Welcome to Cello.

Help is provided for the topics listed below. In addition, see your home page for other sources of information about Cello, the WorldWideWeb, and the Internet in general.

General Information:
What Cello is and does
A tour of Cello
Setup:
Setting up Cello
Cello for the System Administrator
Running Cello without a network
Running Cello on a low-speed connection
Operation:
A tour of Cello
The Cello menu system
How do I ... ?? Some Common Cello Questions
Problems:
Error messages
Cello Internals and Details
HTML, miscellaneous features, and other useful information:
Hypertext Markup Language (HTML)
Using DDE with Cello
Drag and drop
Using Cello without a network (local operation)
Using Cello over low-speed connections
Future directions for Cello

Disclaimers apply to this software. See Notices, Acknowledgements, and Disclaimers

Setting up Cello

Cello setup is divided into four parts: information gathering, installing and configuring your Winsock software, setting up Cello itself, and customizing Cello to display text the way you want it to appear on your screen. In addition, you'll probably want to customize your home page after you've worked with Cello for a while.

The four steps in installation are:
Information gathering
Installing and configuring your Winsock software
Cello configuration
Customizing text display

System administrators and others with more elaborate setup needs will want to see Cello for the system administrator

Setting up WINSOCK Software

Your Winsock software package should include instructions for installation. Installation tips for some packages which are frequently used with Cello are posted with the Cello FAQ ; there's a hypertext link to this document on your home page.

Most Winsock packages come with a "mini-application" which allows you to test your network connectivity. It's often called PING or something similar. If you've never used Winsock software before, it's a good idea to use the PING application to make sure that you can connect to important network machines like your primary gateway, your name server, and so on. Making sure that your Winsock works before you install Cello can save a lot of frustration if you encounter problems later.

Which Winsock packages does Cello work with?

Cello is known to work with all of the following:
FTP Software PC-TCP
Novell LAN Workplace for DOS
Trumpet Winsock
Frontier Winsock
Beame and Whiteside
Distinct
Lanera (some problems reported)
PC-NFS, if you're running an NIS server and wshelper.exe. PC-NFS does not support Domain Name Service (DNS) in the version which is current as of this writing. We are told that future versions will.

Information you'll need before you set up Cello

Cello setup isn't difficult, but it does involve a lot of different settings and parameters. You'll want to gather some information and have it on hand before you start; you may need to get some of it from a system administrator or other knowledgeable type. Here's what you'll need to know:

Information about your network setup:

- Type of network layer you use to get to the Internet, eg. packet driver, ODI driver, NDIS driver, SLIP, PPP, or other. If you're using NDIS or packet drivers, you should know the type of network card and driver that you're using, its hardware interrupt, I/O base address, and memory base address. This information isn't needed for some cards, such as microchannel cards.
- .The IP address assigned to your workstation, and its domain name(optional), or the method you're using if there is no such permanent assignment (RARP or BOOTP).
- .Whether or not you are on an IP subnet, and the subnet mask used.
- .The IP address of your default gateway, and its domain name
- .The IP address of your domain name server, and its domain name.

Information you'll need if you're using SLIP or PPP:

- .Which COM port your modem is connected to.
- .The speed at which you connect to the SLIP or PPP server (eg. 9600 baud, 19200 baud, etc.)
- .The phone number of the SLIP or PPP dialup server
- .If you're using a modem which isn't Hayes-compatible (this is rare) you'll need to have your modem documentation handy.
- .The IP address and domain name of the SLIP or PPP server.
- . If your SLIP or PPP server requires you to give a login and/or password, you'll need to know the series of prompts given and responses required so that you can write a chat script.

Information you'll need to set up Cello:

- .The name of the directory in which you want to install Cello. You will need a minimum of 1MB of free disk space, and more (maybe much more) if you're installing viewers and putting downloaded files on the same drive.
- .The name of a directory to use for downloaded files. This should be on a drive with a fair amount of disk space available.
- .The domain name or IP address of your USENET News (NNTP) server
- .Your electronic mail (e-mail) address.
- The address of a mail relay to use for routing mail sent from Cello
- (optional, but sometimes your system administrator will have a lot to say about this) The names of some directories in which to put bookmark files, temporary cache files, and other things generated by Cello itself as you use it. You will need read and write permissions in these directories if you're working on a network.
- .(optional) A URL for an HTTP/WAIS gateway.

- .(optional) The DOS path and filename of your favorite editor.
- (optional) The DOS path and filename of your favorite Telnet and TN3270 clients.
- .(optional) The DOS path and file name for graphics and PostScript viewers, and for sound players, etc.

Where to get all this information:

Sources of information vary depending on where you are and how much support you have available. System administrators and in-house computer support staff are obviously an excellent source. The printed documentation for your network adapter card will also be helpful. You may need to range a little further to get information about things like IP addresses for machines, gateways, and name servers.

Many manufacturers of network adapter cards run BBS services with information about adapter card configuration, what works with what, workarounds for known problems, etc. If you have access to USENET News, the **comp.protocols.tcp-ip.ibmpc** newsgroup is also a good source for help. Finally, there's a listserv list for Cellists which you can subscribe to

Most of the material in this Help system assumes that you are generally familiar with Microsoft Windows, dialog boxes, the use of the mouse, etc. If you aren't, this would be a good time to run through a Windows tutorial.

NDIS, the **N**etwork **D**evice **I**nterface **S**pecification, is a datalink layer software interface which permits multiple protocols to use a single interface card.

Winsock, the **Win**dows **Sock**ets standard, is an agreed on way of providing TCP/IP network services to Windows applications. With Winsock, you can run several applications which make use of the Internet at the same time.

PPP, the **P**oint to **P**oint **P**rotocol, is a protocol used to send and receive Internet protocol (IP) data packets over a telephone line via modem.

ODI is the Novell NetWare **O**pen **D**ata-Link **I**nterface, a software system which permits media and protocol-independent communications by providing a standard interface allowing different transport protocols to coexist on a single network interface board.

RARP, the **R**everse **A**ddress **R**esolution **P**rotocol, is a method which allows an individual workstation to determine its IP address dynamically when it starts up on the Net. This is used to allow a large pool of machines to share a smaller pool of IP addresses. It's often encountered in dialup connection scenarios, where the number of machines which can be connected to the Net at any time is much smaller than the number potentially making use of the dialup service.

BOOTP is a protocol which permits a networked workstation to obtain information about its own IP address and about nearby servers at startup time. It is used to set up shared pools of IP addresses, and to dynamically configure diskless workstations.

A **base I/O address** specifies a location which a hardware device uses to exchange data with the computer's CPU and other hardware devices; you can think of this as a kind of "mailbox" for the hardware device. Typically, base I/O addresses are 3-digit hexadecimal numbers such as 2E0 (sometimes written 2E0H -- the H tells you that it's a hexadecimal number), 270, 300, etc. This information should be in the printed documentation for your network adapter card.

A **memory base address** is a hexadecimal number indicating the location of the network interface card's memory buffer in your PC's RAM. It generally has five hexadecimal digits, eg. D0000, CC800, etc.

A **hardware interrupt** can be thought of as a kind of predetermined 'hotline' by which a hardware device gets the attention of your computer's central processor. It follows that hardware devices can't share interrupts; the CPU gets confused about which device is trying to get its attention. Sometimes these are specified with the characters "IRQ" followed by the interrupt number, as in **IRQ3** to denote interrupt 3, a fairly standard interrupt for Ethernet cards to use.

A **packet driver** is a piece of software which meets the so-called packet driver specification, providing a standard means for networking programs to communicate with networking hardware.

A **chat script** is a series of prompts and responses which tells the computer what it should expect to receive when logging on to a remote computer, and how it should answer each prompt, that is, how it should "chat" with the other machine.

Setting up and customizing Cello

If you haven't yet set up your WINSOCK software and run some sort of ping application to test that it's working do so now.

Once you know you have a working network connection, you're ready to go on and set up Cello. This process has several steps:

Networks and gateways:

- .Tell Cello about your News server
- .Tell Cello your e-mail address
- .(optional)Make a file to use as a signature block in mail messages
- .(optional)Tell Cello what to use for a WAIS gateway

Files and directories:

- .Tell Cello what to use for a "cache low-water mark"
- .(optional)Specify a download directory
- .(optional)Tell Cello what to use for a home page
- .(optional)Tell Cello where to put your style file
- .(optional)Tell Cello where to put your bookmark file

Using your own favorite applications and viewers:

- .(optional)Specify an editor to use with Cello
- .(optional)Tell Cello what TN3270 client to use
- .(optional)Tell Cello what Telnet client to use
- .(optional)Set up file associations and viewers

There are several other setup procedures related to the display of text, handling of search dialogs, handling of inline graphics, and customizing your home page, but you'll probably want to wait until you've had some experience with how Cello behaves before you tackle those.

Setting up file associations and viewers

Cello has an open-ended ability to do useful things with files it retrieves over the Net. When a file is downloaded, Cello checks to see if the file extension is one for which an association exists in the CELLO.INI file. If one does exist, Cello runs the associated application on the file. (This is something of a simplification. See How Cello handles files for a more detailed explanation).

This is the means by which you can view graphic images such as .GIF and PostScript files, play sounds, or view word-processed documents in the word processor which originated them. Viewers for many popular graphics and other file formats are available on **www.law.cornell.edu** in the directory **/pub/LII/Cello/viewers**.. We don't guarantee that any of these viewers are up to date or even the best available for the purpose; you may want to look for your own. There are also some recommendations for viewers in the CELLO FAQ, a link to which appears on your home page.

Note that we specifically recommend that you NOT try to process compressed archives such as .ARC and .ZIP files in this way. We have had terrible luck getting decompressors to work without crashing Windows. In any case, there is no way for Cello to know which of the uncompressed files to display once an archive is unpacked (telepathic capabilities are coming in a future version).

To set up a new viewer or other file processor:

- .Install the viewer according to its installation instructions
- .Edit the CELLO.INI file to associate a file extension with the viewer. The format is the same as the [Extensions] section of your WIN.INI file.

A **FAQ** (**F**requently **A**sked **Q**uestions) document contains just what you'd expect -- answers to the most frequently asked questions about a particular topic on the Net. You can find these in many places -- FAQs are frequently posted to USENET News, distributed via anonymous FTP, or mounted on Web and Gopher servers.

Customizing your text display

Cello is distributed with its fonts set up in a way which was pleasing to us. It may not be especially pleasing to you, or work well with your monitor (especially if it's monochrome). Whatever the case, the time will come when you want to change the way Cello displays text, and it helps to have some idea how Cello goes about this before you do. If you want to skip the longwinded explanation and start changing fonts right away, click on the hypertext links at the bottom of this topic.

The Net resources you view with Cello can be thought of in two broad categories: resources in which an author has embedded some typography and layout information, and resources which lack this information (or can't contain layout information because the data format doesn't permit it).

In the first case, the information is embedded using the markup codes defined by the HTML standard used for WorldWideWeb (WWW)documents. In the second case, we've decided that certain things (such as FTP directory listings) will be displayed as if particular HTML codes had been used to format them, or that we have no way of guessing what might have been intended and so it's safest just to use monospace type (as is the case with documents retrieved from Gopher servers). In one case -- menus returned from Gopher servers -- we decided that a special display type was needed, since formatting preferences would vary widely among users and should be changeable without affecting anything else.

When Cello looks at a WWW document, it displays the text using fonts which you set up to correspond to the various HTML formatting tags. If you take a second and pull down the **Configure/Fonts** submenu, you'll see that most of the items correspond to some tag or other in HTML, and the others are for situations in which there is no tag, such as the **Default font** choice, which tells Cello what to use when no HTML tag is given in an HTML document, or the **Monospace** choice, which tells Cello what to do when non-proportional text is specified.

Incidentally, this last instance is one of the few in which Cello restricts what font you can choose. Normally, you can set up Cello so that any of the Windows fonts you have installed on your system can be used for any of the HTML tags. The other exception is that Cello won't permit you to select fonts with bold, underline, or italic text specified; assignment of these text attributes is reserved to authors of online documents.

As mentioned above, when the online document can't or won't supply formatting information, we've made choices about what Cello will use to format the document. A summary of "what affects what" appears below.

Overall, the easiest way to get a feel for what you're going to change when you reconfigure fonts is to experiment. Using the **Edit/View source** menu choice is also a good way to find out how particular effects are achieved.

Here's a table of what changes when you make changes in fonts:

When you change:	**You change display of:**
Title	Text in Title window
Gopher menus	Gopher menus
Default font	All text in WWW documents which has no other formatting specified.
Monospace	Text specified as monospaced in WWW documents, text retrieved from Gopher servers, CSO directory listings, FTP directory listings.
Glossary	Text which appears in a WWW glossary structure, defined with the <DL> tag. These appear in your display as a series of paired items, with each pair usually consisting of a short term placed at the left margin followed by a longer, indented definition.
List item	Items which are specified as list items (using the <LI> tag) in WWW list structures. These appear in your display as items in lists with numbers or bullets next to them.
Address	Items which are formatted with the WWW address tag (but which are often simply things which the author wishes to appear flush with the right margin).
Heading level 1 - Heading level 6	Headings formatted with the WWW <H1> - <H6> tags.

See also:

Changing your font setup

Customizing your Home Page

The time will arrive when you want to make changes in your home page, so that you can keep frequently-visited documents and resources ready to hand. Customizing your home page is actually an exercise in editing a document which has been written in the Hypertext Markup Language (HTML), but don't let that worry you; HTML is fairly easy to pick up. In less than an hour, you can learn enough HTML to make most changes easily, or to make up HTML documents to distribute to others.

We suggest that you start by viewing your home page and its markup codes to see how it's been put together. Then follow the reference below to some introductory information about HTML.

You can speed up the process of customizing your home page by cutting and pasting links from the History list, from your bookmark file, and from documents you encounter on the Net. See the references below to find out how.

See:
The Hypertext Markup Language(HTML)

The Cello Menu System

Like all Windows applications, Cello uses a system of dropdown menus to allow you to perform various actions and to customize Cello for your own purposes. The menu bar above the Text window has several top level choices:

File menu
Edit menu
Search menu
Configure menu
Jump menu
Bookmark menu

The File menu

Operations involving files are carried out in the file menu:

Save
Mail file to...
Reload document
Print
About Cello
About the LII
Exit

File/Save...

Clicking on File/Save causes a standard Windows dialog box to appear; you use the dialog box to specify a name under which to save the file.

Files are saved in their native format. Here's what to expect:

If you save :	**You'll get:**
An HTML document	HTML text with markup codes
A Gopher menu	Raw text returned from server
Gopher documents	ASCII text
Gopher search results menu	Raw text returned from server
CSO search results	ASCII text
FTP retrieved text file	ASCII text
FTP directory listing	ASCII text, like output from **ls**

It's not necessary to do anything special to save binary files such as images or .ZIP files from an FTP site; Cello leaves these in your download directory for you to clean up or put elsewhere as you see fit.

To save the file displayed in the Text window:

-- Choose **File** from the main menu bar
-- Choose **Save** from the drop-down menu. A dialog box will appear.
-- Navigate among directories by double-clicking on the directory names in the **listbox**. You can go up a level by clicking on the directory named '..'
-- Click on the **edit box** at the top, then type in the name under which you wish to save the file.
-- Click on the **OK** button.
-- Click on the **Cancel** button at any time to back out.

See also: How Cello handles retrieved files

File/Mail file to...

Cello allows you to mail the document you're viewing to another person on the Net.

To mail a document to someone else:

In order to mail files, you must first tell Cello what your preferred e-mail address is

- Select **File** from the main menu, then **Mail file to...** A mail dialog box will appear. Cello complains if you haven't told it what your e-mail address is.

The mail form is filled out with your e-mail address in the **From:** edit box, and a line in the **Message:** edit box indicating that a file will be attached. The file does not actually appear in the form.

- Fill in the address of your recipient in the **To:** edit box.
- Add any sort of "cover note" you like in the **Message:** edit box.
- Click on the **Send** button. A confirmation dialog will appear. When you click **OK**, the message is sent with the file appended after your cover text automatically. In addition, Cello will also append a signature block if you've set one up.
- Clicking on **Cancel** aborts the process at any point.

See also:

- Setting up a signature block
- Cello mail handling

File/Print

Cello will print the document you're viewing using Windows' built-in printing mechanisms.

WYSIWYG?

Cello printouts are not exactly WYSIWYG. This version (version 1) does not incorporate any grayscaling or dithering for graphics, for one thing. Other variations may be caused by the way in which Windows handles font requests. In general, you'll get better results by using TrueType fonts.

You may also print a file you're viewing with the markup codes visible

To print out the file you're viewing:

- ..Select **File** from the main menu, then select **Print.** A printer dialog box will appear.
- ..To abort printing at any time, click on the **Cancel** button in the dialog box. The dialog box will disappear automatically when Cello has sent the print job to the Print Manager.

See also:

- Configuring your printer
- View as source...

File/Reload document

Choosing **Reload document...** causes the document you're currently viewing to be reloaded from a server on the Net. This is useful when you are viewing a cached copy of a document which has changed, or when you're editing your home page.

See also:
How Cello handles files
About file caching

File/About Cello

Choosing **About Cello...** produces a dialog box with the latest version information about Cello, copyright notices, etc.

See also:

Notices, acknowledgements, disclaimers

File/About the LII

Choosing ABOUT THE LII produces a dialog box with information about the Legal Information Institute at the Cornell Law School. But since we have your attention...

The Legal Information Institute was begun in 1992 by Peter W. Martin and Thomas R. Bruce, under the auspices of the Cornell Law School. The LII's purpose is to explore new means of delivering legal information, primarily through hypertext. Currently, that purpose finds its expression in a number of activities:

Distribution of legal information via hypertext on disk.

The LII currently distributes a number of text databases on disk in the Folio Views format. At the moment these are readable only on IBM PCs, but Mac versions will become available in Fall 1993 with the availability of Folio Views for the Mac. Titles include all of our Internet offerings, with much improved search capability and the ability to add personal annotations. Pricing covers the (minimal) cost of our runtime licenses, and all funds are returned to the Institute for development of new materials.

Distribution of hypertext and other information on the Internet

Through its Gopher and WWW servers, the LII both provides legal information on the Net and acts as a focal point for accessing legal information offered by a large and growing group of providers, including law schools, law firms, public-service organizations, and government, both in the US and abroad.

Directory services

The LII maintains a Directory of Legal Academia, a CSO server which contains name and address information for faculty, librarians, and computing personnel in American law schools. Unfortunately, constraints of time and money force us to limit the service to those boundaries, but we are happy to provide advice and assistance to others who wish to set up such services for academics in related fields, similar constituencies outside the US, or for legal practitioners, government officials, etc.

Software development

Cello is the most visible of our efforts in this area so far-- and, we hope, the first of many such things to come from the LII. We have also constructed many tools for our own use which we would be willing to share. Contact us for further information.

How you can help

The Legal Information Institute is supported directly by the Cornell Law School, and grants from the National Center for Automated Information Research and Mead Data Central. Our grants are for limited terms, and thus do not guarantee that we will be able

to continue work with Cello, or continue with plans for new software and new projects -- for example authoring workshops, putting more and better legal information on the Net, and so forth. We can always think of more to do than we have time or money for.

Out of respect for Net traditions, we did not want to charge a fee for Cello, nor yet set up a difficult-to-administer shareware apparatus to help us recoup our costs. We would certainly appreciate any direct donation that individuals or groups would care to make to support our work, in any amount. Make checks payable to Cornell University, and send to the address below. We are small, and our overhead is low, so even a small donation helps.

How to contact the LII

By mail (the paper kind):

Legal Information Institute
Myron Taylor Hall
Cornell University
Ithaca, NY 14853

The electronic kind:

General mail and inquiries : **lii@www.law.cornell.edu**
Cello bug reports: **cellobug@www.law.cornell.edu**

There is also a listserv list for Cellists. To subscribe, send the one-line mail message
subscribe CELLO-L your full name
to
listserv@fatty.law.cornell.edu

File/Exit

After confirming that you mean it, this choice shuts down Cello.

To leave Cello:

- ..Choose **File** from the main menu, then **Exit**. A confirmation dialog will appear.
- ..Click on the **OK** button to shut down Cello; click on the **Cancel** button to continue what you were doing in Cello.

The Edit menu

Alas, Cello is not yet a full-featured hypertext editor. The Edit menu contains two items which permit you to capture text from Cello in useful ways:

View source...
View as clean text

Edit/View source...

You can view the source text for any document in the Text window, including all markup codes. Cello does this by running your favorite editor on the source file; by default, the editor used is the Windows Notepad application, but you can specify another editor if you wish.

Note that this does not permit you to edit files on other machines, but you **can** edit files which are accessible to you via DOS -- such as your home page. You can also use this feature to copy text (including the markup codes) into another document of your own.

To edit your home page:

- ..Load the home page into the Text window by clicking on the **Home button**
- ..Select **Edit** from the main menu, then select **View source...**Cello will start an editor on the source file. By default, this will be the Windows Notepad application. The editor will automatically load your home page.
- ..Make whatever changes you wish, then save the file using the editor. Usually, this will be the **File/Save** choice in the editor's menu.
- ..Exit the editor as you normally would.
- ..Reload the home page by clicking on the **Home button** in order to see your changes.

To copy text, including markup codes:

- ..Select **Edit** from the main menu, then select **View source...**
- ..An editor (see above) will be invoked on the source file being displayed in the Text window.
- ..Select your text by holding down the left mouse button and dragging the cursor over the text you want to copy.
- . Use the editor's **Edit/Copy** selection to copy your text to the Windows clipboard.
- ..Exit the editor as you normally would. The text you copied is in the clipboard, ready to paste.

See also:

Telling Cello what editor to use
Customizing your home page
View as clean text

Edit/View as clean text...

Sometimes you want to be able to copy text to another application without the markup codes cluttering things up. Here's how:

To copy text, without the markup codes:

- ..Select **Edit** from the main menu, then select **View as clean text...**
- ..An editor (see above) will be invoked on the source file being displayed in the Text window.
- ..Select your text by holding down the left mouse button and dragging the cursor over the text you want to copy.
- . Use the editor's **Edit/Copy** selection to copy your text to the Windows clipboard.
- ..Exit the editor as you normally would. The text you copied is in the clipboard, ready to paste.

See also:

Telling Cello what editor to use
View as source...

The Search menu

Cello permits two different search operations, one which works within a document you're viewing, and one which works for WAIS indexes and other indexed Net documents.

Current file
Index document

Search/Current file

To search the file in the Text window:

- . Select **Search** from the main menu, then select **Current file**. A search dialog box will appear.
- Type the word or phrase you wish to search for into the **edit box**
- .If you want a case-sensitive search, click on the **check box**
- Click on the **OK** button. Cello will search forward in the document from the top line in the Text window. If your word or phrase is found, the line in which it appears will be brought to the top of theText window.
- .Click on the **Cancel** button to cancel at any time.

See also:

Search index document

Search/Index document

Some documents you find on the Net are really "front ends" to WAIS text databases and other searchable things (for example, an Archie database). These "front ends" are known generically as index documents. They will usually be quite short, and contain text asking you to enter search terms.

To search an index document:

- .Select **Search** from the main menu, then **Index document**. A dialog box will appear.
- .Enter your search terms, separated by spaces, into the **edit box**.
- .Click on the **OK** button to launch the search.
- .You can cancel at any time by clicking on the **Cancel** button.

See also:

Search current document

The Configure menu

The Configure menu is where you tell Cello about yourself: what your e-mail address is, what News server you use, what file to use for a Home page, etc. It's also where you tell Cello how you'd like retrieved text to be displayed on your screen.

Files and directories:
Home Page
Bookmark file
Style file
Download directory
Cache low-water mark

Links underlined only
Background color
Automatic search dialog
Fonts

Graphics:
Fetch automatically
Dither

Printer
Your e-mail address
Mail relay
News server
WAIS gateway

Use your own:
Telnet client
TN3270 client
Editor

Configure/Files and directories/Home Page

Cello uses the file **DEFAULT.HTM**, found in the same directory as the CELLO.EXE file, as the source file for your home page. You can change this to another file if you wish. You can also specify a URL if you wish to use a home page on a Net server somewhere.

To change the file used as your home page:

- .Select **Configure** from the main menu, then **Files and Directories**, and then **Home Page**. A dialog box will appear.
- .Type the name of the file you wish to use into the **edit box**. This can be a full or partial DOS path and file name, eg. **c:\cello\myhome.htm** or **nopath.htm**. It can also be a URL which points to a home page on the Net somewhere.
- .Click on the **OK** button to save the change; clicking on the **Cancel** button will abandon the change.
- .Click on the **Home Button** to load the new home page.

See also:

The CELLO.INI file
URLS (links)

Configure/Files and directories/Bookmark file

Cello uses the file **CELLO.BMK**, found in the same directory as the CELLO.EXE file, to store your bookmarks. You can change this to another file if you wish.

To change the file used to store your bookmarks:

- .Select **Configure** from the main menu, then **Files and Directories**, and then **Bookmark file**. A dialog box will appear.
- .Type the name of the file you wish to use into the **edit box**. This can be a full or partial DOS path and file name, eg. **c:\bookmarks\afile.bmk** or **nopath.bmk**. .
- .Click on the **OK** button to save the change; clicking on the **Cancel** button will abandon the change.

See also:

The CELLO.INI file

Configure/Files and directories/Style file

Cello uses the file **CELLO.STY**, found in the same directory as the CELLO.EXE file, to store information about styles and fonts used to display text. You can change this to another file if you wish.

To change the file used to store Cello's style information:

- .Select **Configure** from the main menu, then **Files and Directories**, and then **Style file**. A dialog box will appear.
- .Type the name of the file you wish to use into the **edit box**. This can be a full or partial DOS path and file name, eg. **c:\styles\afile.sty** or **nopath.sty** .
- .Click on the **OK** button to save the change; clicking on the **Cancel** button will abandon the change.

See also:

The CELLO.INI file

Configure/Files and directories/Download directory

Cello uses a download directory to store files downloaded from the Net. Note that Cello does no housekeeping on this directory; it's your responsibility to keep it cleaned out, since Cello can't make decisions about what you want to keep around. By default, Cello will use the directory where the CELLO.EXE file resides.

To tell Cello where to put downloaded files:

- .Select **Configure** from the main menu, then **Files and directories...**, then select **Download directory**. A dialog box will appear.
- .Type the DOS path of the directory you want Cello to use in the **edit box**. By default, Cello will use the directory where CELLO.EXE is located.
- .Click on the **OK** button to save your change. Clicking on the **Cancel** button abandons the changes.

See also:

How Cello handles downloaded files
The CELLO.INI file
About the cache

Configure/Files and directories/Cache low-water mark

When Cello caches files, it uses space on a local or network hard disk to store the cached files using temporary file names. Obviously, hard disks aren't infinitely large. Cello needs to know when it should begin discarding old cached files because the disk is getting low on space. We call the point at which this happens the "low water mark" , expressed as a number of bytes.

When Cello sees that the disk has fewer bytes of free space than the number given as the "low water mark", it will get rid of the least-recently-used cached files one by one until it has enough space to complete the current operation without going under the mark. By default, Cello tries to leave 500K of free space on the drive you use for temporary files. You can change this number upward or downward to suit your situation; setting it to zero will turn off caching completely.

To change the number of bytes of free space used as the "cache low-water mark":

- .Select **Configure** from the main menu, then **Files and directories...**, then select **Cache low-water mark**. A dialog box will appear.
- .Type the number of bytes of free space which Cello is to leave on the cache drive in the **edit box**. By default, Cello leaves 500K bytes free.
- .If you set the number to zero, caching will be disabled.
- .Click on the **OK** button to save your change. Clicking on the **Cancel** button abandons the changes.

See also:

About the cache

How Cello handles downloaded files

The CELLO.INI file

Configure/Links underlined only

By default, Cello displays hypertext links in a dotted rectangle. Some users prefer to use dotted underlines instead.

To toggle anchor display from boxes to underlines and back:

- Select **Configure** from the main menu, then select **Links underlined only**. Making this selection will toggle link underlining on (or off, depending on the previous state). The default is for links to be displayed in dotted boxes. If link underlining is now on, Cello places a checkmark next to the menu item.

See also:
The CELLO.INI file

Configure/Automatic search dialogs

Some WorldWideWeb documents are, in fact, "cover pages" which provide the means to search large databases of text information. Cello can detect such documents, and will automatically produce a dialog box when it does. You use the dialog box to enter the search terms you want to use for a search of the database.

Some people find it annoying to have this dialog box popping up all the time, so you can turn it on and off by selecting this menu choice. Doing so will toggle a checkmark next to the menu item, so you'll know if automatic search dialogs are on or off.

Once you've turned the automatic dialogs off, you can produce one on demand by choosing **Search/Index document**, provided of course that the document on screen is a searchable index document.

To turn automatic search dialogs on and off:

- Select **Configure** from the main menu, then select **Automatic search dialogs**. Making this selection will toggle automatic dialogs on (or off, depending on the previous state). If automatic search dialogs are now on, Cello places a checkmark next to the menu item.

See also:
The CELLO.INI file

Configure/Background Color

Staring at a white screen can be hard on the eyes. Cello permits you to change the background color used to display text.

To change the background color of the text display:

- Select **Configure** from the main menu, then select **Background color**. A large dialog box will appear. You can choose a color from the stock colors at the upper left, or use the mouse to add a custom color to the selection, then choose it.

See also:

The CELLO.INI file

Configure/Fonts

Cello makes decisions about how to display text based on the text itself and on what you tell it to do. You may want to read How Cello displays text before proceeding, especially if you're not familiar with the HTML system of markup codes. In general, you use **Configure/Fonts** to tell Cello how you want particular kinds of text found in Net documents to be displayed:

When you change:	**You change display of:**
Title	Text in the **Title window**
Gopher menus	Menu text from Gopher servers
Default text	Base text in WWW documents
Monospace	Text from Gopher servers, FTP directories
Glossary	WWW glossary text
List item	WWW list text
Address	WWW address text
Heading Level 1-6	WWW Level 1-6 headings

What you may choose:

The fonts you choose are drawn from the Windows fonts you have installed on your system, and in most cases you can choose any of them. Some fonts aren't appropriate for some purposes. Cello limits your choice for the **Monospace** font to non-proportional fonts. Finally, because attributes like bold, italics, and underlining are put into Net documents by their authors, you aren't allowed to choose fonts which have these attributes.

To change the display of text:

- .Select **Configure** from the main menu, then select **Fonts.** A drop-down menu will appear.
- .Select the item you're interested in changing (see table above). A Windows font selection dialog will appear.
- .Choose typeface, point size, and color using the **list boxes** in the font choice dialog.
- .Click on the **OK** button to save your choice; clicking **Cancel** will cancel without changing fonts. If you have chosen a font which has a bold, underline, or italic attribute built in, Cello will notify you that it has selected the base version of the font.

See also:
How Cello displays text

Configure/Graphics/Fetch Automatically

Cello normally retrieves inlined images automatically as it processes the incoming document. You may not want Cello to do this if you're connected to the Net over a low-speed link, such as a dialup connection using SLIP or PPP, because many graphics files are quite large and take some time to transfer. You can turn automatic fetching of images on and off using this menu choice.

If Fetch Automatically is turned on, a checkmark appears on the menu. If it's turned off, Cello does not automatically fetch inlined images, but instead displays alternate text specified by the information provider -- and, as you would expect, there is no checkmark on the menu.

To toggle automatic fetching of inlined graphics on or off:

- Select **Configure** from the main menu, then select **Graphics**, then select **Fetch automatically**.

Making this selection will toggle automatic fetching of inlined images on (or off, depending on the previous state). If automatic fetching is now on, Cello places a checkmark next to the menu item.

See also:

The CELLO.INI file
Graphics and Cello

Inlined images are graphics which are incorporated into the body of a WWW document using the IMG tag.

Configure/Graphics/Dither

Actually getting Windows to draw 24-bit graphics on the screen is a laborious and slow process. You can speed it up significantly by using dithering, which sacrifices accuracy in rendering color in favor of speed in redrawing your display.

Note that most graphics, which are not yet stored as 24-bit images, will not be affected by this option.

To toggle graphics dithering on and off:

- Select **Configure** from the main menu, then select **Graphics**, then select **Dither**. Making this selection will toggle automatic fetching of inlined images on (or off, depending on the previous state). If automatic fetching is now on, Cello places a checkmark next to the menu item.

See also:
The CELLO.INI file
Graphics and Cello

Configure/Printer

Cello gives you direct access to the Windows Printer setup dialog so that you can more easily change your printer configuration.

To change your printer setup:

- .Select **Configure** from the main menu, then select **Printer**. The Windows Printer setup dialog will appear.
- .Make changes in the Windows printer setup as needed.
- .Click on the **OK** button to save your changes.

Configure/Your e-mail address

Cello needs to know your e-mail address, both for purposes of sending mail and for logins on anonymous FTP servers.

To tell Cello your e-mail address:

- .Select **Configure** from the main menu, then select **Your e-mail address**. A dialog box will appear.
- .Type your e-mail address into the **edit box**.
- .Click on the **OK** button to save your changes; abandon changes by clicking on the **Cancel** button.

See also:
How Cello handles mail
Setting up a mail relayR
Setting up a signature block
The CELLO.INI file

Configure/Mail Relay

Increasingly, organizations on the Net are using various kinds of aliasing and sophisticated mail routing schemes to provide "generic" addresses for people within the organization. This can make it complicated to discover the actual route to be used to send mail to a particular mailbox on the Net, and Cello isn't bright enough to do this on its own. You can set up a mail relay host to do this for you, provided that there is a machine in your organization set up to provide this service.

To set up a mail relay host:

- .Select **Configure** from the main menu, then select **Mail relay**. A dialog box will appear.
- .Type the hostname of your mail relay into the **edit box**.
- .Click on the **OK** button to save your changes; abandon changes by clicking on the **Cancel** button.

See also:

How Cello handles mail
Mail address configuration
Setting up a signature block
The CELLO.INI file

Configure/News server

Cello makes use of your local USENET News server as its means of obtaining access to News articles. Before you can follow links to News groups and articles, you must tell Cello the name or IP address of your News (NNTP server)

To set up News access:

- .Select **Configure** from the main menu, then select **News server**. A dialog box will appear.
- .Type the IP address or domain name of your News server into the **edit box**.
- .Click on the **OK** button to save your changes; clicking on the **Cancel** button abandons changes.

See also:

The CELLO.INI file
How Cello reads News

Configure/WAIS gateway

Cello does not make requests to WAIS servers directly. Instead, it makes the request for a WAIS search or document to a WAIS gateway, which translates the request into the appropriate format and forwards it to the WAIS server. You need to tell Cello which gateway it should use.

To tell Cello what WAIS gateway to use:

- .Select **Configure** from the main menu, then select **WAIS gateway**. A dialog box will appear.
- .Unless you know of another WAIS gateway "nearer" you, you should probably leave the default in place; it uses the WAIS gateway at CERN.
- .Type in the URL for the WAIS gateway you wish to use.
- .Click on the **OK** button to save the change; abandon changes by clicking on the **Cancel** button.

See also:

The CELLO.INI file

Configure/Use your own.../Telnet client

Cello has its own builtin Telnet client, which is serviceable for most applications. But it's nothing fancy, and you may want to use a Telnet client of your own. Most of the popular WINSOCK Telnet clients will work with Cello, though some don't work in all situations.

In order for a Telnet client to work completely with Cello, you must be able to specify both host information (which remote machine you want to connect to) and which port you want from the command line. Oftentimes, the port information won't matter, because the remote machine has been set up to use the Telnet default port (23). Sometimes it does, and that's where things get a little complicated. As of this writing, many Winsock-based Telnet clients permit specifying host information on the command line, but relatively few will accept port information.

Cello handles this (potential) lack of information in the following way:

1) If you've used this menu choice to set up your own Telnet client, and the port desired is either not specified or is port 23, Cello will use your Telnet.
2) If you've specified your own Telnet, and it accepts port information from the command line, Cello always uses your Telnet.
3) If your Telnet doesn't accept port information from the command line, Cello will use its builtin Telnet in cases where the port desired is specified and is not port 23.

In short, Cello tries its best to use your Telnet when it can, but if your Telnet won't take port information on the command line, and port information is needed, Cello will use its own.

To tell Cello to use your Telnet client when it can:

- .Select **Configure** from the main menu, then **Use your own...,** then select **Telnet client**. A dialog box will appear.
- Type an example command line for your client in the dialog box, using **#h and #p** as placeholders for the host and port information. For example, if my Telnet program is c:\tnetdir\mytelnet.exe, and it accepts host information and port information (in that order) as part of the command line, I would type
  c:\tnetdir\mytelnet #h #p
  into the dialog box.
- .Click on the **OK** button to save the change; abandon changes by clicking on the **Cancel** button.

See also:
Choosing your own TN3270 client
Cello and Telnet
The CELLO.INI file

Configure/Use your own.../TN3270 client

Many IBM mainframes use a terminal emulation protocol called TN3270 instead of the more generic Telnet to permit remote logins and other interactive access. Cello has no support for TN3270 built in, so if you want to work with these machines you'll have to add a TN3270 client and tell Cello what it is using this menu choice.

To tell Cello what to use for TN3270 emulation:

- .Select **Configure** from the main menu, then **Use your own...,** then select **TN3270 client**. A dialog box will appear.
- Type an example command line for your client in the dialog box, using **#h** as a placeholder for the host information. For example, if my TN3270 program is c:\bigblue\TN3270.exe, I would type

  c:\bigblue\TN3270 #h

  into the dialog box.
- .Click on the **OK** button to save the change; abandon changes by clicking on the **Cancel** button.

See also:

Choosing your own Telnet client
Cello and Telnet
The CELLO.INI file

Configure/Use your own.../Editor

Some actions you perform in Cello cause a text editor to be run on a file. By default, Cello will use the Windows Notepad application for this purpose. You can specify another editor for Cello to use if you wish.

To tell Cello which editor to use:

- .Select **Configure** from the main menu, then select **Editor**. A dialog box will appear.
- .Type the DOS path of your preferred editor into the **Edit box**.
- .Click on the **OK** button to save your change. Clicking on the **Cancel** button abandons the changes.

See also:

The Edit menu
The CELLO.INI file

The Jump menu

Cello offers several ways for you to navigate the Internet. First and foremost, you can double-click on hypertext links. The **Jump** menu provides some alternate ways of navigating.

Up
History
Bookmark
Launch Gopher session
Launch Telnet session
Launch TN3270 session
Launch FTP session
Launch via URL
Send mail message

Jump/Up

The **Jump/Up** menu entry duplicates the action of the **Backtrack button**, taking you back to the last link you visited.

To go back to the last link you visited:

- .Select **Jump** from the main menu, then select **Up**
- .You can also click on the **Backtrack button** at the upper left.

Jump/History and the History dialog

Sometimes you will want to go back to a link you visited earlier in a Cello session, but using the **Backtrack button** to go backward one link at a time would be tedious. Cello helps you by keeping a list of the last twenty links you've visited in a history list which you can use to navigate.

A new history list is started for every Cello session. To preserve a link you want to revisit from session to session, you'll need to use the **Bookmark list.**

To revisit a link you encountered earlier in a session:

- .Select **Jump** from the main menu, then select **History**. A dialog box will appear.
- .The **list box** in the dialog shows a list of the last twenty links you've visited, most-recent link first.
- .To jump to a link in the list box, either **single click on the link in the list box and then click on the Jump button**, or **double-click on the link in the list box**.
- .Pressing **Cancel** at any time will dismiss the dialog box.

To copy a link you encountered earlier in a session to the clipboard:

- .Select **Jump** from the main menu, then select **History**. A dialog box will appear.
- .The **list box** in the dialog shows a list of the last twenty links you've visited, most-recent link first.
- .Click on a link in the list box to select it.
- .Click on the **Copy** button to copy the link to the clipboard.
- .Pressing **Cancel** at any time will dismiss the dialog box.

See also:
The Bookmark dialog

Jump/Bookmark and the Bookmark dialog

As time goes on you will want to keep track of resources you visit regularly and be able to get to them quickly. Cello helps you with this by means of a bookmark list where you can preserve links to your favorite places on the Net, giving them descriptive names which you make up.

The bookmark list is currently limited to fifty entries. If you want to hold on to more bookmarks than this, we suggest that you customize your home page to include them, or else make up a new HTML document altogether and put a link to it in your home page. Cello gives you the ability to do this quickly by copying links from the bookmark list into the clipboard, ready for pasting into new documents. You can also dump your entire bookmark list into a file in HTML format.

To make a bookmark for the document you're viewing:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Click on the **Mark current document** button. A small dialog will appear.
- Assign a name to the bookmark by typing text into the **edit box**. You can also accept Cello's suggested name for the bookmark, which is usually the document title.
- .Click on the **OK** button to accept the bookmark name; clicking on **Cancel** abandons the naming procedure. Either one will dismiss the smaller dialog box.
- .Click on the **Quit** button to dismiss the bookmark dialog.

To jump to a link in the bookmark list:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Select the bookmark you wish to jump to by clicking on it in the listbox, then clicking on the **Jump** button, or by double-clicking on it in the listbox.
- .The Bookmark dialog will be automatically dismissed when the jump takes place.

To rename an existing bookmark:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Select the bookmark you want to rename by clicking on it in the list box.
- .Click on the **Edit** button. A small dialog will appear, with the current name of the bookmark in the edit box.
- .Edit the bookmark name.
- .Click on the **OK** button to save the new name and dismiss the small dialog box; clicking on the **Cancel** button will abandon the change.
- .Click on the **Quit** button to dismiss the bookmark dialog.

To delete an unwanted bookmark:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Select the bookmark you want to remove by clicking on it in the list box.

- .Click on the **Delete** button. A confirmation dialog will appear.
- .Click on the **OK** button to delete the bookmark; clicking on the **Cancel** button will abandon the change.
- .Click on the **Quit** button to dismiss the bookmark dialog.

To copy a bookmark to the clipboard:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Select the bookmark you want to copy by clicking on it in the list box.
- .Click on the **Copy** button. The bookmark will be copied to the clipboard.
- .Click on the **Quit** button to dismiss the bookmark dialog.

To dump all your bookmarks to an HTML file:

- .Select **Jump** from the main menu, then select **Bookmark**. A dialog box will appear.
- .Click on the **Dump bookmarks to file** button. A dialog box will appear asking you to specify a filename and directory.
- .Your bookmarks will be written into the file as HTML anchors (links)

Jump/Launch Gopher session

To launch an ad-hoc session with a Gopher server:

- .Select **Jump** from the main menu, then select **Launch Gopher session**. A dialog box will appear.
- .Type the domain name or IP address of the Gopher server into the list box.
- .If the Gopher server operates on a port number other than 70, type a space, and then the port number.
- .Launch the Gopher session by clicking on the **OK** button. Clicking on **Cancel** dismisses the dialog box.

Jump/Launch Telnet session

To launch an ad-hoc Telnet session with another computer:

- .Select **Jump** from the main menu, then select **Launch Telnet session**. A dialog box will appear.
- .Type the domain name or IP address of the remote computer into the list box.
- .If you want a port number other than the standard port 23, type a space, and then the port number.
- .Launch the telnet session by clicking on the **OK** button. Clicking on **Cancel** dismisses the dialog box.

Jump/Launch TN3270 session

Cello supports TN3270 sessions through the use of an external client. As of this writing, at least one is available freely on the Net for you to use with Cello. The Cello FAQ has information on its whereabouts.

To launch an ad-hoc Telnet session with another computer:

- .Select **Jump** from the main menu, then select **Launch TN3270 session**. A dialog box will appear.
- .Type the domain name or IP address of the remote computer into the list box.
- .If you want a port number other than the standard port 23, type a space, and then the port number.
- .Launch the TN3270 session by clicking on the **OK** button. Clicking on **Cancel** dismisses the dialog box.

Jump/Launch FTP session

To launch an ad-hoc session with an FTP site:

- .Select **Jump** from the main menu, then select **Launch FTP session**. A dialog box will appear.
- .Type the domain name or IP address of the FTP server into the list box.
- .If the FTP server operates on a non-standard port number, type a space, and then the port number.
- .Launch the FTP session by clicking on the **OK** button. Clicking on **Cancel** dismisses the dialog box.

Jump/Launch via URL

To launch an ad-hoc session using the URL for the resource:

- .Select **Jump** from the main menu, then select **Launch via URL**. A dialog box will appear.
- .Type the URL for the resource into the dialog box. It must be an absolute name, not a relative name.
- .Access the resource by clicking on the **OK** button. Clicking on **Cancel** dismisses the dialog box.

Jump/Send mail message

While it is by no means a full-featured mailer, Cello does allow you to send mail (a bug report for example) via SMTP.

You can also set up a signature block for inclusion in your mail messages. See Setting up a signature block.

To send mail:

- .Select **Jump** from the main menu, then select **Send mail message**. A mail form will appear.
- .Cello will complain if you haven't told it what your e-mail address is
- .Fill in the address of your recipient in the **To:** edit box.
- .Optionally, fill in a subject line in the **Subject:** edit box.
- .Type your message into the **Message** edit box.
- .Click on the **Send** button to send your message. A confirmation dialog will appear. Click on **OK** to send the message; clicking on **Cancel** will dismiss the dialog.
- .The dialog box will be dismissed when the message has been sent.

See also:
How Cello sends mail

How do I ... ?

Reference information on some common tasks in Cello is outlined below. In addition, you can get useful information on tips and tricks used by Cellists by subscribing to the Cello listserv, CELLO-L.

Bookmarks

Copying bookmarks
Creating a bookmark
Deleting a bookmark from the bookmark list
Dumping all bookmarks to an HTML file
Jumping to a bookmark
Renaming a bookmark

Cutting and pasting:

Changing the location of your bookmark file
Copying bookmarks
Copying links from a displayed document
Copying links from the history list
Copying with markup codes included
Copying without markup codes included

Display of text and graphics:

Changing the location of your style file
Changing the fonts Cello uses for text display
Changing the background color
Changing the size of titles
Changing the appearance of Gopher menus
Setting up a viewer for graphics or other files
Using dithering for 24-bit images

File manipulation:

Changing the file used for your home page
Changing the location of your bookmark file
Changing the cache "low-water" mark
Changing the location of your style file
Changing your download directory
Mailing a file to someone
Saving files without markup codes

HTML authoring:

Interface behavior and customization:

Mail:

Navigation:

Printing:

Printing/saving with markup codes intact
Printing out the document you're viewing.

Setup and configuration:

Download directory, location
Bookmark file, location
Style file, location
Cache, free space to leave on disk
Automatic search dialogs, turning on and off
Background color, changing
Editor configuration
News configuration
Printer configuration
Setting up Cello
Setting up a signature block
Telling Cello what your e-mail address is
WAIS gateway configuration

Hypertext Markup Language (HTML)

Note:
The information about HTML in this online help system is included as a simplified, non-comprehensive reference tool. Features and extensions are being added to HTML all the time. If you're looking for a definitive reference, online sources are best.

HTML (the **H**yper**t**ext **M**arkup **L**anguage) provides a way of embedding typographic information and hypertext links into a document which is then electronically published. Usually, the publication is done on the Internet, but it's possible to "publish" a document locally for an audience of one -- which is what happens when you customize your home page.

HTML documents are displayed by special programs called browsers, of which Cello is an example. Browsers know how to interpret the HTML codes, rendering text on the screen in an appropriate way for each typographic code encountered, and following links to other documents and resources, represented by HTML "anchor codes" which the author has placed in the text.

HTML Tags

By now you've gathered that these codes are the heart of HTML; in fact, they are HTML. An HTML document is really nothing more than an ASCII text file to which HTML codes have been added. HTML authoring -- the building of HTML files -- consists of writing text with appropriate formatting and linking codes inserted. The codes are known as "tags", and the set of codes used in HTML is known as the HTML tagset.

Tag structure

HTML tags all begin with a left angle bracket, and end with a right angle bracket -- for example, <I>, which is the tag meaning "turn italics on". Logically, you'd expect that there's a tag which means "turn italics off", and there is -- it's </I>. Many (though not all) HTML tags have a corresponding tag which turns off whatever formatting they turn on. The "off" tags all begin with the left angle bracket followed by a slash (/).

Examples:
<B> means turn **boldface** on; </B> means turn it off.
<UL> means "this is the beginning of an unordered list"; </UL> marks the end of the list.

Look at that last example again. HTML tags can do much more than represent text attributes like italics and boldface. They can also specify what you might call "text structures" -- coherent text entities like lists, headings, menus, or glossaries which we would want a browser to display in a specially formatted way. For example, Cello is set up to show all unordered lists with a bullet character to the left of each list item, and to show ordered lists as numbered lists with the number to the left of the list item. A quick

look at the Cello **Configure/Fonts** menu will give you a fairly good idea of the structures available, which include headings, lists glossaries, and some specialized structures like addresses.

Linking

But there's still more. Special HTML tags known as "anchors" are used to mark the start and end points of hypertext links. A start anchor says, in effect, "when this part of the text is clicked on, go to some end point"; an end point says "I'm here if anyone wants to jump to me. The syntax of anchor tags is reasonably complicated and is dealt with in one of the references below. Links are often aimed at other HTML documents (or at other points in the same document), but they can also point to other kinds of things, like Telnet sessions, Gopher servers, images, and sounds.

Attributes

Sometimes we expect a tag to hold more information than the tag type alone would tell us. The anchor tags above are a good example of this -- they need to tell the browser where the link is pointing, or if the anchor is of the type which is pointed to. In these cases, so-called attributes are used to add extra information about the tag, for instance:

<A HREF="http://allatsea.navy.mil/tunes/anchors.aweigh.html">Lyrics</A>

which uses the HREF attribute to give the Net location of the document being pointed to. Tags are limited in the attribute types they can take, and not all tags take them (it wouldn't make a lot of sense to assign a Net location to a tag which turned on italics, for example).

Other good stuff

HTML also allows you to insert special and foreign (well, foreign if you're a native English speaker) characters into your HTML documents, to specify e-mail addresses as links to mailer forms, and accomplish a variety of other "special effects". See the references below.

Where to go from here

The references below subdivide the HTML tagset into different categories. You should look at each reference to get an overview of the tagset and its capabilities, then fire up a text editor on your home page and try changing the formatting, adding new links, etc.

There is far more (and better) information about HTML on the Net. Some links to it are included on the home page that's distributed with Cello, and you will probably want to look at those as well. HTML is continually being expanded to include new features and functionality, and the Net is the best place to find out what you can do.

See also:

Tags which affect the whole document
Tags which create text structures, such as lists, headings, and glossaries
Tags which create text attributes, such as boldface, underlining, and italics
Tags used for navigation and hypertext linking
Tags used for special effects and special data formats
Special characters

HTML Tags which affect the whole document

Addressing: the <BASE> tag
Document structure: the <HEAD> tag
Document structure: the <BODY> tag
Document structure: the <LINK> tag
Identifiers: the <NEXTID> tag
Searchability: the <ISINDEX> tag
Titles: the <TITLE> tag

HTML Tags which create text structures

HTML Tags which create text attributes

Boldface: the <B> tag
Italics: the <I> tag
Underlining: the <U> tag

Emphasis: the <EMP> tag
Strong emphasis: the <STRONG> tag

There are many more of these tags, all optional, which Cello either does not support or translates to compatible attribute tags. See the online HTML documentation pointed to by your home page for details.

HTML Tags used for linking and navigation

Anchors: the <A> tag

HTML Tags used for special effects

Cello Internals and Details

The following topics provide detailed information on various aspects of Cello's design and configuration:

Future Directions for Cello

There is a long list of features which we'd like to add to Cello in the future -- and those are just the ones **we** thought of; we're sure you'll suggest more. Here are some that are on the drawing board now:

-- Multifield ph/qi/CSO queries
-- Real Windows cut-and-paste in all windows.
-- Support for HTML forms and tables
-- HTML editing

If you've got suggestions for more, we'd like to hear from you by mail.

A quick tour of Cello

The main screen

When you start Cello, you'll see a large window with a standard Windows menu bar. This main window is subdivided into smaller windows. The largest of these, the **Text window**, will be showing you some text (oddly enough). Above the Text window in the center, immediately below the menu bar, is the **Title window.**

In the upper left corner is an icon showing a triangle (an arrow, really) which points upward. This is the **Backtrack button**

Between the backtrack button and the Title window is a small button which looks like a stop sign.This is the **Stop button**.

To the right of the Title window is a small icon of a house. This is the **Home button**. At the bottom of the main window is the **Status window**, which Cello uses to tell you what it's up to.

The Text window.

The first document you see in the Text window is known as your **Home page**

Some of the text in the Text window is surrounded by **dashed lines**. This 'box' around the text indicates that the text is some kind of **hyperlink** -- if you click your **left mouse button** in the box, you'll be shown either another part of the same document, or another document altogether, depending on how the author has set up the link. When you move the cursor over a link, you'll notice that it **changes shape** from a **crosshair** to a **vertical arrow**; this is Cello's way of saying "something interesting will happen if you click here". **Clicking the right mouse button** will produce a dialog box telling you where the link leads.
There are other, fancier ways to navigate including some which let you mark your place on the Net and revisit places that you've been before.

Peek mode

Sometimes you want to follow a link, but you don't know what's on the other end, or how long the linked document may take to transfer to your machine (this is particularly true if you're running Cello over a phone line, and if the information provider hasn't given you any hints about the size of the file.) Cello has a "peek mode" which only retrieves the first 4,096 bytes of the linked file (you can then use File/Reload Document to get the full document if you decide it's worth it). Just hold down the CTRL key while you click on the link with the mouse.

Using the keyboard and mouse to move through a document

Ordinarily, you move around a Cello document by using the mouse and the **scroll bar** located at the right of the Text window. Clicking on the up- and down-arrows on the scroll bar moves the display one line at a time; clicking on the scroll bar itself moves about one page at a time. The **scroll bar thumb** shows your relative position between the top and bottom of the current document. You can use the mouse to **drag the thumb up and down** for more rapid movement through the document. When you move rapidly by dragging the scrollbar thumb or holding the left mouse button down on scroll bar, Cello will wait for you to release the mouse button before it repositions and redisplays the document.
You can also use the **up- and down-arrow keys** to move a line at a time, or the PgUp and PgDown keys to move a screen at a time. The **Home key** will take you to the top of a document, and the **End key** will take you to the end.
The **horizontal scroll bar** can be used in a similar way to 'pan across' the document.

Because typography varies so much from document to document, Cello actually has to make an informed guess about what 'one line's worth' and 'one screen's worth' means at any given time, so you may need to fiddle a little to get exactly where you want to go.

Using the menus

Most other things you do in Cello you do by means of one of the dropdown menu

selections. This would be a good time to get familiar with it; see The Cello Menu System.

Necessary incompleteness

This is an incomplete tour. Cello allows you to range freely around the Internet, and that's a very big territory indeed. Use this Help system, and the references on the Net, to help you explore. There are also other ways to get help with Cello, including a listserv discussion list for Cello users

The Title window

The Title window contains the title of the document you're viewing. Most often this will be a title specified by the document author or a Gopher menu entry set up by the Gopher maintainer at the site where you got the document, or possibly the name of a newsgroup or a location on someone's anonymous FTP site. Sometimes, however, Cello has no idea what the title of something is (for example when jumping to a document from the History list). In this case, the Title window will either show the link notation for the document or nothing at all.

Clicking the **right mouse button** in the Title window will produce a dialog showing the link notationfor the document you're viewing.

The Backtrack Button

The backtrack button does what you'd think: it **takes you back to the point from which you jumped into the current document when you click on it with the left mouse button**. The specific action varies a little depending on the nature of the document you're viewing:

Details

Though the operation of the Backtrack button is usually intuitive, it is context sensitive, and depends on how you got to wherever you are when you click on it. Here are some details:

Hypertext (HTML) documents

If the document is an HTML (Web) document, clicking the Backtrack button takes you back to the point from which you jumped to the current document.

Note that it won't recapture your position exactly, all the time. For example, if you entered a Web document, then scrolled down a few screens and double-clicked on a link to get to where you are now, pressing the backtrack button will take you back to the top of the previous document; the backtrack button has no way of knowing that you were scrolling around in the previous document before following the link.

Anonymous FTP listing/directory

If you're in a subdirectory somewhere on an FTP site, pressing backtrack will do the equivalent of saying "cd .." in a more traditional FTP client, provided that you got to the current directory by clicking on a link in the parent directory. If you got to the current FTP directory by a direct reference from (say) a Gopher menu or Web document, you'll find yourself back in the Gopher menu orWeb document.

Gopher menu or document

If you're in a Gopher menu or text item, you'll go back to the previous Gopher menu, unless (just like FTP) you got there by direct reference from some other kind of document, in which case you'll find yourself back in that document.

In any case, if the backtrack button does something non-intuitive, you can usually find your way to a useful place by using the History dialog.

The Home Button

Clicking on the Home button always takes you back to your Home page.

The Stop Button

Clicking on the Stop button will stop a file transfer in progress. Use this if you're doing an FTP retrieval, or are trying to get something from a Gopher menu, and it's taking too long or seems to be hung up.

The Status window

Messages **telling you what Cello is up to** are displayed in the Status window. Because of the way in which Windows handles message-passing, these can sometimes appear to be slightly out of sync with what you see occurring on the screen.

Status messages are often useful in figuring out what went wrong and in reporting bugs, so take note of them if you find yourself in trouble.

The **W**orld**W**ide**W**eb (**WWW** or **W3**) is a world-wide, interconnected system of servers which offer information in hypertext format. It uses a markup system called **HTML** to incorporate text-formatting and hypertext linking information into documents.

Home Page

Your Home page is the first thing you see when you start up Cello, and you should think of it as a kind of customized (and possibly annotated) menu of your favorite Internet resources. The home page which comes with Cello has been set up with some of our favorites, and with items which "concentrate" access to lots of things on the Net.

But your needs and tastes won't be the same as ours, and you should think about making a customized version for yourself.

By default, the Home page is a text file in your Cello working directory called DEFAULT.HTM You can change this so that Cello will default to another file if you want.

Navigation

Navigation in Cello falls into two categories: navigation within a document and navigation from resource to resource on the Internet.

Navigation within Cello is a straightforward matter; you use the mouse, scrollbars, and arrow keys to move much as you would in a word processing document.

Navigation from document to document, or from resource to resource, uses four different methods:
Links embedded in a document
The Backtrack Button, the up-arrow at upper left
The History List, which you choose from a pulldown menu
The Bookmark List, where you can mark places you might want to visit again.

Bug Reports

While we won't strain your credulity by telling you that we love to get bug reports, we are committed to making Cello as good a piece of software as possible. So send those bug reports to:

cellobug@www.law.cornell.edu

When you send a bug report, please try to be as specific as possible about what you were doing when the problem occurred. If you were viewing a document, please let us know what the document was. If you were in a Telnet or FTP session, please tell us the name of the host and (if possible) what you were trying to access when Cello broke. If you're reporting a Windows error such as a GPF (General Protection Failure), please include the exact text of the Windows error message.

We have set up a listserv for discussion of Cello problems and features (to the extent that we can distinguish the two). The subscription address is **listserv@fatty.law.cornell.edu**; send the one-line message

subscribe CELLO-L Robert Dobbs

to subscribe (assuming your name is Bob Dobbs).

The URL Dialog : Displaying links

The URL dialog displays the URL for a link. You access it by clicking the right mouse button when the mouse is in the Title window or positioned over a link in the Text window. The URL dialog allows you to copy links to the clipboard for insertion in your home page, or in another document.

To copy a link into the clipboard:

- .Summon the URL dialog by clicking the right mouse button.
- .Click on the **Copy** button to copy the link into the clipboard.

A **client** is the natural prey of lawyers. Also, software which requests services from software running on another machine on a network. The software fulfilling the request is called a server. These terms are often used to describe both the software and the machine it runs on.

A **server** is software which delivers data or some other kind of service (perhaps an interactive session, or display services) over a network. The software requesting those services is known as a client

Links

The word "link" is a general term used to describe connections made between documents and resources in a hypertext environment. There are other names for links; in HTML, they are known as "anchors".

The notion is that when a link is activated -- for example, by a mouse click on a screen -- the user is taken to a related place in the same document, or in another document. It's also possible to use links to trigger other kinds of action, such as retrieving a file via FTP, opening a Telnet session with another computer, displaying a graphics file, playing digitized sound, and so on. Cello displays links on the screen by surrounding the link text with a dashed line. Double-clicking the mouse within this 'link box' causes the link to be activated.

Cello knows what to do when a link is activated because text describing the action is embedded in the document, much like formatting codes are. The text which describes a link action is called an anchor; usually it incorporates a URL. URLs can be used to define a "jump" to another document, a file to be retrieved, tell Cello to open a session with a Gopher server, and many other things. You will want to become familiar with URL syntax.

See also:

The <A> tag and URL syntax

How Cello handles retrieved files

When Cello receives a file from a WWW server, an FTP server, or your local system, or when the file has certain data types assigned by a Gopher server, it makes guesses about the file contents and tries to display the file in the most useful way available to it. This process takes place in several steps:

1) If the file has a name which is not compatible with the DOS file naming system (for example, if the filename is a UNIX filename which would be too long for DOS), Cello assigns a local filename which is derived from the original name but which DOS will accept. The file extension is preserved.

2) Cello transfers the file from the Net server into your download directory under the new name

3). Cello checks to see if an association for the file extension has been set up via the Windows **File/Associate** mechanism.

4) If an association exists, the associated application is run on the file. This is the means by which Cello displays graphics and PostScript files, and plays sounds.

5) If no association exists, the file is checked to see if it is binary. If not, and the file came from a Web server, it is assumed to be in HTML format and is displayed as such. If the file came from another source, it is displayed as plain text. Displayed files (including Gopher menus) are kept in a cache. See About the cache for information on how this is managed.

6) If the file is binary, but without an association, a dialog appears notifying you that the file has been kept in the download directory.

Note that Cello NEVER deletes anything from the download directory; this is your responsibility.

Notices, acknowledgements, disclaimers

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Setting up a signature block

If you create an ASCII file called **CELLO.SIG** in the same directory as the CELLO.EXE file, Cello will append it to all of your mail messages. You can create the file with any text editor (for example, the Windows Notepad application). The file should simply contain the signature block as you'd like it to appear in the message. If you're using a word processor to do this, save the file as plain text, DOS text, an ASCII file, or whatever your word processor calls files which don't contain word-processing codes.

How Cello sends mail.

Cello uses a simpleminded implementation of SMTP to send mail. 99% of the time this works well, but it can encounter problems under certain circumstances.

What can go wrong

For example, some mail addresses don't refer to real mail servers at all, but simply to (so to say) pointers to mail servers. These will sometimes fail to establish a connection to the server. Also, certain mail gateways (particularly DOS-based ones) are set up to use alternate cycles of listening for incoming mail and processing whatever outgoing mail has piled up during the previous listening cycle. For example, law.mail.cornell.edu listens for ten minutes, accepting any mail which comes in, and then sends any outgoing mail it has, for a maximum of five minutes. If Cello attempts to connect to it during the five-minute 'sending' cycle, the connection will be refused, and you'll see a 'Can't connect' error message. Usually if you wait a minute or two and try again you'll get a connection.

A **signature block** is the text appearing at the bottom of a mail message, giving address and other contact information for the sender. It's usually enclosed in a frame made up of ASCII characters; hence the 'block'. Some people find these to be the ultimate form of self-expression.

What **Y**ou **S**ee **I**s **W**hat **Y**ou **G**et. Windows' attitude could be better expressed as "What You See Is What I Decide To Give You". See the notes on how Windows selects fonts.

How Windows chooses fonts

Windows font choices are a somewhat arcane and confusing process for the programmer. In effect, the programmer fills in a data structure which says, "Please, Windows, grant me a font having some or all of the following characteristics", specifying type size, typeface name, and so on. Windows then resolves the request with an eye toward what's available on the system, for your printer, etc. You don't always get what you want, and the process by which Windows makes up its mind what to give you is complex and confusing.

Experimentation is the best way of getting what you want, and you should play with the font configuration until you find something which works on the screen and for the printer. Future editions of Cello will permit you to select alternate font files for different purposes.

Gopher is a protocol and suite of software applications for distributed access to Internet resources, originally developed at the University of Minnesota. The name is derived from the Minnesota mascot, and from the fact that the software is designed to 'go fer' things on the Net.

ASCII is an acronym for **A**merican **S**tandard **C**ode for **I**nformation **I**nterchange, a standard originally set up to define computer encoding for the letters of the alphabet, numerals, and selected punctuation marks and special characters (as well as a few control codes). In everyday usage, an ASCII file is one which contains only text, without any embedded encoding using the upper 128 characters of the IBM-PC character set -- in short, a plain vanilla text file.

CSO takes its name from the **C**omputer **S**ervices **O**ffice of the University of Illinois, where Steve Dorner developed a Net-based database application for phonebook-type name, address, and e-mail information as a way of constructing a directory service for the campus. The actual software involved is called **ph** (phonebook) which is the client application, and **qi**, which is the server.

FTP stands for **F**ile **T**ransfer **P**rotocol, the standard means of transferring files from machine to machine across the Net. **Anonymous FTP** refers to the practice of setting up a site to accept "anonymous" requests for files, creating the equivalent of a bulletin-board style software and data archive which is publicly available.

Binary files are files which aren't ASCII files, that is, which contain embedded, non-text information. Most word processing files fall into this category, since their formatting is done with non-text codes; all executable (program) files fall into this category, as do all compressed files.

Markup codes are codes embedded in a document which specify typography, hypertext linking, etc.; they are not normally displayed by the application. Unlike most word processor formatting codes, the HTML markup codes are human-readable (if a little terse).

WAIS is an acronym for **W**ide **A**rea **I**nformation **S**ervice, a distributed information search and retrieval system. WAIS was originally developed by Brewster Kahle and others at the Thinking Machines Corporation as a relevance-retrieval technology; several variants now exist , including FreeWais and a variant written by Don Gilbert of the Indiana University Biology Department which incorporates Boolean searches.

HTML (**H**yper**T**ext **M**arkup **L**anguage) is a system of text markup used by the WorldWideWeb. It incorporates typographic and hypertext linking information into documents, permitting seamless navigation between resources scattered across the Net.

Archie is a program written at McGill University which helps you locate resources available through anonymous FTP. It compiles a database of the contents of a large number of anonymous FTP sites and answers queries about it. The name is derived from the phrase **arch**ive server, a term synonymous with 'anonymous FTP site'.

SMTP (the **S**imple **M**ail **T**ransfer **P**rotocol) is a standard system of requests and responses used when two machines on the Internet exchange mail.

USENET News is a Net-wide system by which Net users can read and publicly post messages on topics of interest to them. News is organized into a large number of newsgroups which focus on particular topics. There are many, many newsgroups on an almost grotesque variety of topics. The overall effect is similar to a very large, worldwide bulletin board or set of discussion groups.

An **IP address** (**I**nternet **P**rotocol address) is a numeric address which uniquely identifies a machine on the Internet. IP addresses are given as a series of four decimal numbers between 1 and 255, separated by dots (periods). For example, my machine has the IP address **132.236.108.15**.

A **domain name** is the name by which a particular machine is known on the Internet, eg. **begbick.law.cornell.edu**. A particular machine may be aliased to have more than one domain name.

A **name server** is a machine on the Net which runs software capable of looking up the IP address which corresponds to a particular machine's domain name, and vice versa. Name servers are set up to refer questions to one another, so that no one name server needs to have all the information for all machines on the Net (it would have to be one very powerful machine to do that).

Text attributes are typographic properties assigned to text which vary the appearance of the text while retaining the same base font, such as boldface, underlining, and italicization.

Many Net servers can and do run more than one program at the same time. A **port number** is a way of telling the machine which program we want. Various programs in wide use have been assigned standard port numbers; for example, the standard port for Telnet is 23, Gopher is 70, and so on.

NNTP (**N**etwork **N**ews **T**ransfer **P**rotocol) is a set of requests and responses used by Internet computers to transfer USENET News to and from one another.

CERN is the European Center for Nuclear Research (the acronym is derived from the name in French). The original work on the WorldWideWeb project was done by Tim Berners-Lee and others at CERN.

A **gateway** is a machine or computer program used to translate data or data requests from one format to another in a way which is transparent to the user.

A **URL** (**Uniform R**esource **L**ocator) is a text string used to uniquely identify an Internet resource. It includes information about the machine, port, and filename of the resource, as well as the protocol used to access it.

Telnet is an Internet protocol used for interactive access from one computer to another. It allows you to log into a remote computer as if you were working from a terminal directly connected to that machine.

An **association** is a way of telling Windows that files with a particular extension belong with a particular application program. For example, one might associate .WRI files with the Windows Write application. Windows then knows to run the associated application when the filename is double-clicked. Cello can be made to behave in a similar way.

A **tag** is an embedded code used in a formatted document to indicate that the text which follows is to be displayed in some particular way. Often tags are set up in pairs of opening and closing tags which affect the text between them in some way. HTML tags consist of plain text in angle brackets, for example:

<B>This pair of tags puts this sentence in boldface</B>

Tags are not normally displayed to the user unless they specifically request it.

How Cello reads News

Cello is not (and is not intended to be) a full-featured USENET News reader (We recommend Peter Tattam's excellent WINTRUMPET for this purpose).

Instead, Cello (and other Web browsers) are set up to allow hypertext authors to include references to newsgroups and news articles in their documents, with no guarantee that the article or newsgroup will be available from your News server.

There are a number of reasons for this. Some newsgroups are actually commercial services which may not be carried in all locations. Furthermore, expiration policies vary from site to site, and not all servers carry all newsgroups. So as a practical matter, no author can guarantee that a referenced group or article will actually be available to you.

What Cello is and does

Cello is a general-purpose Internet **browser** -- a piece of software which does its best to let you navigate through the Internet and access documents and other kinds of resources without having to worry very much about what underlying protocols are being used to actually retrieve the information to your workstation. Cello lets you access resources available through the WorldWideWeb, Gopher, anonymous FTP, Telnet, CSO, and USENET News. In addition, Cello incorporates an open-ended capability for viewing files in a variety of formats, including PostScript, images, and sounds.

Of course, the perfectly seamless browser which requires no knowledge on the part of the end-user and will handle any data which is thrown at it is...well, let's just say that Cello isn't that good. There's a lot to keep up with on the Net these days. Cello does its best, and I suspect that there are a lot of things out there which will in turn do their level best to break it. That's why we include sections on reporting bugs and error messages. We also like getting your feedback about how you're using Cello and any suggestions you might have for improvements.

Enjoy using Cello.

Thomas R. Bruce
The Legal Information Institute
November 1993.

Error messages

See also:
Reporting Cello bugs

Alphabetical list:

Cello: SMTP failed
Cello: SMTP failure
Cello: Telnet connection failed
Cello doesn't support native TN3270...
Corrupt image file
Couldn't get a directory listing
Creating bookmark file
Default file for home page not present
Doesn't seem to be a GIF file
Error allocating memory
Error allocating memory for image
Error dithering image
Error getting image information
Error locking memory for image
Error quantizing image
Error reading image file
Error retrieving image data
FTP GET failed
I don't know how to handle the requested service
Local file can't be opened
Mail host won't accept data
Newsgroup not available
NNTP (News) server timed out
Not found
Oversized token encountered
SMTP connection failed
SMTP receive timed out
SMTP send failed
Remote host aborted connection
Reopen of FTP file failed
Sorry, only one instance of Cello can run at one time.
Sorry, this version of Cello can only handle mail messages to one recipient
Switch to BINARY mode failed
The intended recipient is not known at this mail host.
This telnet resource uses a port other than 23...
This works only with WWW index documents
You have 50 bookmarks stored
You must first choose a bookmark to delete
You must first configure Cello with the name of your news server
You must first define a default printer...
You must use the #h placeholder ...
You've reached the low-water mark...without caching any files

You have 50 bookmarks stored

Cello permits you to place a maximum of 50 bookmarks in your bookmark list. If you have more than that, it's probably time to think about building them into some HTML pages of your own.

Cello: file already exists

Typically you encounter this message when you're trying to create a new bookmark or style file in a location where one has already been set up. You can change the name of the file you're trying to create, or you can overwrite the old one.

You must first choose a bookmark to delete by....

You've hit the delete button in the bookmark dialog without first selecting the bookmark you wish to delete; do this by selecting one from the listbox.

Sorry, Cello can only handle one mail recipient

Unfortunately, this version of Cello only permits mail messages to have a single recipient.

Local file can't be opened

Usually this means that a link to a local file is incorrect; see Cello without a Net for an example of the correct syntax for setting up hyperlinks to local files. It can also mean that you (or someone else) has created the file in a directory where the user doesn't have rights to read the file, that a network drive is inaccessible for some reason, etc. etc.

Home page location errors

These errors happen because Cello can't find the file you specified as your home page. When this occurs, Cello notifies you, then attempts to jump to the Legal Information Institute server at www.law.cornell.edu.

There are several possible causes:

- You specified a URL for a home page which is invalid
- You specified a local file which doesn't exist, or to which you don't have access.

You've reached the low-water mark...without caching any files

The low water mark for the cache tells Cello how much free space to leave on your disk when it caches files. Cello hit this point without actually caching any files, indicating that you've got the low-water mark set too high, or that your disk is getting more full than you expected. Free up some disk space, or set the low water mark lower

You must use the #h placeholder...

You installed your own Telnet client to use with Cello, but you didn't do so completely.

Your Telnet client needs some way to know what machine it's supposed to connect with when Cello starts it up for you. When you "hook in" your client using **Configure/Use your own.../Telnet client**, you tell Cello to plug in the hostname information on the command line for your client by putting #h into the command line at the place where your client expects to find hostname information. This error message indicates that you left this step out.

See Configuring Cello to use your favorite Telnet client for instructions.

This Telnet resource uses a port other than 23....

This message indicates that you've incorrectly or incompletely installed your own Telnet client to use with Cello, or that it can't accept port information on the command line. See the section on installing your own Telnet for helpful hints.

Reopen of FTP file failed

This is an error which (despite the message) occurs at your machine, not on the FTP server. When Cello first transfers a file via FTP, it checks to see if the file is binary or not. If not, it closes the file and attempts to reopen it as a text file. The error results when Cello can't reopen the file for display. This seems unlikely, but it could happen if you're sharing a download directory with someone else on a LAN (for instance).

Remote host aborted connection

Cello tried to fetch data from another computer on the Net, but didn't get any, not even an error message from the server. This sometimes indicates a bad or experimental server.

Oversized token encountered

If you encounter this message, report it to the developers immediately; it indicates a serious problem either with Cello or with the document you were trying to view. Please include the URL for the document in your report.

Miscellaneous image errors

Cello reports a slew of image errors, usually two or three one after the other as it finds that it can't get an image and then (having failed to get it) that it can't process it properly. Most of these are attributable to one of three general causes:

1) Cello failed to get the image at all. This is often the end result of a network error of some kind. The best way around this is to try to reload the image using **File/Reload document**, but sometimes this won't work if Cello believes the image is still in a cache somewhere. You may have to exit Cello completely and try again.
2) Cello got the image, but couldn't allocate memory or graphics resources to deal with it. This may be because you're short on memory, or it may be that other programs are hogging graphics and memory resources (Cello does a pretty good job of hogging them itself). Try closing other windows and applications. If you're having this problem persistently, it may be worth getting hold of one of the public domain Windows resource meters to see if you can trace down the problem.
3) Some other memory allocation problem is causing a wreck in Cello's memory area. Report this if it's recurrent; it's probably a bug in Cello itself.

Doesn't seem to be a GIF file

Cello received an inlined image it believes to be in the CompuServe GIF format, but couldn't decode it. The likely cause is that the file didn't arrive completely from the network, or that it isn't a GIF.

Corrupt image file

An image file used for an inlined image can't be read by Cello, or is not in the format indicated by its file extension. The most likely cause is that the image didn't transfer completely or correctly from the Net.

Cello doesn't support native TN3270...

IBM mainframes use a special protocol called **TN3270** for interactive access and remote logins. It's quite different from Telnet, though intended to accomplish the same things. Cello doesn't support it internally, but you can use an external TN3270 client to access these resources. At least one TN3270 client is freely available from the Net; see the Cello FAQ for details.

Once you have such a client on hand, you should hook it to Cello using the **Configure/Use your own/TN3270** option.

Image fetch error

Cello couldn't get an inlined image file from the server. Possible causes include network loading, a bad link in the HTML document, or server problems at the other end. You might try using **File/Reload document** to force Cello to attempt another fetch.

Image error in show()

Cello encountered a problem while trying to display the image; the image was fetched correctly from the network, but there are problems displaying it. You may be short of RAM, there may be too many images on screen simultaneously, or another program may be hogging Windows resources. Try closing other windows and applications.

Image error

An unspecified error has occurred while Cello was processing an image. This message appears in the title of the error dialog box; the message in the dialog box should give further details.

Couldn't run user Telnet/TN3270 client

Cello (and Windows) couldn't find the application that you selected as a Telnet or TN3270 client. Check that the path and filename for the client are set correctly in the **Configure/Use your own.../Telnet** (or TN3270) menu choice. You can also check this by looking at the appropriate entries in the CELLO.INI file. If the Telnet and TN3270 client programs are kept on a LAN drive, another possibility is that you've specified the filename and directory correctly, but don't have the correct access privileges to actually run the application.

Bad GIF file

A corrupted GIF file was encountered. Usually this is the result of an incomplete or aborted transfer over the network.

Cello can only handle one dropped file at a time

Cello can only display, or jump to, one resource at a time. If you drag and drop multiple files onto Cello, it will process only the first one selected.

Can't open the dropped file for reading

You dragged and dropped a file on Cello which it can't open. The most likely cause is that the file is one you don't have permission to read, or that is in use by someone else on a network.

Can't open file to receive image transfer

Cello can't open a file to receive an inlined image it's trying to get from the Net. There are several possible causes:

- Check the setting of the TEMP environment variable to see that it's pointing at something real.

- .This problem can also be caused by memory allocation errors in Cello itself. Please report the bug

Troubleshooting

See also:
Error messages

The <A> tag; URL syntax

What it does:

The <A>-</A> tag pair encloses and describes an HTML anchor, which can be used to link to another Net resource or document.

The opening <A> tag takes one or more of several attributes (for example, <A HREF="http://somehost.edu/my/file/in/hypertext.html">. All the attributes in the following table are optional, though a link is useless unless there's an anchor with an HREF at one end of the link and an anchor with a NAME at the other.

Attributes include:

HREF	If an HREF attribute is present, the text enclosed by the <A>-</A> pair will be sensitive text, the start of a hypertext link. The value of the attribute is a resource locator describing where the link goes.
NAME	If a NAME attribute is present, the anchor is the destination of a hypertext link. The value of the attribute is an anchor identifier which the link pointing at this anchor uses to reference it.
REL	Not commonly used now, but will be in the future; describes the nature of the link. Should not be used unless HREF is also present
REV	Like REL, only reversed; the relationship described is with a link which points **at** this anchor.
URN	Specifies (and I quote) "a timeless unique identifier for the document". See documentation at CERN.
TITLE	Informational only; can be used to feed the title of a document which is being pointed at to a browser before the browser has loaded the

	entire document. Must be the same as the <TITLE> element in the document being pointed at.
METHODS	If present, this should be a comma separated list of HTML METHODS. See documentation at CERN.

As you've probably gathered, HREF and NAME are the two most important attributes; they're used to establish link references and link targets.

Document addresses:

The value of the HREF attribute is a resource address which can uniquely identify a point within another HTML document on the Internet, or another kind of resource altogether. The general syntax of a resource address (URL) for a document looks like this:

access://host.somewhere.dom:port/apath/tothe/doc#anchorname

with the following meaning:

access://	The protocol used to access the resource. Can be one of several described below. Depending on which access scheme is specified, the syntax of the rest of the resource address can vary slightly. For example, anchor names and file names are fairly meaningless in the context of a Telnet session. See below.
host.somewhere.dom	Domain name or IP address of the remote computer on which the resource is located.
:port	Optionally present if the access scheme uses a port number which is not standard for the access scheme; eg. a Gopher located at a port number other than 70. See information on specific schemes for standard port numbers.

/apath/tothe/doc	Path and filename of the resource (if it's a file)
#anchorname	Optional anchor to jump to within the document being pointed at. This should correspond to an anchor with the attribute NAME=#anchorname in the document being pointed to.

How Cello displays it:

Cello displays reference anchors (those with the HREF present) surrounded by a box of dashed lines as a visual cue to the user that a link is present.

Rules and restrictions:

There are many, which vary with the type of access scheme being specified. Please see the information on specific schemes below.

Examples of use:

In some document on the the Net:

<A HREF="http://bletch.foo.dom:80/an/example/doc.html#pinpoint"> Example doc</A>

And on the machine bletch.foo.dom, which is running an HTTP server on port 80, we would find a file called doc.html in the directory /an/example, with the anchor:

<A NAME="pinpoint">Target of the link</A>

Please see other examples for the following access schemes:

CSO
File/FTP
Gopher
Mail
News
Telnet
WAIS
X.500

CSO resource addresses

Cello currently treats CSO directory servers as a special case of Gopher access, using the same syntax as would be used if you were actually accessing the server via a Gopher menu entry. The scheme looks like:

gopher://csoserver.aplace.edu:210/22/

where csoserver.aplace.edu is the machine offering CSO service, 210 is the standard port for CSO services, and '2' is the Gopher data type. Note that you MUST specify port 210, as Cello is witless about this.

File/FTP resource addresses

The file:// scheme is used for two purposes: to specify files which are accessible via a local system such as your own workstation or a DOS LAN, and to specify files which are remotely available via FTP.

For files on your machine, or otherwise accessible via DOS (say, on a Novell LAN):

file://localhost/c:/afull/pathto/thefile.htm

where **file://localhost** is mandatory and indicates that the file is on a local system for which Net access is not necessary, and

c: is the (optional) drive designator of the DOS drive, and

afull/pathto/thefile.htm is a full path to the DOS file, with slashes reversed a la UNIX. Note that you can also use relative pathnames:

cerntest.htm would be the file CERNTEST.HTM in the same directory as the current document.

../oneabove.htm would be a file in the parent directory of the one containing the current document.

For files on a remote computer:

file://remote.host.dom/apath/toa/fileor/directory

In this case the **file://** scheme is interpreted as meaning "to be fetched by FTP". The remote computer is remote.host.dom; the remainder of the string is a path to either a directory or a file. Note that it is not necessary to end with a slash for directories, as Cello checks this, shall we say, empirically.

Gopher resource addresses

You can specify a link to a Gopher based resource as follows:

gopher://gopher.somesite.dom:port/n/selector?optionalsearch

where
gopher:// specifies that the resource is to be accessed using the Gopher protocol.
gopher.somesite.dom is the Gopher server's domain name
port is an optional port number, 70 by default if omitted
n is the Gopher data type
selector is the selector string fed to the Gopher server, and
?somesearch is an optional search string, to be used with Gopher type 7 resources only. (type 7 indicates a WAIS search).

Gopher data types:

0	Plain text file
1	Menu
2	CSO server
3	Error
4	Mac binhex
7	Waisindex search
8	Telnet
I	Image data

In general, you won't want to use type 8, as this can be specified using the telnet:// scheme.

Gopher root menus at a particular site can be specified as:

gopher://gopher.somesite.dom

and (since a selector and type are omitted) a root menu will be assumed.

Mail resource addresses

You can specify an e-mail address in a hypertext document, for example as a way of providing an address to which users can send feedback. When Cello encounters a link of this kind, it pops up a mail form with the recipient field filled in.

Say:
mailto:somebody@somewhere.dom

to specify user **somebody** at the machine **somewhere.dom** as the recipient for the mail.

News resource addresses

Addresses for accessing Usenet News articles are of three forms:

news:* provides a complete list of newsgroups on your News server
news:alt.somegroup.name provides a list of articles available for a given newsgroup.
news:<messageid@cern.ch> (angle brackets optional) refers to an article by its unique message id.

The server accessed by this scheme is your local news server as specified in the Cello configuration. Cello does not keep track of read or unread articles.

As a practical tip, it's probably useless to do much other than reference newsgroups, since there is no guarantee that your server will have a particular article for any length of time at all, let alone the lifetime of an HTML document.

Telnet resource addresses

To specify a link which will start a telnet session, you use a resource identifier in the form:

telnet://username@amachine.somesite.dom:port

where **username** is the username expected for login, and **port** is the port number to use. The port number defaults to standard port 23 if not otherwise specified, and the username can be omitted.

WAIS resource addresses

WAIS access through Cello is hotwired together at the moment, which actually makes the task of specifying WAIS resources a little easier. Say:

wais://somehost.withdata.dom:port/waisdata.src

where **wais://** specifies a WAIS resource
somehost.withdata.dom is the host with the data
port is an optional port number, 210 by default.
waisdata.src is the name of a WAIS database.

X.500 resource addresses

X.500 addresses are not currently supported directly, but can be accessed through gateways.

The <H1> - <H6> tags; headings

What it does:

The <H1>-</H1> tag pair (and similar pairs H2-H6) define six different levels of heading. The heading text is enclosed by the tag pair.

How Cello displays it:

Headings are displayed flush left in the body of the document, in a font which the user determines for each level via the **Configure/Font/Heading Level 1-6** menu choices. Other browsers are somewhat more restrictive of their treatment of headings, especially where horizontal alignment is concerned.

Rules and restrictions:

While it's legal to jump more than one level between successive headings (eg., to have a level-two heading followed by some text, then a level-four heading), this may confuse some software which translates HTML to other formats.

Examples of use:

<H1>This is a level one heading.</H1>
This is some text which is beneath the heading and presumably related.
<H2>This is a level-2 subheading</H2>

The <I> tag; italicizing

What it does:

The <I>-</I> tag pair encloses text which is to be italicized.

How Cello displays it:

In italics.

Rules and restrictions:

Formatting codes in general must nest. For example <B><I>Bold and underline</I></B> is legal, but <B><I>Bad bold and underline</B></I> is not.

Examples of use:

<I>This is italicized text</I>

The <U> tag; underlining

What it does:

The <U>-</U> tag pair causes the enclosed text to be underlined.

How Cello displays it:

Underlined.

Rules and restrictions:

Formatting tags should be nested, not overlapped. For example, <B><U>Bold and underline</U></B> is legal, <B><U>Bad example</B></U> is not.

Examples of use:

<U>This text is underlined</U>

The <B> tag; boldface

What it does:

The <B>-</B> tag pair causes the enclosed text to be displayed in boldface.

How Cello displays it:

In boldface.

Rules and restrictions:

Formatting tags should be nested, not overlapped. For example, <B><U>Bold and underline</U></B> is legal, <B><U>Bad example</B></U> is not.

Examples of use:

<B>This text is in boldface</B>.

The <EMP> tag; emphasis

What it does:

The <EM>-</EM> tag pair causes enclosed text to be displayed with emphasis.

How Cello displays it:

In italics. Other browsers may render differently.

Rules and restrictions:

Formatting tags should be nested, not overlapped. For example, <B><U>Bold and underline</U></B> is legal, <B><U>Bad example</B></U> is not.

Examples of use:

<EM>This is emphasized text</EM>

The <STRONG> tag; strong emphasis

What it does:

The <STRONG>-</STRONG> tag pair causes the enclosed text to be rendered with strong emphasis.

How Cello displays it:

In boldface. Other browsers may render differently.

Rules and restrictions:

Examples of use:

<STRONG>This is strongly emphasized text</STRONG>

The <UL> tag; unordered lists

What it does:

The <UL>-</UL> tag pair encloses a list of items, presumably not ordered in any way.

How Cello displays it:

Cello shows each list with a small amount of whitespace above and below. List items (<LI> elements) within unordered lists are shown with a bullet character. The font used is user-selected via the **Configure/Font/List item** menu choice. The bullet character used is user-selected via the **Configure/Bullet character** menu item.

Rules and restrictions:

Examples of use:

Things to do today:
<UL>
<LI>Debug browser
<LI>Write help system
<LI>Call Mom.
</UL>

The <OL> tag; ordered lists

What it does:

The <OL>-</OL> tag pair encloses an ordered list of items (<LI> elements).

How Cello displays it:

Cello places a small amount of whitespace above and below the list. Individual list items are numbered.

Rules and restrictions:

Examples of use:

Here's an ordered list of items:

```
<UL>
<LI>Debug browser
<LI>Write help system
<LI>Check into asylum for an indefinite period.
</UL>
```

The <LI> tag; list items

What it does:

The <LI> tag denotes an individual item in a menu (<MENU>), directory (<DIR>), ordered list (<OL>), or unordered list (<UL>) item. Note that the <LI> tag stands alone; the end of the list item is marked by a following <LI>, </UL>,</OL>,</DIR>, or </MENU> tag.

How Cello displays it:

List items are displayed in a font which is user-selected via the **Configure/Font/List item** menu choice; they may be preceded by numerals or bullets if they appear in an <OL> or <UL> element.

Rules and restrictions:

Examples of use:

```
<MENU>
<LI>Great green gobs of greasy grimy Gopher guts
<LI>Marinated monkey meat
<LI>Stewed prunes served with chicken feet
</MENU>
```

The <BR> tag; line breaks

What it does:

The <BR> tag causes a line break to be inserted by the browser. Display of text begins on the next line without insertion of interparagraph whitespace. This can be useful for texts like poetry or source code listings.

How Cello displays it:

See above.

Rules and restrictions:

Examples of use:

The boy stood on the burning deck
Whence all but him had fled
And this was odd
Because it was
The middle of the night.<P>

The <MENU> tag; menus

What it does:
See information on the <UL>element
How Cello displays it:

Rules and restrictions:

Examples of use:

The <DIR> tag; directories

What it does:

See information on the <UL>element

How Cello displays it:

Rules and restrictions:

Examples of use:

The <DL> tag; glossaries

What it does:

The <DL>-</DL> tag pair encloses a glossary, an HTML structure consisting of pairs of <DT> and <DD> elements. Conceptually, this is a list of term-and-definition pairs such as one might find in a dictionary or glossary, but in fact the text structure is more generally useful than this might suggest.

<DL> can take the COMPACT attribute, which suggests that the client use a more compact rendering for the list. Cello ignores this attribute.

How Cello displays it:

Glossaries are rendered with whitespace above and below. Each enclosed <DT> item is flush left, and occupies a single line. Each <DD> element is indented, and may occupy multiple lines. The whole is rendered in a font which is user-selected via the **Configure/Font/Glossary** menu choice.

Rules and restrictions:

<DT> and <DD> elements must be paired within the structure.

Examples of use:

```
<DL>
<DT>Cello<DD>An Internet browser for Microsoft Windows
<DT>Help system<DD>A weapon designed to kill its creator with detail
</DL>
```

The <DT> tag; glossary terms

What it does:

The <DL> tag indicates the beginning of a term element within a glossary. Note that <DT> stands alone; there is no corresponding end tag, since a <DD> tag following can be interpreted as ending the <DT> element.

How Cello displays it:

Cello displays <DT> terms flush left, in a font which is user-selected via the **Configure/Font/Glossaries** menu choice, and identical with that used for <DD> elements.

Rules and restrictions:

Must appear paired with a <DD> item within a glossary (<DL>) structure.

Examples of use:

```
<DL>
<DT>Term<DD>Something which is defined by a definition
<DT>Definition<DD>Something which defines a term
<DT>Confusion<DD>State created in those who don't read examples carefully
</DL>
```

The <DD> tag; glossary definitions

What it does:

The <DD> tag defines the beginning of a definition element within an HTML glossary<DL> item. Note that the <DD> tag stands alone; there is no corresponding end tag, since a definition element can be ended by a following <DT> or </DL> tag.

How Cello displays it:

<DD> elements are displayed indented slightly from the left margin, in a font which is user-selected via the **Configure/Font/Glossary** menu choice and identical to that used for <DT> elements.

Rules and restrictions:

Must be paired with a preceding <DT> element, and appear within a glossary (<DL>) structure.

Examples of use:

```
<DL>
<DT>Example<DD> That which is used to render obscure what was clear
<DT>Bewilderment<DD>The fate of the HTML author, writ small.
</DL>
```

The <NEXTID> tag

What it does:

Provides a unique identifier for documents generated by HTML editors (of which there are precious few). The actual identifier is specified by the N= property. (See example below)

How Cello displays it:

Not displayed; ignored by parser.

Rules and restrictions:

Not suggested for use by human authors, though alphabetic, mnemonic IDs can be used. Care should be taken that they not conflict with old IDs.

Examples of use:

<NEXTID N=MYDOCUMENT>

The <TITLE> tag; document titles

What it does:

The <TITLE>-</TITLE> tag pair defines the title of a document. Note that this is a property of the entire document, not a text-formatting directive like a heading. For stylistic reasons, the title should be describe the document to as wide an audience as possible; formulations like <TITLE>Part 2</TITLE> are pretty meaningless if the user arrived from outside the document.

How Cello displays it:

In the Title window at top center of the Cello main window. Users choose the font via the **Configure/Fonts/Title** menu choice.

Rules and restrictions:

The <TITLE> element should appear in the head of the document.

Example of use:

<TITLE>This is my document title.</TITLE>
<TITLE>Prosser: The Hideous Truth Revealed</TITLE>

The <ISINDEX> tag; searchable documents

What it does:

<ISINDEX> identifies the document as one which is searchable. Note that this property is normally determined by the server, not the author; simply adding this tag does not make a document searchable.

How Cello displays it:

Not at all. However, Cello looks for the <ISINDEX> tag in incoming documents to determine if the **Search/Index document** menu choice should be enabled.

Rules and restrictions:

Not usually inserted by authors, so don't.

Example of use:

<ISINDEX>

The <PRE> tag; preformatted text

What it does:

The <PRE> -</PRE> tag pair encloses text assumed to be in a monospaced font, with line breaks to be interpreted literally by the browser. It can take an optional WIDTH attribute indicating the display width to be used. Tabs and newlines within <PRE> elements are interpreted literally.

How Cello displays it:

Cello displays <PRE> elements in a monospaced font which is user-selected via the **Configure/Font/Monospace** menu choice. Cello ignores bolding, underlining, and italics within the element.

Rules and restrictions:

Examples of use:

```
<PRE>
This is an example line.
This is a second example line, with embedded          tab.
</PRE>
```

The <P> tag; inserting paragraph breaks

What it does:

The <P> tag forces a paragraph break. Note that browsers normally set their own line breaks in text except that formatted with the <PRE> tag, or other deprecated tags related to it.

Rules and restrictions:

<P> tags should not, in theory, be used to force whitespace before and after headings, lists, or other text structures; these are left to the browser.

Examples of use:

This is one paragraph.<P>This will be shown as a second paragraph.
<P>And this is a third.

Bad practice:

<H1><P>Sometimes I just throw in a few</H1>paragraph marks to
<P>make things look nice.

The <ADDRESS> tag; addresses

What it does:

The <ADDRESS>-</ADDRESS> tag pair is used to denote an address or other authorship information in a document.

How Cello displays it:

Cello displays <ADDRESS> text flush right, in a font determined by the user via the **Configure/Font/Address** menu choice. Successive <ADDRESS> entities are displayed on successive lines.

Rules and restrictions:

This is a cheap way to achieve flush-right alignment, but we don't recommend it.

Examples of use:

<ADDRESS>John Q. Biezendorfer<P>111 Memory Lane<P>
Mahagonny, NJ</ADDRESS>

The <HEAD> tag; whole-document information

What it does:

The <HEAD>-</HEAD> tag pair encloses the head of the document, a section which contains information which applies to the document as a whole.

How Cello displays it:

Not displayed.

Rules and restrictions:

For obvious reasons there can only be one occurrence of the pair per document.

Examples of use:

<HEAD>
<TITLE>I'm in the head</TITLE>
</HEAD>
<BODY>
...where the needs of the body are met.
</BODY>

The <BODY> tag

What it does:

The <BODY>-</BODY> tag pair encloses the body of a document.

How Cello displays it:

Not displayed.

Rules and restrictions:

Obviously, there can only be one instance of the pair per document.

Examples of use:

```
<HEAD>
<TITLE>This is the document title</TITLE>
</HEAD>
<BODY>
Kill the body and the head will die.
</BODY>
```

The <LINK> tag

What it does:

The <LINK> tag provides an open-ended way of specifying relationships between HTML documents. It is not currently in wide use; it's more of a mechanism for future expansion.

How Cello displays it:

Ignored by Cello.

Rules and restrictions:

Must occur in the document head.

Examples of use:

None.

The <BASE> tag

What it does:

Provides a mechanism whereby the base document address can be specified by an author. Normally, browsers interpret so-called relative document addressesRR with respect to the address used to reach the present document. The <BASE> tag allows an author to specify a base address without regard to the path by which the reader entered the document. The base address is specified in standard URL notation.

How Cello displays it:

Not displayable.

Rules and restrictions:

Should be in the document head.

Examples of use:

<BASE HREF="http://thisbox.thisplace.dom/thisdir/righthere/and/no/other">

The <HR> tag; horizontal rules

What it does:

Causes a horizontal rule to be rendered by the browser, normally with some whitespace above and below. The thickness of the rule and its width (ie. how far it extends across the display) are currently up to the browser.

How Cello displays it:

As a black line extending the width of the window, with some whitespace above and below.

Rules and restrictions:

Example of use:

<H1>A thick black line appears beneath this heading</H1><HR>and above the text which follows.

The <IMG> tag; inlined images

What it does:

Embeds image data in a document. Uses the SRC attribute to specify a Net file containing the actual image data.

How Cello displays it:

Cello displays all graphics items using third-party viewers. Other browsers display this as an inlined image.

Rules and restrictions:

Examples of use:

<IMG SRC=http://somehost.dom/an/image/file.gif>

The <BLOCKQUOTE> tag; displaying block quotes

What it does:

The <BLOCKQUOTE>-</BLOCKQUOTE> tag pair allows block quotations from other sources to be rendered specially.

How Cello displays it:

Indented left and right and rendered in the default font.

Rules and restrictions:

Examples of use:

I believe it was Taine, of 'Taine gonna rain no more' renown, who penned the words:<BLOCKQUOTE>The boy stood on the burning deck<P>Whence all but him had fled<P>And this was odd, because it was<P>The middle of the night</BLOCKQUOTE>

Special characters in HTML

Special and foreign characters are represented using special escape sequences. The characters you can represent are taken from the ISO-LATIN-9 character set. All escape sequences begin with an ampersand (&) and end in a semicolon(;).

Character	Escape	Name
<	<	left angle bracket
>	>	right angle bracket
"	&quot	quotation mark
&	&amp	ampersand
Æ	Æ	ae ligature
Á	Á	Uppercase A, acute accent
Â	Â	Uppercase A, with circumflex
À	À	Uppercase A, grave accent
Å	**&Aring**	Uppercase A, ring
Ã	Ã	Uppercase A, tilde
Ä	Ä	Uppercase A, umlaut
Ç	Ç	Uppercase C, cedilla
Ð	Ð	Uppercase Icelandic eth
É	&EAcute;	Uppercase E, acute accent
Ê	Ê	Uppercase E, circumflex
È	È	Uppercase E, grave accent
Ë	Ë	Uppercase E, umlaut
Í	Í	Uppercase I, acute accent
Î	Î	Uppercase I, circumflex
Ì	Ì	Uppercase I, grave accent
Ï	Ï	Uppercase I, umlaut
Ñ	Ñ	Uppercase N, tilde
Ó	Ó	Uppercase 0, acute accent
Ô	Ô	Uppercase O, circumflex
Ò	Ò	Uppercase O, grave accent
Ø	Ø	Uppercase O, with slash
Õ	Õ	Uppercase O, with tilde
Ö	Ö	Uppercase O, with umlaut
Þ	Þ	Uppercase Icelandic thorn
Ù	Ú	Uppercase U, acute accent
Û	Û	Uppercase U, circumflex
Ú	Ù	Uppercase U, grave accent
Ü	Ü	Uppercase U, umlaut
Ý	Ý	Uppercase Y, acute accent
á	á	Lowercase a, acute accent
â	â	Lowercase a, circumflex
æ	æ	Lowercase ae ligature
à	à	Lowercase a, grave accent
å	å	Lowercase a, ring accent

ã	ã	Lowercase a, tilde
ä	ä	Lowercase a, umlaut
ç	ç	Lowercase c, cedilla
é	é	Lowercase e, acute accent
ê	ê	Lowercase e, circumflex
è	è	Lowercase e, grave accent
	ð	Lowercase Icelandic eth
ë	ë	Lowercase e, umlaut
í	í	Lowercase i, acute accent
î	î	Lowercase i, circumflex
ì	ì	Lowercase i, grave accent
ï	ï	Lowercase i, umlaut
ñ	ñ	Lowercase n, tilde
ó	ó	Lowercase o, acute accent
ô	ô	Lowercase o, circumflex
ò	ò	Lowercase o, grave accent
ø	ø	Lowercase o, slash
õ	õ	Lowercase o, tilde
ö	ö	Lowercase o, umlaut
emulated	ß	Sz ligature
þ	þ	Lowercase Icelandic thorn
ú	ú	Lowercase u, acute accent
û	û	Lowercase u, circumflex
ù	ù	Lowercase u, grave accent
ü	ü	Lowercase u, umlaut
ý	ý	Lowercase y, acute accent
ÿ	ÿ	Lowercase y, umlaut

§	§	Legal section symbol
¶	¶	Paragraph mark
©	&copyr;	Copyright symbol
¡	¡	Inverted exclamation
¢	¢	Cent symbol
£	£	Pound sterling symbol
¥	¥	Yen symbol
¦	¦	Vertical bar
«	«	Left double bracket
»	»	Right double bracket
¬	¬	Logical not
®	®	Registration mark
°	°	Degree symbol
±	±	Plus-or-minus symbol
²	²	Superscript 2
³	³	Superscript 3
µ	µ	Micro (mu) symbol

¹	¹	Superscript 1
·	·	Centered dot
¼	¼	Fractional 1/4
½	½	Fractional 1/2
¾	¾	Fraction 3/4
¿	¿	Inverted question mark
	–	En-width dash
	—	Em-width dash
		Non-breaking space
		En-width space
		Em-width space
-		Hyphen

Anonymous login failed

An attempted anonymous login to an FTP server failed, either because the server does not permit anonymous logins or because it limits the number of simultaneous anonymous FTP sessions.

This error can actually occur at any point in an FTP session, because Cello logs in and out of the FTP server each time it performs a directory or file retrieval. In the case of busy sites which limit anonymous logins, this error can occur frequently. The best solution is to wait a few moments and attempt the retrieval again.

Bind failed

A **bind** system call failed. This infrequent error can indicate a problem with the installation of your network drivers if it occurs repeatedly. Please report as a bug.

Can't build socket

A socket build call failed. This can indicate low memory, an incorrect network setup, or a more serious problem.

Can't connect to host somename.somewhere.dom

Cello couldn't make a TCP/IP connection with the other computer. This can occur because the other computer is down or too busy (the usual cause) or because the link Cello is attempting to activate is incorrectly constructed (more often the case when you're testing a new link). Retry the link after a few minutes.

If you're using SLIP, this can mean that your SLIP connection failed or did not connect to the SLIP server in the first place. Check your modem to see that there is still carrier on the line; normally if carrier is present the **CD** light on the modem will be lit.

Can't convert IP address string

Cello got an incorrect IP address string. The usual cause is a typing error made while you were typing an address string into a dialog box, for example when using **Jump/Launch Telnet session.**

Can't create temporary file

Cello can't create a temporary file to hold incoming information from the Net. If you're working on a LAN, this can indicate that you don't have the proper permissions to write files into the directory.

Our experience during alpha and beta testing indicates that more often this means there's a bug in Cello. Please report the bug to us

Can't get DNS lookup for host somename.somewhere.dom

Cello either failed to contact your domain name server, or could not get an IP address returned for the domain name submitted.

This can mean a number of things:

- .Your network may be down, or incorrectly set up. Try running a PING application to test the net, or simply try another resource from Cello to see if you can still connect with the outside world.
- .The domain name server may be down.
- .The link you were attempting to follow is incorrectly set up.
- If you're using PC-NFS, be aware that as of this writing PC-NFS did not support Domain Name Service as part of its Winsock package. To simulate DNS, you must run an NIS server and use an addon program called WSHELPER.EXE. Information about WSHELPER.EXE availability is in the Cello FAQ (accessible via a link on the default home page).

Can't load the printer driver

The printer driver specified for your Windows default printer couldn't be found. Either the default printer is incorrectly specified, or the driver file has been corrupted or deleted.

Can't open file to receive FTP transfer

Cello couldn't open a file to hold data about to be transferred via FTP. Possible causes include a memory error. Report any occurrence to the developers.

Can't open FTP session with host somename.somewhere.dom

Cello couldn't connect to the remote host named in the error message. Most likely this is because the remote computer is down, though this can indicate a networking problem.

Can't open temporary file for editing

Cello failed to open a file to hold temporary output being fed to the editor. This could result from running out of file handles in DOS; check the FILES=nn setting in your CONFIG.SYS file. It can also indicate a memory allocation error in Cello; report strange occurrences to the developers.

Can't open temporary file for reading

Cello failed to open a local file for reading. This could result from running out of file handles in DOS; check the FILES=nn setting in your CONFIG.SYS file. It can also indicate a memory allocation error in Cello; report strange occurrences to the developers.

Can't open temporary file for writing

Cello failed to open a local file for writing. This could result from running out of file handles in DOS; check the FILES=nn setting in your CONFIG.SYS file. It can also indicate a memory allocation error in Cello; report strange occurrences to the developers.

Cello needs to know your email address

Before you can use Cello to send mail or retrieve files via FTP, you must tell the program what your e-mail address is. This message will no longer appear after you've configured your e-mail address.

Cello: Bad IP address string

This message indicates that you've fed Cello an invalid IP address string. Very likely this is the result of a typographic error you made while filling in a dialog box in one of the **Jump/Launch...** menu choices.

Cello: can't connect

Cello can't connect to a remote computer. Usually this condition is temporary; the remote computer is either down or overloaded. If you seem to be getting this error no matter what you try to connect to, you may have a networking problem; try pinging a known computer to see if this is the case. If you consistently get this error message when trying to access a specific service, it's possible that the service has moved or that the link is invalid.

Cello: can't find a bookmark file

You'll see this error message at least once when you start Cello for the very first time; it's shipped without a bookmark file.

In other circumstances, the message can indicate that your bookmark file -- named **CELLO.BMK** -- has been accidentally renamed or deleted. But the most common cause of the problem occurs when you set up Cello as an icon using the Windows Program Manager; you must remember to specify a working directory for Cello in the Options dialog box.

Cello: couldn' run associated app.

This message indicates that Cello has encountered a problem while trying to start another Windows application -- generally a viewer or editor that you've associated with a particular file extension.

A numeric error code is given in the dialog box. Here's what the codes mean:

Value:	Meaning:
0	System out of memory, bad executable file.
2	File not found.
3	Path not found
5	Attempt to dynamically link to a task; sharing error.
6	Library required separate data segments for each task
8	Insufficient memory to start application
10	Incorrect Windows version
11	Invalid executable file.
12	Application designed for a different operating system.
13	Application designed for DOS 4.0
14	Unknown executable type
15	Attempt to load a real-mode application (earlier Windows version)
16	Attempt to load second instance of an executable.
19	Attempt to load a compressed executable
20	Invalid DLL file.
21	Application requires 32-bit extensions.

Cello: couldn't run editor

Cello tried to start the editor but failed. A numeric error code is given in the error dialog; click here for a table of error codes.

See also:
WinExec error codes

Cello: Disk I/O error

Cello could not open a file for reading or writing. This can be caused by running out of file handles. More often, however, it indicates a problem with Cello itself. Please report this bug to the developers.

Cello: FTP failed to open

Cello was attempting to connect to a remote FTP server, but failed. Usually this occurs because the remote computer is down.

Cello: FTP failure

An FTP transaction failed for an unknown reason.

Cello: FTP login failed

Cello was trying to log into a remote FTP server but could not. This occurs when the remote system is down, or when a limit on anonymous logins (set by the remote system) has been exceeded.

Cello: FTP server error

An error of an unknown type occurred at the remote FTP server.

Cello: Invalid DNS lookup

Cello tried to look up the IP address corresponding to the domain name of a remote computer, but could not. This can mean that your nameserver is down, that your network is down, or that an invalid domain name was given for the remote computer. Try pinging the nameserver to ascertain both that it is working and that you can reach it.

Cello: NNTP timeout

Cello requested something from a News server, but the server did not respond within 20 seconds. In most cases this indicates that your News server is overloaded, just like every other News server in the world.

Cello: search failed

You ran a search for a word or words in the document in the Text window, but they weren't found.

Cello: server doesn't have newsgroup

You activated a link to an article or newsgroup which is not carried on your News server.

Cello: SMTP failed

Cello was trying to send a mail message, but the connection with the remote computer failed. Depending on the type of machine at the other end of the connection, this may only be a temporary condition.

See also:
How Cello sends mail

Cello: SMTP failure

Cello was trying to send a mail message, but the connection with the remote computer failed. Depending on the type of machine at the other end of the connection, this may only be a temporary condition.

See also:
How Cello sends mail

Cello: Telnet connection failed

Cello was trying to open a Telnet session with a remote computer, but could not. Usually this means that the remote computer is down.

Couldn't get a directory listing

Cello requested a directory listing from an FTP server but didn't get it. This can occur because the FTP server suddenly went down or began refusing logins.

Creating bookmark file

If Cello does not find a bookmark file in the current working directory, it tries to create one. This will occur at least once when you start Cello for the first time after installation. The most like cause of this error message is that you've set up Cello as an icon in Program Manager group. but forgot to specify a startup directory in the Options... dialog.

FTP GET failed

A file retrieval from an FTP server failed.

I don't know how to handle the requested service

Cello tried to access a service or data which it can't process.

Mail host won't accept data

Cello connected to a remoter computer in order to send mail, but the remote machine refused the data.

Newsgroup not available

Cello tried to get an article or list of articles from a newsgroup which is not carried on your News server.

NNTP (News) server timed out

Cello tried to retrieve data from a News server, but did not receive a response in a reasonable time. Usually this indicates an overloaded News server or unusually slow network response.

Not found

You searched for a word or phrase in the current document, but it wasn't found.

SMTP connection failed

Cello tried to connect with another computer in order to send mail but could not. This problem may only be temporary. See How Cello sends mail.

SMTP receive timed out

Cello was waiting for a response from a mail host, but the host failed to respond. This timeout is set for 20 seconds.

SMTP send failed

Cello tried to send mail data to an SMTP host, but failed.

Sorry, only one instance of Cello can run at one time

You tried to start Cello with a copy of Cello already running.

Switch to BINARY mode failed

When requesting a file transfer from an FTP server, Cello requests binary mode. This failed for some reason. The most likely cause is that the FTP server went down unexpectedly, or began refusing transactions.

The intended recipient is not known at this mail host

You tried to send mail to someone at an invalid e-mail address.

This works only with WWW index documents

You tried to use the **Search/Index document** selection with a document which is not an index document.

You must first configure Cello with the name of your news server.

Before you can access News articles using Cello, you need to tell Cello the name of your News server.

See:
Configuring Cello to use a News server

You must first define a default printer.

If you have not defined a default printer as part of the Windows setup process, Cello can't print. Use **Configure/Printer** to set up a default printer

SLIP (**S**erial **L**ine **I**nternet **P**rotocol) is a protocol which allows the transmission of TCP/IP data packets over telephone lines.

Cello and Telnet

Cello allows you to use external Telnet and TN3270 clients via configuration options on the menu. In the case of TN3270, this is a good thing, since Cello has no builtin TN3270 emulation of its own. Cello does, however, have a builtin Telnet client, described below.

Cello uses a slightly modified DEC VT100 emulation for Telnet sessions. Most of the variations are necessary because Windows can't easily render text in ways that the VT100 hardware was specially designed to handle. Here's a list of changes:

DEC emulation specifies:	**Cello renders as:**
Double-height text	Character sequence is repeated on two successive lines
Double-width text	Normal text
Boldface text	Red
Underlined text	Blue
Blinking text	Green
Graphics character set	DEC graphics set, but translated to Windows ANSI character set.
Variable tabs	Tabs, but with fixed spacing every eight characters

In addition, Cello supports (though perhaps not very well) the standard ANSI color escape sequences.

See also:
Choosing your own Telnet client
Choosing your own TN3270 client

Cello files and file formats

As distributed, Cello uses a number of support files in addition to the executable program file **CELLO.EXE**. Here's a list for the benefit of those with an unhealthy curiosity, or need to administer systems:

Filename:	**Function:**
CELLO.EXE	Executable program
CELLO.INI	File containing configuration and association information
CELLO.BMK	Bookmark file. Not distributed with program, but built on the fly by the user. Format is fixed-length binary records of 2048 bytes each.
CELLO.STY	Style file. Format consists of fixed-length binary records representing font information.
CELLO.SIG	File containing mail signature block. Optional file created by user.
CELLOTMP.HTM	Filename for holding file used to contain most-recently-fetched document from remote hosts. Note that any documents on the local host are normally opened directly by Cello.
TMPn.$$$	One or more temporary files used by Cello to support viewing/editing functions. Should normally be deleted by Cello after use.
CLOnnnnn.$$$	Temporary files used by cache

A **relative document address** is one in which the address of a linked document is specified in terms of the current document, like the relative path ".." in DOS, which means "the directory above this one".
A **protocol** is an agreed-on system of requests and responses by which client software requests services or data from a server program.

The CELLO.INI file

Cello stores configuration information in the CELLO.INI file. The entries in CELLO.INI correspond to choices you make in the Configure menu. You can edit them directly by using a text editor on the CELLO.INI file.

By default, the file is located in your Windows directory. You can change its location by setting the CELLO environment variable, eg.:

SET CELLO=c:\somedir\forthe\inifile

Note that this is the **directory** in which the file is placed, **not** a complete path and filename specification for the file itself.

System administrators accustomed to dealing with other WorldWideWeb browsers will note that most of the customizations which UN*X based browsers accomplish via environment variables are implemented in the CELLO.INI file for Cello.

The file is in two sections. The first is labelled [Cello], a section name preserved for backward compatibility with older versions which used WIN.INI. The second, labelled [Extensions], is in exactly the same format as the [Extensions] section of your WIN.INI file, and is used to tell Cello how to associate file extensions with viewer software

The CELLO.INI keywords explained:

[Cello]	Section header
AnchorsUnderlined	If yes, anchors are shown with underlines. If no (default) anchors are shown in dotted boxes.
AutoSearchBox	Whether or not automatic search dialogs are enabled.
BackgroundColor	Background color in RGB decimal notation. 255,255,255 is white 0,0,0 is black.
BookmarkFile	DOS path and filename of bookmark file.
DLDir	User's download directory
Editor	DOS path/filename of user's text editor.
EMail	User's e-mail address
[Extensions]	Section header
FetchGraphics	Whether or not Cello will automatically fetch files for inlined graphics. The default is yes.
FTPShortList	If yes, Cello displays FTP directories in short form. If no, long form ('ls -l') is used.
[Geometry]	Section header
HomePage	DOS path to home page source file
IsMaximized	Set to yes if Cello is to startup in a maximized window
LocalOnly	Set to "yes" if you want to operate without a network or Winsock

	stack.
LowWaterMark	Number of bytes of free space on the cache drive which can be reached before the cache begins to discard old files.
Mail relay	DNS name or IP address of machine to use as a "smart host" for mailing
NNTPServer	Domain name or IP address of USENET News server
StartupHeight	Height of Cello window at startup, in pixels. All of the StartupNn parameters are recorded automatically in the [Geometry] section at the conclusion of a session.
StartupWidth	Width of Cello window at startup, in pixels
StartupX	X coordinate of upper left corner of Cello window at startup
StartupY	Y coordinate of upper left corner of Cello window at startup.
StyleFile	DOS path and filename of the style file. CELLO.STY by default.
Telnet	Command line for user-selected telnet client; uses **#h** (hostname) and **#p** (port) placeholders
TN3270	Command line for user-selected TN3270 client; uses **#h** (hostname) placeholder.
UseDither	Whether or not to use dithering to show 24-bit color images.
WaisGate	URL for a WAIS gateway

See also:
File associations
The Configure menu

About the file cache

Cello uses a file-based cache to improve performance and reduce network bandwidth use. The logic behind the caching software has been made fairly complicated in order to make the cache as transparent as possible to end users in most situations. Here are the basic rules:

1) With a few exceptions, files are cached until a defined "low water mark" of free space on the user-designated cache disk is reached. When the low-water mark (500,000 bytes by default) is reached, Cello discards the least-recently-used cache files until it has room to store the file it is currently attempting to cache without reducing free space to a point below the "low water mark".

2) Some files are not cached. Results of searches (CSO, WAIS, or HTTP) are not cached, nor are binary files downloaded from FTP servers. The latter are placed in the user's designated download directory instead. So far as Cello is concerned, a Gopher menu is just a file and it too is cached.

3) Users always have the option of reloading a cached document from the server using the **File/Reload document** menu choice.

4) The directory where cache files are kept is determined by the TEMP environment variable.

Cello and environment variables

Cello's behavior is affected by two environment variables.

The CELLO environment variable

Use the CELLO environment variable to tell Cello where to find the CELLO.INI file. For example, if you want to put your CELLO.INI file in the **c:\cello** directory, say
SET CELLO=c:\cello
in your AUTOEXEC.BAT file.

The TEMP environment variable

As with other Windows programs, Cello uses the TEMP environment variable to determine where to put temporary files for caching.

DDE capabilities

You can use dynamic data exchange (DDE) to aim Cello at different Internet resources from other applications such as Excel and Microsoft Word. The syntax used to invoke DDE varies from application to application. Here's how you'd do it in a Microsoft Word macro:

```
ChanNum=DDEInitiate("Cello", "URL")
DDEExecute ChanNum,"http://www.law.cornell.edu/lii.table.html"
DDETerminate ChanNum
```

As you probably gathered from the above example, Cello's DDE service name is "Cello"; the topic name is "URL", and the data you send when you request execution is any valid URL.

See also:
Drag and drop
URL (link and anchor) syntax

Command-line Cello

You can use command-line parameters to control Cello's behavior when you start it using File Manager or a WinExec() call from another program. Just use a valid URL in the command line, and Cello will jump to it, eg:

c:\cello\cello.exe http://www.law.cornell.edu/lii.table.html

to start Cello and have it jump to the LII server.

Cello for the system administrator

System administrators have been a major source of feedback ever since Cello was in early testing, and as a result Cello is fairly easily tailored to LAN situations where shared files are the norm. The primary issues for system administrators are, of course, the setup of the networking software and the sensible placement of user files and directories.

Because there are so many different WINSOCK networking packages available and such a wide variety of environments in which to run them, this online help document says very little about networking setups. Basically, if you follow the instructions provided by your WINSOCK vendor and you can get a PING application to run, you ought to be able to run Cello too. There are, of course, enough exceptions to this to keep us all employed indefinitely.

So far as configuring the location of user files is concerned, you have several basic tools at your disposal:

1) The environment variable CELLO can be set to tell Cello where to find its CELLO.INI file.

2) As with other applications, the environment variable TEMP tells CELLO where to put temporary cache files.

3) Either menu choices or direct editing of the CELLO.INI file can be used to supply the locations of the remaining files, change operating parameters, etc.

4) The [Extensions] section of the CELLO.INI file can be used to aim users at a set of viewers in a common directory somewhere.

We recommend that you look at the following sections in addition to making a careful study of the information in this guide.:

The Configure menu
File Associations
The CELLO.INI file
Environment variables
Command-line Cello
Drag and drop
DDE

Graphics and Cello

To Cello, graphics files (images) fall into two broad categories: graphics which are part of WorldWideWeb documents, called inlined images, and graphics which aren't, which we'll call "retrieved images". Each can be handled quite differently depending on how you have set up Cello.

Inlined images

By default, inlined images are fetched automatically and displayed as part of the document, just as they would be in a graphical word processor or desktop publishing program. You have the option of turning off automatic fetching. This can be especially handy if you're reaching the Net over a low-speed link such as dialup SLIP or PPP, when it's a nuisance to wait for the image files to be transferred.

Cello knows how to display four kinds of inline graphics files:

.GIF files (CompuServe GIF standard)
.XBM files (X-Windows bitmaps)
.PCX files (Z-Soft PC-Paintbrush format)
.BMP files (Microsoft Windows bitmaps)

Color is something of a problem with inlined images. When multiple images are present on the screen -- or even when there are multiple windows open -- Cello and Windows have to work together to ensure that colors in all the images in all the applications look somewhat close to what was intended by the artist who created the image, using a single palette of 256 colors available at any given time. Cello (for the moment, at least) takes a simple approach to this problem. Cello loads a "scaled" palette of 256 colors which are more-or-less evenly distributed through the spectrum, and then picks the nearest of these colors to replace the color actually intended for the image. Most of the time this works pretty well, but there are exceptions.

Retrieved graphics files:

Of course, not all images that you find on the Net are going to be part of WorldWideWeb documents. In fact, it's very common practice to use a small inlined image (a "postage stamp" image) to point to a larger, more detailed version which is not stored as part of the document. You'll also find many images on FTP sites, Gopher servers, and so on. Cello displays these images by means of external viewers which you must install. We post recommendations for external viewers as part of the Cello FAQ. (There's a pointer to the FAQ on the home page distributed with Cello). In order to get retrieved images to display properly, you need to configure your CELLO.INI file with an "association" which links the file extension used by the particular type of graphics file with the viewer which displays it (eg. .GIF with a GIF viewer, .PCX with PC-Paintbrush, .AI with Adobe Illustrator, and so on). In this way, you can view any graphics format for which a Windows-based viewer exists.

Incidentally, so-called viewers aren't just for graphics files; you can set up a "viewer" which will play sounds, view PostScript files, show MPEG movies, and so on. In fact, any file can be post-processed by Cello provided that you have a Windows application which knows how to handle the file and can be associated with it.

See also:
File associations
Graphics: turning auto-fetching on and off
How Cello handles files

Drag and drop

Cello handles two kinds of "drag and drop" files:

Files which have a .URL extension:

Files which have the extension **.URL** are assumed to consist of a single line containing a valid URL. When a .URL file is dragged and dropped on the Cello window, Cello will jump to the URL in question.

Any other file:

Any other file is assumed to be a text file in HTML format and is displayed accordingly.

See also:
URL (link and anchor) syntax

Running Cello over low-speed connections (SLIP and PPP)

Cello has a number of features which are useful if your net connection is a low-speed one such as dialup SLIP or PPP. You can greatly ease the pain of slow connectivity by taking advantage of Cello's caching features, by turning off inlined graphics retrieval, and by making use of Cello's "peek mode".

See:
Configure/Graphics/Fetch automatically
About the file cache
Peek mode

Running Cello without a network

Cello can be run without a network (and even without a Winsock stack). To do so, just insert the line

LocalOnly=yes

into your CELLO.INI file.

Once you've done this, you'll want to set up some local HTML files for Cello to look at. The addressing syntax for these files takes the form

file://localhost/d:/somedir/somefile.ext

where **file** and **localhost** are literals which should appear as-is, **d:** is the drive specifier for the location of the file, and **/somedir/somefile.ext** is the path, filename and extension of the file you want (with the slashes inverted out of respect for UNIX naming conventions). For example, to make a reference to a file called **goodstuf.htm** on the **g:** drive in the **\webapps\myfiles** directory, you'd say:

file://localhost/g:/webapps/myfiles/goodstuf.htm

Cello and FTP

Cello tries to do its best to cope with output from the wide variety of (sometimes superannuated) FTP servers which run on the Net. This is getting to be an inhumanly impossible problem for two reasons: first, the number of different FTP server software implementations is already enormous and is continuing to grow as people develop servers for desktop machines, local area network servers, and toaster ovens; second, there is no standard response to the LIST command. Different servers format their output differently, and Cello tries to keep up.

Unfortunately, it's not possible to do this 100%, and you will probably encounter servers whose output won't list correctly in Cello's display. If you do, please send a bug report to the Cello developers, and include the hostname of the system which is causing the trouble.

Non-anonymous FTP

While Cello will not allow you to PUT files on another machine under any circumstances (you can use one of the many excellent Windows FTP clients for that), it will allow you to retrieve files from a machine which requires a username and password from you. The syntax for the links which permit this is a variant of the standard URL, and looks like

ftp://user:password@somehost.dom/directory/optional

You can omit the password (and will probably want to for security reasons). If you do, omit the colon also. Cello will see that no password has been specified and will produce a dialog box asking for one.