IP sessions are available through the [North Carolina Information Highway](#).

### *IP Video Conferencing*

For preproduction meetings, IP Conferencing might be an option. CTE owns a Polycom PVX license and Logitech eyeball camera. The key information is located on this page. To use ip video as a source a conferencing appliance is recommended. NCSU Delta might be one potential lead.

Uses Logitech Orbit XP Camera or DV Camera as video source. The system can switch sources.

License key is available in Polycom Software binder or via <http://extranet.polycom.net>

dskaye

p0lyc0m

Activate Your Product [http://extranet.polycom.com/psc/csnprod/CUSTOMER/CUST/c/P\\_PR...](http://extranet.polycom.com/psc/csnprod/CUSTOMER/CUST/c/P_PR...)

**Activate Your Product**

### Software Upgrade Key Code

To upgrade your software, please retrieve your software Key Code.

[Retrieve Software Key Code](#)

To generate a Key Code for enabling system options, follow the directions below.

### Single License Number

Please enter the License Number and Serial Number of your product to generate a Key Code. To retrieve a previously enabled Key Code, please enter the product's serial number and leave License Number blank.

License Number:	<input type="text" value="XPVX-3MF5-C3QZ"/>
First Time Installation	<input checked="" type="checkbox"/>
Serial Number:	<input type="text" value="XPVX-3MF5-C3QZ"/>
Key Code:	<b>X101-E58E-08E0-0000-0001</b>
	<a href="#">Generate</a>

### Multiple License Numbers

Submit License Number - Serial Number combinations separated by <TAB> per line using the file interface. You will receive your Serial Number - Key Code combinations mailed to you at **dskaye@unity.ncsu.edu** which is updateable through "My Profile."

Attached File:

### Need Help?

Try [Activation Assistant](#) our for a walk through

For a first time software installation, the first license number entered will be established as your serial number. Please record the serial number for future use.



For adding new configurations, please provide the serial number of your product installation.

License Number - Key Code History

1 of 1 11/9/2005 12:06 PM

## EPA Programs and Contacts Appendix

<http://cte.ncsu.edu/cte/ncairquality/airtoxicnow.asp>

These programs are linked dynamically through the AirToxicsNow table in the cteweb database. For **live** feeds, static information has typically been created on

<http://cte.ncsu.edu/CTE/NCAirQuality/airtoxicnow.asp>

A live link is currently commented out on the page. This ram (for a Real Media file) is housed in the afs file space /htdocs/meta/epa.ram

Typically, the file will point to a place holder media file (notready.rm -  
rtsp://webcast103.itre.ncsu.edu/notready.rm)

**Please be aware that the link will likely cache in both the browser and real player. An alternate should be conceived to avoid customers receiving the error message. It might also be advisable to update or replace the video with a message stating that the player is caching the video.**

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ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

**CTE has also determined that at EPA's facilities, the players can only connect with http/tcp. Research should be examined to learn how to script the players to connect with http only. This might be accomplished through the url. Past experiments have demonstrated that Real Player can manually be configured to connect to live streams. See <http://www.dpi.state.nc.us/distancelearning/technical/firewall.html> for an example. The same can be accomplished for the Windows Media player.**

CTE utilization of EPA satellite network  
sites: <http://www.epa.gov/oar/oaqps/eog/states.html> (link from  
[http://cte.ncsu.edu/CTE/TechTransfer/Teleconferences/downlink\\_info.asp](http://cte.ncsu.edu/CTE/TechTransfer/Teleconferences/downlink_info.asp))

Deborah R. Miller  
Environmental Protection Specialist  
US EPA, Office of Air and Radiation  
Office Air Quality Planning and Standards,  
ITPID, Education and Outreach Group  
(E-143-01)  
Research Triangle Park, North Carolina 27711  
Miller.Deborah@epamail.epa.gov  
<http://www.epa.gov/oar/oaqps/eog>  
919-541-5552 Voice  
919-541-5598 Fax

Provide DVDs of CTE Programs to EPA after broadcasts  
Dennis Shipman  
Office Air Quality Planning and Standards,  
ITPID, Education and Outreach Group  
(E-143-01)  
USEPA  
RTP, NC 27711  
Shipman.dennis@epa.gov  
919-541-5477

Production Contact for Air Quality Now that CTE streams to public as a service to EPA

Program Contact (who provides the tape and content description for Air Quality meta data)  
Donna Rogers  
US EPA  
Office of Air Quality Planning and Standards (E143-01)  
RTP, NC 27711  
Telephone: (919) 541-5478  
Fax: (919) 541-5678  
E-mail: [rogers.donna@epa.gov](mailto:rogers.donna@epa.gov)

Video Production Manager for Air Quality Now  
Kenneth Peterson  
C2 Technologies, Inc  
RTP/USEPA  
C101  
109 Alexander Dr, RTP, NC 27711  
919.541.3835 office  
919.541.0694 fax  
[Peterson.Ken@epamail.epa.gov](mailto:Peterson.Ken@epamail.epa.gov)

ITRESERVER2\CTE  
ITPROCEDURES\Documentation\CTEVideoProductionDocumentation.doc

## Places to post CTE technical jobs

CTE

[http://cte.ncsu.edu/CTE/About\\_CTE/jobs.asp](http://cte.ncsu.edu/CTE/About_CTE/jobs.asp)

ITRE – contact communications

CTE Staff

NCSU Mailing Lists

[Trianglestream@lists.ncsu.edu](mailto:Trianglestream@lists.ncsu.edu)

[multimedia@lists.ncsu.edu](mailto:multimedia@lists.ncsu.edu)

[webdevelopers@lists.ncsu.edu](mailto:webdevelopers@lists.ncsu.edu)

[luc@lists.ncsu.edu](mailto:luc@lists.ncsu.edu)

[webdesign@lists.ncsu.edu](mailto:webdesign@lists.ncsu.edu)

Triangle Area Groups

Linux Users Group ([www.trilug.org](http://www.trilug.org))

Triangle ASTD (<http://www.astd-rta.org/>)

Triangle .Net (<http://www.trinug.org/>)

Triangle Macromedia User Group (<http://groups.yahoo.com/group/tammug/>)

Distance Learning Lists

DEOS-L (<http://www.lsoft.com/scripts/wl.exe?SL1=DEOS-L&H=LISTS.PSU.EDU>)

NCDLA

Instructional Design

Instructional Technology at Indiana University

<http://www.indiana.edu/~ist/students/jobs/joblink.html>

## **Equipment Wish List**

DVD Recorder unit (A/V stand alone)

Possibly an additional powerpoint authoring product (ex. AuthorPoint)

## **Accounts and Passwords**

